THE ECONOMIC HISTORY SOCIETY

Annual Conference

University of Reading

31 March – 2 April 2006

Programme including

New Researchers' Papers
&
Abstracts of the other Academic Papers

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Contents

Welcome to the University of Reading

Welcome to the University of Reading, which was founded at the end of the nineteenth century and received its Royal Charter in 1926, the only university to do so between the two world wars. Its foundation owed much to the geographical location halfway between London and Oxford, the zeal of the University Extension movement, and the benevolence of a small number of private patrons including local industrialists from the town's famous Huntley and Palmer's biscuit factory and Suttons Seeds. History at Reading has always enjoyed a prestigious place within the University and attracted eminent scholars, such as Sir Frank Stenton who we commemorate each year with a public lecture. Reading's economic, social and business historians are found in the Schools of Humanities and Business and their recent research interests range widely. In British history they include tenure and the land market, housing, transport, urban and rural economies. Whilst in the international business arena they involve research into multinational corporations, technological change, entrepreneurship, and the new subject area of environmental economics.

The conference will be held on the Whiteknights campus set in 320 acres of beautiful landscaped parkland, formerly the stately home of the Marquis of Blandford. Academic sessions will take place in the refurbished Palmer Building, named after the biscuit manufacturers, and accommodation will be in Whiteknights Hall.

Whilst at the conference you might like to explore the facilities in our Library which houses several important and varied collections such as those of Sir Frank and Lady Stenton, the Overstone collection on political economy and economic history, the Archive of British publishing and printing, the Samuel Beckett collection and that of the composer Gerald Finzi. The Museum of English Rural Life contains artefacts and documents covering all aspects of agricultural history and rural life. You might prefer the fresh air and the Harris garden is a 12-acre display of assorted garden styles. A special feature at the time of the conference will be the blossom within the 'cherry bowl' of dozens of different varieties of Japanese cherries, and also the flowering bulbs in the spring meadow. For the more energetic of you there are the various sports facilities on campus. Together these should provide a pleasing ambiance for this year's exciting conference.

For the first time we will be co-located with the Social History Society and the combined intellectual wealth of the two conferences at Reading should make for a dynamic and very stimulating weekend. We look forward to meeting you there.

Margaret Yates (Local Organizer)
Maureen Galbraith (Administrative Secretary, Economic History Society)

Summary Conference Programme

(See Contents for details of each session)

Friday 31st March

0915-1045	EHS Publications Committee Meeting	(G.01)
1100-1400	EHS Council Meeting	(1.05)
1200-1800	Registration	Palmer Foyer
1400-1530	**New Researchers' Session I**	
I/A	*Markets and Credit*	(1.06)
I/B	*Business*	(1.07)
I/C	*Political Economy*	(1.08)
I/D	*Economic Change*	(1.02)
1530-1600	Tea	Palmer Foyer
1600-1730	**New Researchers' Session II**	
II/A	*Labour and Economic Growth*	(1.06)
II/B	*Climate and Health*	(1.07)
II/C	*Government and Economic Policy*	(1.08)
II/D	*Social Cultural*	(1.02)
1730-1830	Open meeting for women in economic history	(1.05)
1815-1900	Council reception for new researchers and 1st time delegates	(G.04)
1830-1900	Meeting of Conference Committee	(G.01)
1900-2015	Dinner	Cedar Room
2030-2130	Plenary Lecture: Professor Michael Twyman *The lasting significance of printed ephemera*	(G.10)
Bar available until late		Whiteknights Hall

Saturday 1st April

0800-0900	Breakfast	Whiteknights Hall
0900-1045	**Academic Session I**	
I/A	*International Monetary and Financial Cooperation since 1945*	(1.06)
I/B	*Mobilizing Gender: Women, Work and Transport in the late Twentieth Century*	(1.07)
I/C	*The Peasant Economy in England, c.1300-1500*	(1.08)
I/D	*Aspects of the Economic History of Film*	(1.02)
I/E	*Foreign Investment*	(1.05)
I/F	*Reconceiving the History of the Nazi War Economy*	(1.09)
1045-1115	Coffee	Palmer Foyer
1115-1300	**Academic Session II**	
II/A	*Women and Wealth*	(1.06)
II/B	*British Industrial Revolution*	(1.07)
II/C	*People in Place*	(1.08)
II/D	*New Perspectives on the Early Modern Baltic World*	(1.02)
II/E	*Central and Eastern Europe*	(1.05)
II/F	*Micro-History: Its Uses and Values*	(1.09)
1300-1400	Lunch	Cedar Room

1415-1630 Field trips:
1. *Guided tour of the English Museum of Rural Life*
2. *Guided walking tour of Medieval Reading*

1415-1545 Meeting of Schools and Colleges Committee (G.01)

1415-1600 **Academic Session III**

III/A *Early Customers and Brokers in the London Stock Market* (1.06)
III/B *Labour and Mobility* (1.07)
III/C *Urban and Rural Poverty under the Old Poor Law* (1.08)
III/D *Land* (1.02)
III/E *Manufacturing Districts* (1.05)
III/F *Women and Informal Economies in Port Cities* (1.09)

1600-1630 Tea Palmer Foyer

1630-1720 AHRC/ESRC Session (G.10)

1730-1830 Economic History Society AGM (1.09)

1930-2000 Conference Reception Palmer Foyer
(Hosted by School of Humanities and Business, University of Reading)

2000 Conference Dinner Cedar Room

Bar available until late Whiteknights Hall

Sunday 2nd April

0800-0900 Breakfast Whiteknights Hall

0915-1015 **Academic Session IV**

IV/A *Securities Markets* (1.06)
IV/B *Two Great Divergences* (1.07)
IV/C *Early Markets and Business* (1.08)
IV/D *Law and Economics* (1.02)
IV/E *British Industry* (1.05)
IV/F *Cultural Economy* (1.09)

1015-1045 Coffee Palmer Foyer

1045-1145 **Academic Session V**

V/A *Business and Finance* (1.06)
V/B *Human Capital* (1.07)
V/C *Business and Family* (1.08)
V/D *Society and Status* (1.02)
V/E *Competition in Manufacturing* (1.05)
V/F *Reading and Leisure* (1.09)

1145-1300 Tawney Lecture: Professor Sheilagh Ogilvie (G.10)
'Whatever Is, Is Right? Economic Institutions in Pre-Industrial Europe

1300-1400 Lunch Cedar Room

1400 Conference ends

Brief guide to conference arrangements

The conference will take place in the Palmer Building on the Whiteknights Campus of the University of Reading. The conference will, for the first time, be co-located with that of the Social History Society. Whiteknights Campus is located a short distance from Reading town centre and is well served by local transport (further information below).

Conference accommodation on campus

Ensuite and standard accommodation will be in Whiteknights Hall. A campus map can be found on page xv.

On arrival, delegates may either report to the registration desk in the foyer of the Palmer Building, where they will be directed to their accommodation, or proceed directly to their accommodation. Room keys will be available from 2.00 p.m. at Whiteknights Hall. The Hall is portered until 8.00 p.m. – delegates arriving after that time should follow the instructions which can be found adjacent to the telephone at the Porters' Lodge, which is located at the main entrance at Whiteknights Hall. Please advise Maureen Galbraith if you will be a late arrival.

Registration

Registration will take place between 12.00 and 18.00 in the Foyer of the Palmer Building. The registration desk will be staffed 9.00 a.m. – 6.00 p.m. Thursday-Saturday inclusive and 9.00 a.m. – 2.00 p.m. on Sunday.

Alternative Accommodation

For accommodation elsewhere, you are advised to contact:

Reading Visitor Centre and Travel Shop
Church House
Chain Street
Reading
RG2 7HD

Tel: 0118 956 6226
Website: http://www.readingtourism.org.uk/

Car parking

There is limited car parking across the site, including spaces adjacent to the delegate accommodation. No permit is required. Please advise Security which conference you are attending.

Book displays

Publishers' and booksellers' displays will be in the Foyer of the Palmer Building and in the adjacent Humanities and Social Sciences Building, (HumSS), which will host the Social History Society Annual Conference.

Meals and Morning Tea/Afternoon Coffee

Breakfast will be served in Whiteknights Hall, where all residential delegates will be housed. Lunch and dinner will be served in the Cedar Room. Coffee and tea will be available in the Palmer Building.

Receptions and Bar

The Council Reception for new researchers and first-time conference delegates (Friday, 1815-1900 hours) will take place in the Palmer Building. The Saturday evening Conference Reception, to which all are invited, will also be held there.

A late bar will be provided on both evenings in Whiteknights Hall.

Meeting rooms for New Researchers, Academic Sessions etc

The Conference will be using a large number of rooms, given the size of the academic programme:

Registration and book displays:

- Foyer, Palmer Building and HumSS

For academic papers and lectures:

- 1.02
- 1.05
- 1.06
- 1.07
- 1.08
- 1.09
- G.10

For meetings:

- G.01
- 1.05

Field Trips

The field trips will begin at 1415 and end at approximately 1630; transport arrangements will be advised. Participants should please meet at 1400 in the foyer of the Palmer Building.

Two trips have been arranged: to the English Museum of Rural Life and a Walking Tour of Medieval Reading.

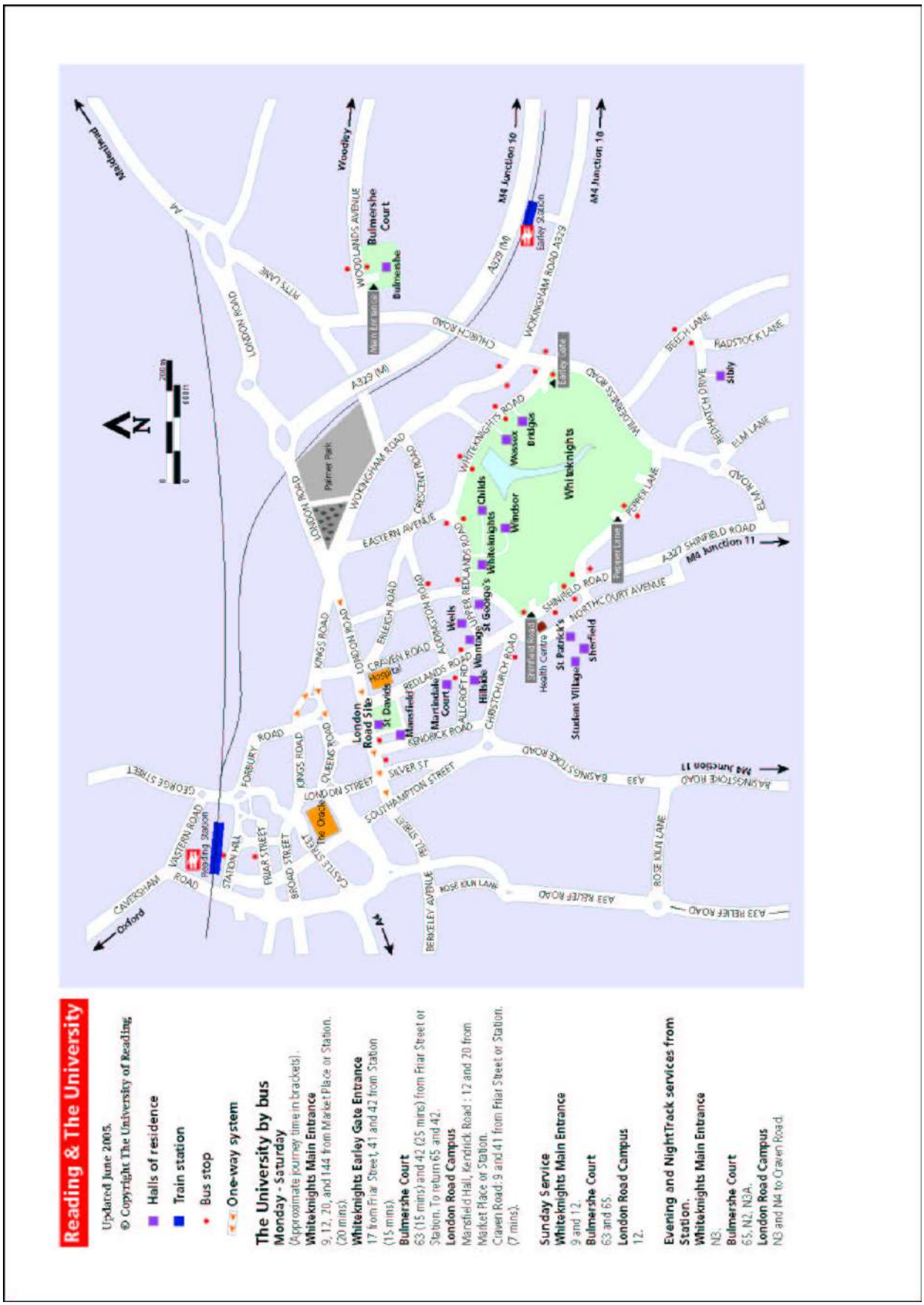
Internet Access

A computer suite is available in the Palmer Building. Usernames/passwords will be available from the registration desk. Alternatively, delegates with laptops and modems may access the internet from their bedrooms: further information is available from reception in Whiteknights Hall.

Useful Telephone Numbers

Security: +44 (0) 118 378 7799

How to reach Whiteknights Campus (University of Reading)



A copy of this map can be found at: http://www.rdg.ac.uk/maps/docs/Readinganduniversitycolour.pdf

How to reach Whiteknights Campus

Reading is located in the heart of the Thames Valley, approximately 37 miles west of London, with easy access by road, rail and air from all areas of the country. The University's halls of residence are serviced by regular public transport.

By Road

(www.reading.ac.uk/maps/whiteknights/wk-road.htm)

From the west, east and south:

Travel to Junction 11 of the M4 motorway. From the motorway roundabout take the B3270 (signposted to Earley and the University). Continue to the end of the road and turn left at the mini-roundabout onto the A327 (Shinfield Road). Then follow the map showing the entrances to Whiteknights Campus.

From the north:

Travel towards the town centre. Join the inner distribution road and follow the signs for the University. Just after a major junction with a right turning to the A33, leave the inner distribution road by the exit on the left, signposted to the University. The Oracle shopping Centre is on your left hand side. Still following the signs to the University travel along London Street and Silver Street. At the top of the hill, immediately past a parade of shops, turn left at the roundabout onto the A327 (Christchurch Road). Christchurch Rd becomes Shinfield Rd and Whiteknights campus is on your left hand side. Follow the map showing the entrances to Whiteknights campus.

By Rail

(www.rdg.ac.uk/maps/rail.htm)

Reading has extensive rail links.

Destination:	Journey Time:
London Paddington	25 minutes
Bath	1 hour
Birmingham	1 hour 45 minutes
Bristol	1 hour
Cardiff	2 hours
Gatwick	1 hour 45 minutes
Manchester	3 hours 30 minutes
Oxford	35 minutes
Southampton	1 hour

- National Rail Enquiries: Tel: 08457 48 49 50 Website: www.nationalrail.co.uk
- Thames Trains website: www.thamestrains.co.uk
- GNER website: www.gner.co.uk
- Midland Mainline website: www.midlandmainline.com
- Virgin Trains website: www.virgintrains.co.uk
- General train information and booking at the Train Line website: www.thetrainline.com

By Bus

(www.reading.ac.uk/maps/whiteknights/wk-bus.htm)

Frequent services run from the city centre and railway station to the Whiteknights campus. Further information is available from the above website.

By Taxi

The Whiteknights Campus is located close to the city centre. Taxis are available from the railway station.

By Air

Reading is well situated for access to airports, including London's Heathrow and Gatwick. Information on onward travel from Heathrow can be found below:

Reading RailAir

Reading RailAir is a frequent coach service that operates between Reading rail station and Terminals 1, 2 and 3 at London's Heathrow airport.

Express coaches depart every twenty minutes and the journey takes forty minutes to travel between Reading station and Terminals 1, 2 and 3. The single fare is £11, day return £12.50 and a saver return (valid for one month) £18.50.

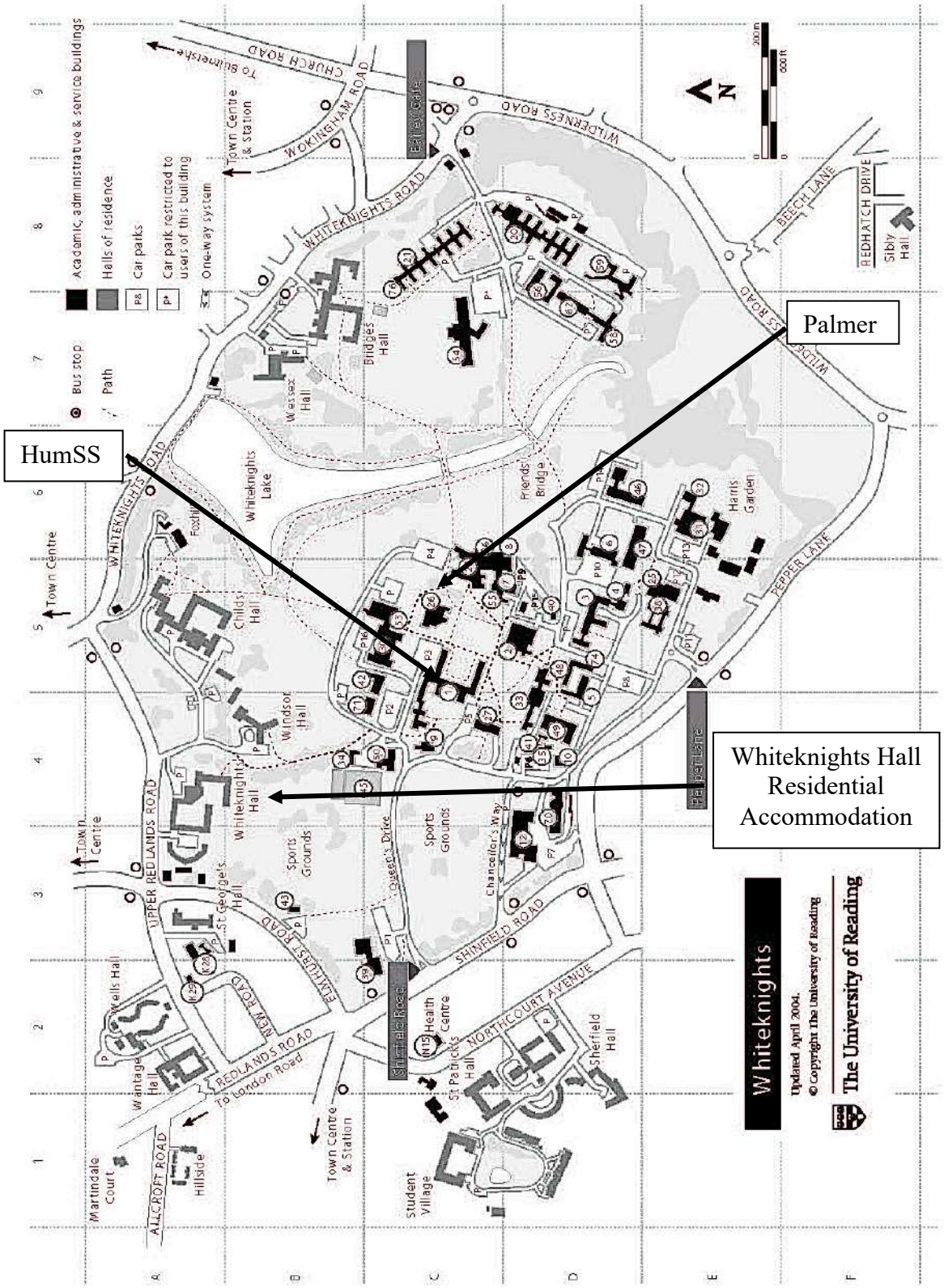
At Heathrow the RailAir coaches pick up at the arrivals level of Terminals 1 and 3 and at the departures level for Terminal 2. Passengers are set down at the departures level of each terminal. Terminal 4 passengers should make their way to Terminals 1, 2 or 3 on the Heathrow Express, which offers a free transfer between the central terminal area and Terminal 4.

At Reading the RailAir coaches stop directly outside Reading station – just follow the signs to the RailAir lounge or the Heathrow RailAir Link. The lounge is at the bottom of the station concourse. Tickets need to be purchased before travel at the RailAir Lounge.

Tickets for the coach only are available from the Bus, Coach and Train information desk in Terminals 1 and 3 or on the coach at Terminal 2. Combined bus and rail tickets for all RailAir services can be purchased at the Bus, Coach and Train information desk in Terminal 1 or at most rail stations.

To pre-book tickets call 08457 000 125 (UK only). For recorded timetable information please call 0118 957 9498 (UK only) or 0118 957 9425 (UK only) for general enquiries.

Campus Plan – Whiteknights



A copy of this map can be found at: http://www.reading.ac.uk/maps/docs/whiteknightsb&w.pdf

NEW RESEARCHER PAPERS

Matching on medieval markets

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Introduction

Markets are the heart of economic activity. If we look into the economic history of the late middle ages, we can observe that, markets already played a dominant role in the local and inter-regional exchange of goods. The complex network of inter-regional fairs led to the first European market integration at the end of the middle ages (Blockmans 1996; Epstein 1994; Verlinden 1971). Although economic historians have become aware of the striking importance of these markets, little research has been done to understand the underlying institutional microstructure of these medieval markets (an exception is Greif 1993, 2002).

This paper asks the question, how do sellers meet their potential buyers on these markets? How can a foreign merchant who enters a city or a fair know that he will find the right buyer for his specific goods? How is it possible that at a fair where hundreds, or even thousands, of merchants with complex preference structures met for only a few days, and were able to find optimal trading partners. Put it another way, how were medieval traders matched, and how did medieval markets clear? In medieval markets the broker was instrumental in this searching and matching process. We can find him in all medieval towns where trade played a significant role. In the late middle ages in particular, brokerage became part of a highly regulated centralized market clearing procedure. Towns set up long lists of statutes on market rules, where the broker played a prominent role. This paper will investigate these rules in the Hansa and in the South German market system.

For the purpose of this paper, we rely on a collection of sources and literature produced by legal and economic historians since the mid-nineteenth century (van Houtte, Toebelmann). Their studies provide detailed evidence from several regions and put it into a more general historical framework. These sources are only a sample of possible medieval business practices. However most sources are statutes from important trade towns and were in use for many decades. The hypothesis advanced in this paper is that brokers were part of a centralized medieval market mechanism and improved the aggregate welfare for buyers and sellers. They supported the market exchange by finding optimal matches between buyers and sellers. Town officials set up brokerage rules in such a way that it served the interests of a utility-maximizing broker to create optimal welfare efficient matches. This means he created matches, in which no participating merchant could improve his wealth by finding another merchant who would be better off with him. Furthermore, we show that town officials implemented brokerage rules that led to different surplus distributions between buyers and sellers. Finally, we demonstrate that these mechanisms had an impact on the merchants' incentives to reveal their preferences about prices they asked or were willing to pay for the purchased goods.

To produce these results we use the following methodology. Since only limited data are available for this time period, we have to rely on individual qualitative observations and cannot make any econometric quantifications. However, these qualitative observations are sets of rules, which we identify as economic institutions and which possibly solved an economic incentive and allocation problem. To show this, we put our rules into the frame of a two-sided matching model. We check what kind of equilibrium results, and discuss how these findings are reflected in the historical context. The remainder of the paper is structured as follows. Section I gives general insights into the appearance of the broker in the late middle ages and the market rules that a broker was obliged to follow. Section II outlines the methodology and the model we apply. Section III presents the results.

I. Brokerage Rules

The broker played a prominent role in the medieval market. Single sources on brokers exist from the twelfth and early thirteenth centuries. More detailed rules, which were parts of market regulations, can

be found from the late thirteenth and at the beginning of the fourteenth century. This fits into the time when towns started to regulate all kinds of market activities in more depth (van Houtte). If we analyze the town statutes from the fourteenth century onwards, we find certain omnipresent rules. We can divide them into four categories.

The first category is about the role of the broker in the marketing process. The broker was a public matchmaker licensed by the town. He needed specific knowledge or expertise in his field. He specialized in one type of product and was not allowed to trade any other goods. The broker had to serve any buyer or seller who approached him. After a merchant had contacted the broker, the broker checked the quality of the goods and asked a possible price claim from the seller or reservation price and desired quality of the buyer to find a match. This included suggesting a price (Frensdorff, Schmieder).

A second category deals with his option to participate in businesses on the market. A broker was not allowed to make trades for himself. He was not allowed to make any gains based on speculation or build a corporation with buyers or sellers. Brokers were also forbidden to negotiate commission fees, which had to be paid by the merchants. These fees were fixed by the town officials. Brokers who violated these rules were penalized (for Brugge, Greve, p.40; for Nurenberg, Baader p.124).

A third category is concerned with the broker's financial compensation. In the broker orders we find three different types of commission. One was a unit fee, i.e. a fixed amount per barrel. Another one was a percentage fee. Typically this was one per cent of the price. Finally, was a non-linear percentage fee, for example, on the Cologne horse market the broker received (up to a certain price) four pfennings per mark for trading one horse, and only two pfennings for a higher price. (Stein I, p.33). In some towns we can find several fees at the same time; in others only one form was in use.

The fourth category determined when a brokerage fee had to be paid and if a merchant was obliged to set up a deal with a broker. If no successful deal was set up, no tax was charged. However in some towns partial fees had to be paid. If the merchant was unhappy with the proposed match, he could switch to another broker. He could also search a buyer or seller himself. In general he could decide for himself if he wanted to accept the help of a broker or not. Rarely was he forced to take one. However, exceptions existed, for example in Brugge for foreigners (Greve, p.40) or for specific products such as wine in Dordrecht (Frensdorff, p.273).

II. Methodology and Model

We have shown that the brokerage rules were set up by town officials and by a set of market rules. Consequently we assume that this set of rules had the purpose of generating a specific outcome that the town officials desired. Many towns tried to set up markets and fairs to satisfy local demand or to create market platforms, which served the local sellers and/or inter-regional trade. Market making was a highly competitive business, as towns competed to be the most attractive marketplace. Thus we can assume that the market makers tried to implement a marketing structure or an allocation mechanism that attracted buyers and sellers. Consequently we can model the town official as a social planner, who tries to create such an outcome (allocating surplus to buyers and sellers) with the help of a matchmaker, i.e. the broker. Matching theory (Roth and Sotomajor) has formulated an outcome, a so-called *stable outcome*, which is reasonable to apply in our historical context. It corresponds with a competitive outcome and thus is Pareto efficient. Consequently it optimizes aggregate welfare.

Finally we have to make assumptions about the preferences and behaviour of the agents involved in the allocation mechanism. Since the outcome matches for each agent with a monetary return, we assume that preferences are *convex, continuous*, and *non-decreasing*, i.e. earning more is better than earning less. In addition, we assume that all agents act *rationally* and *strategically*. This means they behave in order to maximize their income and also imply this on other participants with whom they trade. Based on this set of reasonable assumptions, we have to find out if the set of brokerage rules lead to the desired outcome. Thus we have to show that the brokerage rules result in the stable equilibrium outcome.

III. Main Results

Incentive of the broker

Brokerage rules show us that a broker only receives benefits from intermediation, in the form of a fixed fee per unit traded or negotiated price. Thus, he maximizes his profit based on the matches he creates between the buyers and sellers. Based on a matching model designed for this historical setup we show that the incentive of the broker to assign groups of traders results in stable outcomes. This is due to two forces. The first is based on the observed brokerage rule that merchants can withdraw from any proposed match if they are not happy with it and search on their own. As long as the broker faces this fear, he always has an incentive to create a stable match. The second force stems from reputation. If the merchant receives an unsatisfactory match, but does not have the option to find a better one, the next time he will choose another broker or he will not show up on this market anymore.

However, without such constraints a broker would overmatch on the costs of the surplus of his customers up to their rationality constraints. This is because the broker's revenue maximization is not in line with an optimal surplus extraction for all merchants. Thus, the freedom on most medieval markets to take the broker and to withdraw from the suggested match is an important constraint to generate stable outcomes. We can only find exceptions, where brokers were central to the decision process of the town officials, as in Brugge. We can also find exceptions on product markets, where the allocation of products had a different purpose, such as to enforce some staple markets, for example, the wine market of Dordrecht or to guarantee a basic support of foodstuff.

The constraint incentives of the broker lead to stable outcomes, but normally many stable outcomes exist with different surplus distributions. In the next step we show that depending on the brokerage fee, different stable outcomes are generated. Based on the matching model, we show that a linear percentage fee leads to a so-called *seller-optimal* outcome. This generates the highest prices among all stable outcomes and thus gives most of the surplus to the sellers. The non-linear percentage fee can lead to a seller-optimal outcome, but in general it lowers the prices. The unit fee leads to a buyer-optimal outcome or any other stable match, because in any stable match the same amount of goods is traded. Analogous to the seller-optimal outcome, the buyer-optimal outcome extracts the most surplus for the buyer-side.

Incentives of merchants

The brokerage rules implemented by the town officials have an impact on the merchants' surplus extraction. This in turn influences the bargaining strategy of the merchants, who approach the specific market or fair. Based on general results from matching theory, we can derive the following properties for the brokerage allocation mechanism. A (linear) percentage price fee always leads to a seller-optimal outcome. This makes this mechanism incentive compatible for the seller-side. In other words, a seller always reports his preferences (for example, his price claims) truthfully, because he knows that the broker makes him the best possible deal. Conversely, a buyer-optimal mechanism is incentive-compatible for the buyer side. These results are important for a broker with asymmetric information who wants to create stable outcomes.

These properties have political economical implications. Depending on the brokerage mechanism and thus the outcome, it is particularly attractive for one side of the market to visit such a market. Furthermore, depending on the information asymmetry of the broker about the preferences of the merchants, he can rely on the information the buyer or seller side reports to him. These results are reflected in the sources. We find, based on the market situation, different fees for different products. For example in the Braunschweig market we find percentage fees for fine cloth products that were in high demand. For other cloth products we find unit fees (Hänselmann I, p.517). We find percentage prices on all important horse markets including Antwerp 1404, Brugge 1303, Cologne 1400, and Frankfurt (c. fifteenth century). Horses were easily transported from one market to the other. Consequently, inter-market platform competition played an important role. In general, unit fees dominated earlier markets. We can explain this based on the fact that these markets started as local markets, serving local demand. Later on, when many markets started to compete with each other as inter-regional market platforms, the price percentage fee mechanisms became more important. In

addition, incentive compatibility for one side of the market solves the broker's asymmetric information problems. We find percentage prices for more idiosyncratic goods. Furthermore, we find seller friendly mechanisms on markets, when the authorities feared price speculation. (For example, the wood market in Cologne, Stein I, pp.15, 53-55.)

Conclusion

This paper has studied brokerage and centralized market making in the late middle ages to show that efficient regulation developed alongside the market system. Medieval towns knew and applied methods of efficient market making, and developed formal institutions that dealt optimally with information asymmetries and incentive constraints. After outlining the history of the broker and his role in the medieval market microstructure, we described the methodology and the main assumptions of the model. We showed that medieval market brokerage generated stable optimal outcomes for the merchants. This hinges on the rule that merchants were free to use the broker as a matchmaker or to withdraw from the proposed match without any payment. We argued that different mechanisms lead to different stable outcomes (for example, a percentage fee leads to a seller-optimal outcome). We showed that the equilibrium selection is important, because different stable outcomes have different properties. These properties are related to the division of the surplus between the buyer and seller side and the incentive compatibility of the mechanism for the participating merchants. The application of different brokerage matching mechanisms for different allocation strategies by the town officials is documented in the sources.

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Market integration in early modern Europe

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Supervisor: Professor Robert C Allen

Introduction

Markets are at the centre of economics. Beginning with Adam Smith, economists have argued that well developed markets are essential for economic growth, with undeveloped markets supposedly having restrained growth in early-modern history (North and Thomas 1973).[1] Recently, however, research has begun to cast doubt on this view, with some even suggesting a return to mercantilist ideas (Chang, 2002; Ormrod, 2003).[2] This burgeoning debate on the relationship between markets and growth brings into sharp focus the need for an empirical analysis of the market-growth relationship, as there is a surprising scarcity of empirical analysis on exactly how important the market is to the process of economic growth. This research therefore aims to help plug this empirical gap by providing an econometric examination of markets and growth in early-modern Europe – a time and place in history when markets were at a crucial stage of development.

The first aspect of the paper documents the course of market development in early-modern Europe. Currently, there exist two strains of thought as to the cause of markets, each of which leads to strikingly different conclusions as to the relationship between markets and growth. The first strain of the literature argues that markets improved between the seventeenth and nineteenth centuries, achieving new heights of integration (Persson, 1999).[3] This view lends support to the orthodox view that improving markets gave rise to the birth of modern economic growth. The second strain, by contrast, argues that relatively well developed markets had emerged in Europe by the sixteenth and early-seventeenth centuries (Abel, 1972, 1980; Achilles, 1957), with the evidence of Clark (2002) and Galloway (2000) suggesting that English markets were well developed by the 1500s.[4] This early development of markets – many centuries before there was significant economic growth – implies that poor markets were not responsible for slow growth in early-modern times, and the development of markets could not have been the underlying cause of Europe's growth take-off, which occurred too many centuries later to be explained in this way. Given these two contrasting views, and their drastically different implications for the market-growth debate, it is most important to arrive at firmer conclusions as to the path of market development in a way that will also enable a reconciliation of this divergent literature. Using a three-pronged approach to the measurement of market integration, based on the Law of One Price, this paper provides measures of both long-run and short-run integration, through which the time-path of European market integration can be more firmly traced. The second aspect of the work incorporates these market integration estimates into a growth regression model for the early-modern economy, enabling an answer to that all important question: just how important was the market for growth in early modern Europe?

The course of market integration – econometric method

There are a number of econometric methods that may be used to measure market integration. The current work uses a methodology developed in the work of Parsley and Wei (1996),[5] which begins with the principle that if the market for a good is 'perfect', and there are no costs of transaction, the

[1] *The Rise of the Western World*.

[2] *Kicking Away The Ladder; The Rise of Commercial Empires*.

[3] *Grain Markets in Europe*.

[4] Clark, G., 'Markets and Economic Growth: The Grain Market of Medieval England', *UC Davis working paper*; Galloway, J.A. (ed.), *Trade, Urban Hinterlands and Market Integration c.1300-1600* (Centre for Metropolitan History, Working Papers Series, No. 3; London, 2000); Abel, W. *Agricultural Fluctuations in Europe from the Thirteenth to the Twentieth Centuries* (Transl.; London, 1980); Achilles, W., *Getreidepreise und Gtereidehandelsbeziehungen europaischer Raume im 16. und 17. Jahrhundert* (Gottingen, 1957).

[5] Parsley, D.C., Wei, S-J., Convergence to the Law of One Price without Trade Barriers or Currency Fluctuations', *The Quarterly Journal of Economics,* 1996, 111(4), pp.1211-36.

law of one price will hold, such that the price of the good in two different locations (cities i and j) will be equal at any point in time

$P_{i,t} = P_{j,t}$

This will come about, because – with no costs of transaction – arbitrage will work instantaneously to ensure that any difference in price between the two cities is eliminated. If we therefore define the price difference Q as the percentage difference in the price of the good at time t between two cities i and j as:

$Q_{i,j,t} = \ln(P_{i,t}/P_{j,t})$

It follows from this that if the law of one price holds, with zero costs of transaction, the equilibrium will be:

$Q_{i,j,t} = \ln(P_{i,t}/P_{j,t}) = 0$

However, with impediments to trade, $Q_{i,j,t}$ may differ from zero, although this difference should be bounded by the cost of arbitrage (or 'transaction costs', T) between the two cities. We can therefore define a new price-equilibrium between the two cities as:

$\ln(P_{i,t}/P_{j,t}) - T = 0$
or,
$Q_{i,j,t} = \ln(P_{i,t}/P_{j,t}) = T$ (1)

Clearly, the higher are transaction costs and obstacles to trade in a particular time interval, the wider will be the band of possible price differences between the two cities, and so the higher will be the absolute mean of $\ln(P_{i,t}/P_{j,t})$ as measured over the same time period. Furthermore, the higher will be the variability of $Q_{i,j,t}$ – as measured by the variance of $\ln(P_{i,t}/P_{j,t})$ – over the same time period.[6] Now, if the market is efficient, $Q_{i,j,t}$ should be stationary, as arbitrage should prevent the price difference between the two cities from wandering indefinitely away from the equilibrium. Such stationarity can be tested using a Dickey-Fuller test, under the null hypothesis that $Q_{i,j,t}$ is a unit root:

$$\Delta Q_{i,j,t} = \beta Q_{i,j,t-1} + \sum_{m=1}^{K} \Delta Q_{i,j,t-m} + \varepsilon_{i,j,t} \quad (2)$$

where the lag structure, m, is chosen to eliminate autocorrelation in the residuals.

This method enables one to say something about the market in the long run (i.e. in its equilibrium state). However, we are also interested in how markets perform in the short run. We know that in the short run, disruptions to the equilibrium may occur, resulting from shocks such as the weather or war, which lead to a departure away from the long run equilibrium. It is also therefore of interest to examine the short-run dynamics of adjustment back to equilibrium between markets over time. Under the assumption that $Q_{i,j,t}$ is stationary, this rate of convergence back to equilibrium can be measured by the value of beta in equation (2) above. The smaller is beta, the longer it will take for deviations from the price-equilibrium to be eliminated, and the closer beta is to unity, the more quickly will the price-equilibrium be re-established in the event of a shock, and the more integrated is the market.

[6] *ibid*, p.1215.

Results

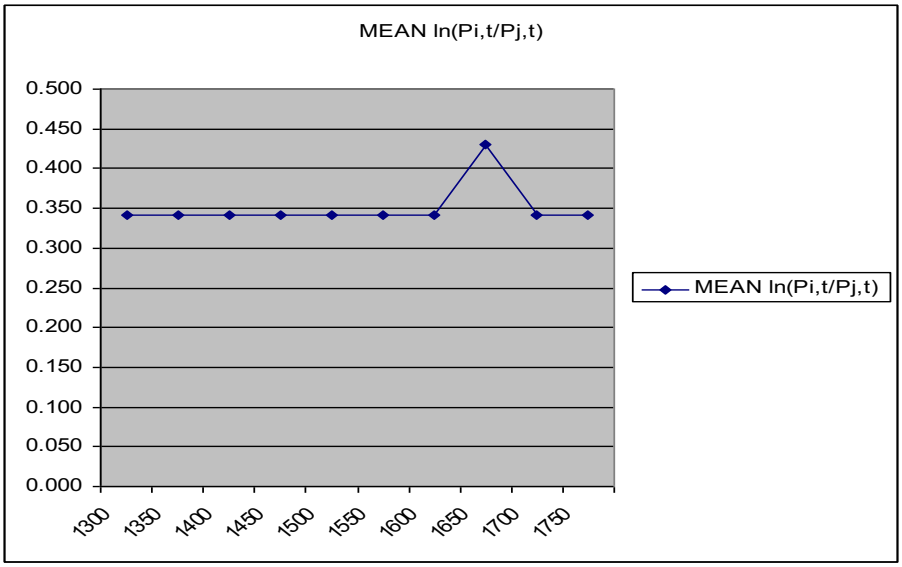
The price data to which the above analysis is applied is available in the Allen-Unger wheat price data set. The data is available on a yearly basis, in silver prices per litre, for a vast array of cities. The price-series selected for the investigation are listed by city of origin in appendix A. For each pair of cities, the three-pronged approach is adopted, based on measuring (1) the absolute mean of $\ln(P_{i,t}/P_{j,t})$, (2) the variance of $\ln(P_{i,t}/P_{j,t})$ and (3) the value of beta in the Dickey Fuller test. Estimation takes place for each fifty yearly interval between 1350 and 1800 (data allowing), enabling the time path of each measure of market integration to be traced for each market-pair (i.e. each pair of cities).

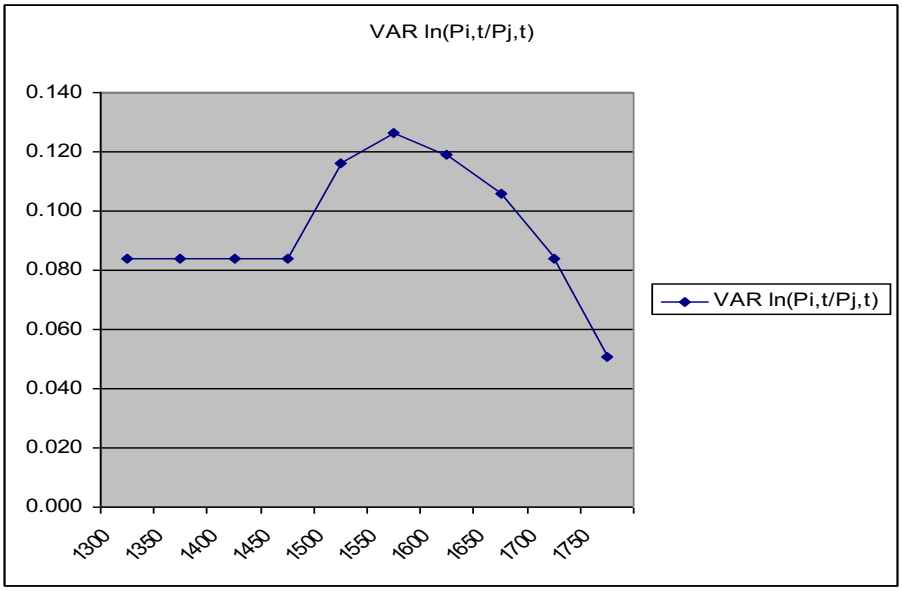
The results for the within-country market pairs suggest four different market experiences when comparing the start with the end of the early-modern period: Firstly, there are those countries which show no signs of improvement, principally Spain and Great Britain. In Great Britain, markets already seem to be well developed by the start of the period, and remain so by the end, whilst in Spain, markets remain relatively underdeveloped throughout the period. Secondly, The Netherlands, Germany and Austria display signs of increasing integration across the period (on the basis of all three measures). Thirdly, Italy and France witness an improvement in some but by no means all aspects of market integration. Finally, Belgium is the only country displaying clear signs of market deterioration across the period. All of these countries also show signs of a temporary deterioration in markets around the time of the seventeenth century, which accords well with the results on the more general European trend, discussed below, and with the idea of a seventeenth century crisis in Europe.

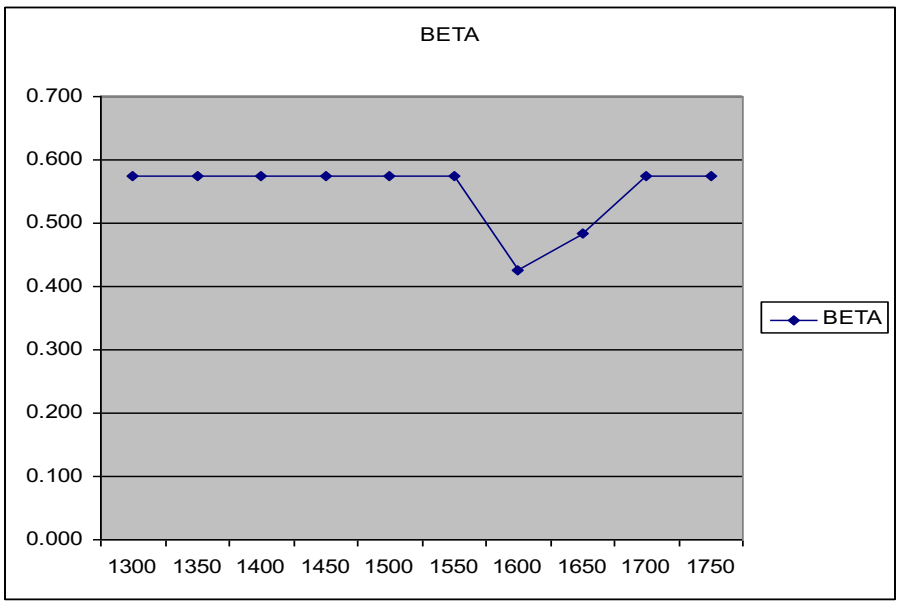
The time paths of these within-country market-pairs – together with the between-country market pairs – can then be taken together to produce a panel of data for each of the three measures of market development. Using these three panels, we can track the *general* European market trend by conducting separate panel regressions for each of the three measures on a series of 50-yearly time dummies. In order to control for the effects of the different distances between our city-pairs, the fixed effects panel estimator has been used. Using the coefficients on the dummy variables from these regressions together with the constant term, which are presented in the table below, we can trace the general course of market integration in Europe over the time period 1350-1800.

	reg 1a		reg 1b: GTS		reg 2a		reg 2b: GTS		reg 3a		reg 3b: GTS	
	mean				var				beta			
	coef.	*t*	*coef.*	*t*	*coef.*	*t*	*coef.*	*t*	*coef.*	*t*	*coef.*	*t*
1350	-0.065	-0.32			0.005	0.070			-0.265	-0.76		
1400	0.043	0.24			-0.004	-0.060			-0.263	-0.84		
1450	0.147	0.83			0.022	0.360			-0.302	-1.00		
1500	0.031	0.18			0.034	0.570	0.032	2.61	-0.141	-0.47		
1550	0.093	0.53			0.044	0.730	0.042	4.48	-0.234	-0.79		
1600	0.100	0.58			0.036	0.610	0.035	3.77	-0.356	-1.20	-0.149	-3.51
1650	0.179	1.03	0.090	3.87	0.023	0.380	0.022	2.31	-0.298	-1.00	-0.091	-2.16
1700	0.071	0.41			-0.002	-0.040			-0.200	-0.67		
1750	0.116	0.67			-0.033	-0.540	-0.033	-3.76	-0.196	-0.66		
constant	0.252	1.46	0.341	37.61	0.083	1.400	0.084	14.63	0.782	2.66	0.575	32.26
obs:	391.000		391.000		391.000		391.000		364.000		364.000	
rsqd (within):	0.081		0.046		0.205		0.199		0.065		0.049	

Below, we plot the general trend of each of our three measures of market integration, using the results from the general-to-specific regressions 1b, 2b and 3b:







In general, these three sets of results suggest that the Whiggish hypothesis of markets developing from a state of disintegration at the beginning of the period to a state of relatively high integration on the eve of the industrial revolution leaves much to be desired. If markets had improved, we would expect

to see a decline in the mean and variance and a rise in beta between the start and end of the era. Rather, the evidence from the beta and mean measures of market integration suggests that a level of market integration on a par with that in the eighteenth century was already in place by the fourteenth century, to be soon followed by a period of disintegration and stagnation – as reflected in a decline in beta and a rise in the mean and variance – until the eighteenth century when markets recovered. This identification of disintegration in all three measures is important, as it enables one to reconcile the literature emphasizing high levels of integration in the early years with the literature emphasizing a rise in integration in the eighteenth century. However, this rise in integration in the eighteenth century now reveals itself as mostly a recovery to the fourteenth century levels of market development, rather than taking Europe to previously unseen heights in market development. The only measure of integration to display an improvement by the end of the period is the variance measure, which declines in the eighteenth century. However, we witness no similar improvements in the other two measures, reflecting both the transaction costs between cities and the speed of adjustment to equilibrium. In these two important senses, markets had not improved, suggesting that this cannot have been the cause of the start of modern economic growth.

The trend that has been uncovered is consistent with two important historical hypotheses: firstly, with the idea of a higher-level growth equilibrium being achieved in the fourteenth century, resulting from such factors as greater jurisdictional integration, the flourishing of monetary unions and the unification of measurements.[7] Secondly, the trend in markets is also consistent with the idea of an economic crisis in the seventeenth century (Hobsbawm, 1954; Parker and Smith, 1997),[8] typically argued to be associated with factors such as the Thirty Years War and the 'Little Ice Age', which are also likely to have reduced market integration. This may help to explain the temporary deteriorations visible in the trends presented above.

Economic Growth Regressions

Given that we now have a set of market-integration data it is possible to juxtapose this with data on economic growth, in order to examine more closely the relationship between markets and growth.

The econometric model follows the form of the usual growth regression approach, incorporating both initial income and steady state variables. The steady state variables are as follows:

- Population growth
- Urbanization (proxy for capital)
- Land relative to labour
- Literacy
- Institutions
- Market integration: domestic and cross-European

The model is estimated using a panel of data on Austria, Belgium, France, Germany, Italy, Netherlands, the UK, and Spain, for each fifty-yearly interval between 1500-1800. The growth data series is derived using the income data of Van Zanden. For each of the countries in the data set, domestic market integration is measured by the average of the beta results from all of the within-country market pairs, as outlined above, and each country's integration with the European economy is measured using the average beta value of all of the cross-European pairs which involve a city in the home country and a city abroad. Given the recent emphasis on the importance of institutions to growth, three institutional variables are also included in the model: Firstly, following the work of Epstein (2000), which argues that the formation of states resolved the coordination problems that were hampering growth, an indicator of state development is added. This is measured by the 'state antiquity index', compiled by Bockstette, Taylor and Putterman (2002), with values up to fifty for a perfectly formed state. Secondly, following the work of De Long and Schleifer (1993), which emphasizes the

[7] Epstein, S., *'The Late-Medieval Crisis as an "Integration Crisis",* in Prak, M., *Early-modern Capitalism* (2001).

[8] Hobsbawm, E., 'The Crisis of the Seventeenth Century', in, Aston, T. (ed.), *Crisis in Europe* (1965); Parker, G., and Smith, L.M, *The General Crisis of the Seventeenth Century* (Routledge, 1997).

importance of republican versus monarchic control of the economy, economies are categorized into two groups – prince and republic (with a value of 1 for prince, and 0 otherwise). Thirdly, based upon the work of Acemoglu, Johnson and Robinson (2002), an indicator of the extent to which economic policy is subject to the whims of an elite minority is also included. This 'executive constraint' series ranges up to a value of seven for the most constrained executives, which are expected to have better economic performance. Data on the other variables in the model is available in Allen (2004).

Estimation takes place with the random-effects panel estimator, the results of which are presented in the table below.

	reg 1a		reg 1b: GTS	
	random effects			
	coef.	t	coef.	t
initial income	0.000	-3.19	-6.81E-05	-3.49
pop growth	0.135	0.99		
urbanisation	0.000	-0.42		
literacy	0.002	0.88		
land/pop	0.000	-1.7		
state	0.000	-1.74		
exec	0.001	3.71	0.00117	5.72
repub	-0.001	-1.43		
beta (domestic)	0.002	1.44		
beta (cross-Europe)	-0.003	-2.69	-0.002771	-2.37
constant	0.008	3.38	0.003249	3.49
obs:	39.000		39	
rsqd (overall):	0.654		0.545	

The final general-to-specific results suggest that a process of convergence was underway in Europe in the early modern era, as indicated by the negative sign on the initial income variable. The institutional variables perform well, and suggest that better institutions are good for growth: those economies with a well constrained executive (with a maximum value of seven) witnessed higher growth of 0.8 per cent p.a (0.00117*7*100 per cent). This variable works partially – but to no extent solely – through improving domestic market integration. The findings also suggest that the higher is a country's integration with rest of Europe, the lower is growth (with a beta value of one lowering growth by 0.28 percentage-points p.a). In terms of recent economic theory this could be explained by the adverse effects from agglomeration that can result from increasing international integration, if increasing returns to scale and external economies are at work.

Conclusion

The results imply, firstly, that markets were already in many ways relatively well advanced centuries before the birth of modern economic growth, suggesting that 'something else' must have been responsible for this economic growth, and that, by themselves, markets are not sufficient for economic growth. The central lesson that does become apparent is how important underlying institutions are for growth. Furthermore, when we juxtapose these estimates of market integration with data on economic growth in the early-modern era, we find that whilst an economy's domestic markets may indeed have been good for growth a high degree of integration with the rest of Europe was not. In this sense, the mercantilists may have been right after all.

Appendix

Cities – cross-European market integration:
Amsterdam, Bruges, Cologne, London, Naples, Paris, Strasbourg, Valencia, Wels
(All possible pair-wise combinations of these nine cities are used in the econometric analysis.)

Cities – domestic market integration

- UK: Chester, Edinburgh, Eton, Exeter, London, Winchester
- BELGIUM: Antwerp, Bruges, Brussels, Lier
- NETHERLANDS: Amsterdam, Arnhem, Leiden
- SPAIN: Madrid, Valencia
- ITALY: Bari, Bassano, Cantania, Florence, Milan, Naples, Sienna, Udine
- AUSTRIA: Vienna, Wels
- FRANCE: Aix, Angers, Grenoble, Paris, Strasbourg, Toulouse, Valence
  GERMANY: Augsburg, Cologne, Frankfurt, Leipzig, Munich, Wurzburg

Local finance and overseas trade during the Industrial Revolution: an examination of the financial arrangements of a Liverpool merchant

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This paper attempts to outline the complex relationships developed between a Liverpool overseas merchant and the banks in the port city of Liverpool and in London during the early nineteenth century.[9] Focusing upon the arrangements made by John Leigh to finance his West India trade in the years of the Napoleonic Wars, the paper investigates the relationships that existed between Liverpool merchants and both local and national financial institutions. Through examination of the financial and commercial arrangements of this Liverpool merchant, the paper's further ambition is to test the hypotheses that the growth of financial institutions both induced speculative expansion of the transatlantic trade and also that it created increased instability in the financial system.

The examination of John Leigh's commercial and financial arrangements draws on the combined source materials relating to him.[10] They feature Leigh's trading business chiefly with West India and Ireland from the commencement of his business in 1803. Besides his activity as a slave merchant, they document the ways in which his business linked the transatlantic trade with the domestic hinterlands of Liverpool, not least his active engagement in connecting the colonial trade with Irish trade, and, of great interest, the extensive financial networks that linked banks at regional level with these in London. Leigh's career ended with his bankruptcy in 1811 with over £139,000 owed to some 65 creditors. It is likely that his collapse was precipitated by the bankruptcy of a London bank which itself resulted from the volatility of the transatlantic trade in the uncertain wartime conditions.

By the beginning of the nineteenth century Liverpool had established its supremacy in transatlantic trade over Bristol and London. In particular the outbreak of the wars with France allowed the Merseyside port to take advantage of its good location and enjoy prosperity. As is well known, a large part of transatlantic trade, especially West India trade, was made up of indirect trade via the slave trade from the West coast of Africa. In such a long distance trade, remittance for the sale of goods took a long time to reach the merchants in British ports. The merchants thus needed huge amounts of capital investment in trade that was beyond their personal resources. Although it has not been subject to systematic investigation, it can be assumed that the commercial finance of transatlantic trade contributed importantly to the emergence of the British financial system.[11] We know that a small number of reputable London houses specialized in financing transatlantic trade, especially West India trade, and had established dominance in this trade by accepting final responsibility for West India bills which were presented in London for discounting.[12] Relatively little is known about the practice of Atlantic trade finance outside London but by the mid-eighteenth century South Lancashire had a local bill market sufficient to allow Liverpool slave merchants to settle most of their debts to one another

[9] This paper draws on the preliminary results of PhD research on the local, national and international financial connections of the commercial/port trade regions of Bristol and Liverpool.

[10] There are three sets of papers relating to John Leigh. The first set derives from the bankruptcy records held by the Chancery including over a thousand pieces of trade correspondence (B3/2942-4, C108/212-4 National Archives, Kew). Secondly, the Warrington bank of Parr Lyon Hurst & Co. with whom Leigh held accounts made exhaustive investigation into Leigh's bankruptcy in order to trace his bills of exchange (PBA123 Royal Bank of Scotland Group Archives). Lastly, additional information is available from the identification of John Leigh as one of the largest creditors of Brickwood Rainier & Co., the London bank, which went bankrupt in 1810 (B3/252-4 National Archives).

[11] Hudson, P. *The Industrial Revolution* (London, 1992), p.199: Inikori, J. E. *Africans and the Industrial Revolution: a study in international trade and economic development* (Cambridge, 2002), p.360.

[12] Sheridan, R.B. 'The commercial and financial organization of the British slave trade, 1750-1807,' *Economic History Review*, 2nd. Ser. 11 (1958), pp.253-5.

locally.[13] We know too little about how the banks operated in this arrangement.[14] In addition, little study has been done on the impact of the Napoleonic Wars on local banking and financial networks and upon instability in transatlantic trade.[15] The growth of industry and trade during the early to mid-eighteenth century appears to have led the increase in the number of country banks and formation of a national bill discounting system with London banks. It should thus be questioned whether the commercial uncertainty in the time of the French Wars created difficulties in the British financial networks, in particular in local finance. An examination of John Leigh and his banking arrangements serves as a case study to cast light upon this issue.

During his trading years Leigh held accounts and conducted most of his banking transactions with three banks. They were Parr Lyon Hurst & Co. of Warrington, Devaynes Croft & Co. of London, and Brickwoods Rainier & Co. of London. Table 1 shows the volume of bills of exchange that Leigh sent to Parr's Bank in 1805 to 1807. It was computed from the letters that Leigh sent to this bank during the period.[16] It shows the number, pound sterling value, and usance of the bills.[17] The origin of each bill was not necessarily given in the correspondence, but the most significant amount of bills was from West India merchants, Irish merchants and brewers, and merchants of London and Liverpool. West India Bills in this time were mostly for large amounts, and had longer usance than the others. The table indicates that Leigh's bill transactions with Parr increased significantly over the period. It shows that Leigh had regular receipt of a fairly large amount of bills for sales of goods, such as slaves in West India and sugar or cotton in England and Ireland; and that he sent them to Parr's Bank to get them discounted. Besides this service, Parr's bank realized Leigh's financial needs in London by mediating with their London agent bank, Devaynes Croft & Co. Most of the local banks in this period established agency connections with London banks and this enabled the country banks to conduct financial transactions in the London market.

Through Parr, Leigh was allowed to draw bills and drafts on the London bank, Devaynes' Bank. This is shown in Table 2. It shows that Leigh regularly and increasingly drew, on his own account, bills and drafts of fairly large amounts for two or three months' usance. Usually Leigh sent those bills specifically to a small number of merchants in London who were involved in West Indies trade.

We can now see that Leigh's banking arrangement was following. He received foreign bills for the sale of goods and got them discounted at Parr's Bank and credited to his account. On the other side, he drew acceptance bills at the London Devaynes' Bank and made his payments there for goods purchased. The commission he paid to Parr's Bank each time he ordered at Devaynes' Bank was 0.25 per cent.[18] It is thus not difficult to imagine why Leigh would seek a direct connection with a London bank. Luckily enough he was introduced by his merchant friend in London to the prominent house of Brickwood Rainier & Co. This bank was one of a few banks which specialized in dealing with the West India trade. Leigh succeeded in establishing business with Brickwood in autumn 1806. He explained to Brickwood Bank: " … it is our intention to divide our business between you and Parr['s Bank] if you agree to do it on the same terms they allow us the same privilege to draw long[-term] Bills".[19]

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[13] Anderson, B.L. 'The Lancashire bill system and its Liverpool transport practitioners: the case of a slave merchant' in W.H. Chaloner, ed., *Trade and transport: essays in economic history in honour of T.S. William* (Manchester, 1977), p.65.

[14] From a different perspective, Ashton argued that Liverpool local banks played a key role in wide use of foreign bills and London bills as means of payment in the South Lancashire area. Ashton, T.S. 'The bill of exchange and private banks in Lancashire 1790-1830' *Economic History Review*, 15 (1945), pp.30

[15] Correlation between credit extension and several wars in the eighteenth century has been studied by Hoppit. Hoppit, J. *Risk and failure in English business 1700-1800* (Cambridge, 1987), p.122-30.

[16] The period covered here is short, so it may not be regarded as a complete illustration of his entire financial environment, but rather as one interesting example of the pattern of banking transaction of an overseas merchant of this period.

[17] Usance is the time which is allowed for the payment of bills (generally in time of slack trade people would become reluctant to accept longer term bills and would insist upon cash payments).

[18] Letter to Brickwood & Co. from John Leigh, Liverpool 22 November 1806 (C108/212 National Archives).

[19] ibid.

Table 3 shows Leigh's transactions with Brickwood from November 1806 to February 1807, the amount of bills sent and discounted in the left column, and in the right column the amount of acceptance bills Leigh drew. It indicates that the transactions between Leigh and Brickwood were fairly large. In fact, Leigh increased his bill transactions with the London bank to finance his expansion in trade, particularly the exploration of new trading links in South America until the summer of 1810 when Brickwood stopped payment after the sudden reverse in the trade the previous year.[20] A letter that Leigh wrote in great shock to Parr's Bank was found in the Warrington Bank's repository:

> Gentleman … to my great trouble and sensation found Mess Brickwood & Co Banker had stopped payment … I cannot ascertain if they do or not hold the Bills which we have drawn against … I will give you such security to put you with …[21]

The debt claim was made against Brickwood & Co. under the name of Leigh for more than £45,000 upon several bills of exchange and he stood out as one of the single largest creditors in the London bank's bankruptcy case.[22] The legal procedure was however initiated by Parr's Bank because John Leigh went bankrupt within several months of Brickwood's failure. The correlation of the two bankruptcies drew the attention of Parr's Bank.[23] Brickwood's failure inevitably imposed great strain upon Leigh's normal calculations by delaying payment and compensating the bill holders with expensive securities.

> … respecting payment, I am sorry to say owing to Brickwood & Co stopping payment has locked up 40,000 pounds therefore I am not prepared to pay such but will give good Security at 12 months date … [24]

Anxiety and uncertainty were certainly caused by the unpredictability of the Napoleonic Wars. Not only did trade instability precipitate Brickwood's loss but Leigh also faced much difficulty in wage and other expenses payments for his Atlantic vessels. For example John Kay, Leigh's clerk, wrote of *Snow Vedre* in September 1810.[25]

> … Mr Edward has just called and complained in Severe term against your not having paid the Wages after he had given up the Bill for that purpose, he will give Bail to the admiralty proctor on Sunday morning this will throw 100 pounds away but it was all he could do, he said you were absolutely allowing your property to go to ruin … [26]

[20] Bankruptcy file of Brickwood, Rainier & Co. (B3/252 National Archives): The impact of the failure of this bank on the economy was described in detail in the contemporary newspapers such as *The Times* and *The Morning Chronicle*. Quoted by Pressnell. Pressnell, L.S. *Country banking in the Industrial Revolution* (Oxford, 1956), p.466.

[21] Letter to Parr Lyon Hurst & Co. form John Leigh, London 9 July 1810 (PBA123 Royal Bank of Scotland Group Archives).

[22] Bankruptcy file of Brickwood, Rainier & Co. (B3/252-4 National Archives).

[23] Parr's Bank made extensive investigation upon this case. In as late as 1823 the bank "desired ... to look for the correspondence between John Leigh and the [Brickwood's] Bank respecting Brickwoods acceptances…" Letter to Thomas Parr from William Stretcher, Warrington 11 July 1823 (PBA123 Royal Bank of Scotland Group Archives).

[24] Letter to Atchison & Morgan from John Leigh, London 1 September 1810 (C108/213 National Archives).

[25] Leigh sent *Snow Vedre* a few times to Trinidad and Brazil during 1807-1810. Invoice Book of John Leigh (C108/214 National Archives).

[26] Letter to John Leigh from John Kay, London 22 September 1810 (C108/213 National Archives).

Conclusion

This paper has used a case study to show that transatlantic trade in Liverpool was financed by the bill circulation system between banks of Liverpool and the capital. This credit system, which has been rarely addressed empirically in existing studies, played a key role in the Industrial Revolution by directing capital northwards into regional trade and industrialization. The financial arrangement made by Leigh and his banks of Liverpool and London during the early nineteenth century was a part of this inter-regional credit flow.[27] It is interesting that Leigh's direct connection with Brickwood's Bank in London coincided with his trade expansion during 1806-1810. He explored new trade into Central and South America as well as with the West Indies at a time of foreign market re-orientation during the Napoleonic Wars. Leigh's trading ambitions were accommodated by his connection with the London bank. However it was this same credit connection that rendered Leigh increasingly subject to the instability of wartime trade conditions. It is likely that the shift in patterns of trade and credit during wartime had a major impact on the bankruptcies of Leigh and Brickwood's Bank in 1810 and 1811. The revolts in the Spanish Americas in particular may have ruined Brickwood and led to Leigh's bankruptcy by disturbing their credit scheme. Thus both greater chance and greater risk were injected into the local finance of Liverpool trade through the inter-regional credit network.

Table 1: *Abstract of the bills sent to Parr Lyon & Co. from John Leigh & Co. 1805-07*

	No of bills	Value of bills (£)	Usance (days)
1805			
February	2	1162	
March	3	218	
April	2	821	
May	5	1734	93
June	7	2343	62-125
July	3	2444	
August	7	4215	93
September	1	1000	
October	6	3482	21
November	13	1513	62-93
December	4	4643	
1806			
January	3	1690	93
February	13	5127	
March	13	4602	62
April	9	4527	93
May	17	6508	93-124
June	9	2532	93
July	12	2856	62-93
August	14	6673	21-93
September	18	8342	62-124
October	17	5085	62-124
November	5	4170	62-93
December	21	6405	62-93
1807			

[27] The development of the bill discounting system in Britain occurred during the last quarter of the eighteenth and the first two decades of the nineteenth centuries. Black, I. 'London agency system in English banking 1780-1825,' *London Journal*, 21 (1996), p.118; King, W.T. *History of the London discount market* (London, 1936), pp.1-30; Pressnell, *Country banking*, pp.84-95.

January	13	4887	62-93
February	6	4058	62-93

Sources: C108/212, 213 National Archives

Table 2: *Abstract of the bills sent to Devaynes Crofts & Co from John Leigh & Co. 1805-07*

	No of bills	Value of bills (£)	Usance (days)
1805			
April	8	1587	
May	3	1059	93
June	7	5056	62-93
July	7	2532	62-93
August	14	4848	62-93
September	21	4849	62-124
October	5	2515	62-93
November	6	1858	75-93
December	6	3173	62-93
1806			
January	6	2485	62-93
February	9	4642	62-93
March	5	2353	62-93
April	13	5245	10-93
May	4	3050	62
June	13	6770	62-124
July	11	7445	62-93
August	9	5304	62-75
September	5	3553	62-75
October	11	5641	62-186
November	15	7477	62-93
December	11	4179	62-93
1807			
January	14	9610	62-93
February	13	4016	62-93

Sources: C108/212, 213 National Archives

Table 3: *Abstract of the bill transaction of John Leigh & Co with Brickwood & Co. 1806 & 1807*

	Bills sent			Bills drawn		
	Number	Value (£)	Usance (days)	Number	Value (£)	Usance (days)
1806						
November	2	3045	61	1	750	93
December	5	6088	93	1	2297	62
1807						
January	1	635		1	598	
February	5	1835		3	1731	

Sources: C108/212, 213 National Archives

The way to support credit: The Suspension Crisis in 1797 and the Declaration Movement

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On 26 February 1797, in spite of it being a Sunday, the Privy Council convened to discuss measures to prevent the country's financial ruin. The reserves in the Bank of England were dangerously low, and the news that a French squadron had landed on the coast of Fishguard, Wales, had just reached the capital the previous day. On the following day, people who went to the Bank of England were given handbills, which communicated that following the Order of the Privy Council the Bank had suspended the cash payments of their notes.

Suspending cash payments meant shifting the basis of trust in the financial system. It involved a sharp increase in the number of people who dealt with paper instruments which, unlike precious metals, depended directly on the workings of the system rather than on personal relationships and intrinsic worth. It could not have been an easy task, in either economic, social or political terms. How was it achieved? And who carried out this major task?

The experience of the Bank Restriction Period (1797-1821) seems to be, at first glance, fairly modern; the Bank of England was beginning to assume the status of a central bank, and the people used, and became accustomed to, inconvertible paper money. However, this impression becomes elusive when we look deeper into the situation. The standard narrative of the Restriction Period is partly responsible for the misleading impression of this era. This paper tries to convey a more detailed account of the beginning of the suspension of cash payments by the Bank of England.

The first problem of the standard account of the suspension is that attention was given almost exclusively to London. The importance of London is beyond doubt, however, we need to be careful not to underestimate the importance of other financial centres. The second problem is that the importance of the declarations to support credit was not properly appreciated. Most of the researchers have made only passing remarks regarding the declaration issued by London merchants, bankers, and notaries, but the real extent of the reaction was widespread – to the degree that it should be referred to as the 'declaration movement'. This paper argues that this movement was crucial in keeping the floodgates of panic from opening by legitimating the extraordinary measure. At the same time, it was a procedure used extensively in this period, and can be traced back – or so it was thought – to 1745.

The most influential account of the suspension of cash payments was given by John Clapham in his history of the Bank of England. He enumerates the elements that led to the decision: pressure from the huge expense of war efforts and advances to the government, adverse exchanges, external drain to Ireland and Pitt's attempt to unite Irish and English economies, and the final stroke: the invasion panic. All of these elements are certainly relevant in understanding the event, but the situation seems to have been far more complex. Other than the Bank of England, only the hardships of Newcastle banks have been noted. On 23 February, three days before the meeting of the Privy Council, a Newcastle banking firm named Harley and Cameron came to the Bank begging for help.

However, even before the Newcastle panic, potentially a far more serious event had occurred. On 21 December 1796, a French fleet arrived at Bantry Bay, Ireland. Though the French did not land, because of bad weather and confusion in the command, they stayed in the Bay for two weeks without an attack from the British fleet, which was then in Spithead. The invasion of Bantry Bay has not been featured in most economic histories, but in fact, this event caused a financial crisis in Ireland, a crisis that preceded the Newcastle panic. Cork, which was situated close to Bantry Bay, was also seriously affected by the event. On 6 January, it was said that 'all Business here is at a stand, no Money in Circulation but what is paid Tradesmen & Labourers'.[28] The shortage of money – which means coins – undoubtedly started immediately after the arrival of the French fleet, for the City of Cork Committee

[28] *Irish Distillers Copy Letter Book, 1794-1802*. Cork Archives Institute, U15B.

referred to an 'alarm' on 24 December. What is more significant about the Cork Committee is that, on this occasion, the Committee recommended stopping cash payments, and that recommendation was obligingly adopted by the Cork bankers.

This is the first stoppage of cash payments before the suspension of the Bank of England. Although the suspension in Cork did not lead to a bigger crisis, there certainly was apprehension in the air. The nobility, gentry, and traders of Dublin met at the Royal Exchange on 28 December, and discussed the possibility that Dublin bankers would stop discounting. However, the measure was not deemed necessary, and some people even thought the course taken by the Cork bankers was extreme and subversive to public credit. Scotland also suffered from early runs. William Forbes claims that the small run commenced from a public meeting in Midlothian on 17 February.[29]

As we have seen, it would be more precise to say that the suspension was preceded by a series of financial disturbances after the Bantry Bay incident, which means that the people were prepared for the suspension of cash payments by the Bank of England – more than we might expect them to have been. For example, Scottish bankers had been expecting a run to take place, so they were 'fully prepared to meet it'[30] by the end of February. In Dublin, the Lord Mayor, who played a central part in the December meeting, speedily called for another meeting to support public credit after the news of stoppage in England.

If some people were expecting the financial panic, how could they have prepared for it? In early January, a bank in Cork called in its bank notes, but this was an exceptional case. What most of the banks could have done was to limit the circulation of their notes. But even if they succeeded in limiting their liabilities, in a general crisis, such a move would not be sufficient.

A measure taken under such an event was to declare support for credit. The normal procedure was to hold a meeting by merchants, bankers, and other notable people in the region and adopt a declaration stating that they supported public credit, assuring the creditability or credit-worthiness of local banks, and the signatories were to accept banknotes as payment.

During the 1797 suspension crisis, the adoption of this method spread surprisingly widely and quickly. Following the run on the Newcastle banks on 18 February, a meeting of Newcastle bankers took place. In the meeting they agreed to suspend cash payments on Monday if the demand for specie continued. On Monday, all the banks in Newcastle suspended payments. The same day, the principal tradesmen in Newcastle met, and at the meeting a resolution was adopted; the following resolution was then advertised in the newspapers: 'THAT we, whose Names are hereunto subscribed, will receive the Notes of ALL the BANKS here, in Payment as usual'.[31] Meetings of the same nature were held in Sunderland (21 February), Durham (22 February), and South Shields (24 February).

On the day the Bank of England stopped payment (27 February), the largest meeting was held in London. The meeting was called for by a Pittite Mayor, Brook Watson, who was also a former director of the Bank of England. The content of the declaration adopted at the meeting was basically the same as that of Newcastle – only it was concerned with the Bank of England notes – which said, 'we will not refuse to receive Bank Notes in Payment of any Sum of Money to be paid to us, and we will use our utmost Endeavours to make all our Payments in the same Manner'.[32] The meeting was attended by numerous people – the names of the signatories that appeared in the declaration advertised in newspapers amounted to 853, and some copies were deposited in some places for additional endorsements; eventually the signatures were said to have amounted to about 3,000. The scale of the other meetings was smaller, but over 200 people gathered at the Dublin meeting, and 'hundreds' attended the Edinburgh meeting.

Scottish bankers and Bristol bankers were among the first to be informed of the decision at the Privy Council. Therefore both of these regions were able to hold a meeting on the day of the suspension. On 1 March, a declaration was adopted in Bath, Hull, Northampton, and Oxford. Dublin did the same on 2 March. A newspaper reports: 'At Yarmouth, Lynn, Beccles, Canterbury, York, Bristol, Shrewsbury,

[29] William Forbes, *Memoir of a banking-house* (London, Edinburgh, 1860), p.82.
[30] Letter of Sir William Forbes, 1 March 1797. The National Archives of Scotland, GD27/6/38.
[31] *Newcastle Chronicle*, 25 February 1797.
[32] *The Times*, 28 February 1797.

and, in short, every town of consequence in the kingdom, the inhabitants have agreed to similar resolutions in support of their several Banks, and of the Bank of England'.[33]

The principal movers of the meetings were mainly political leaders of the region – for example, the Lord Mayor in London and Dublin, and the Lord Provost in Edinburgh. However, the London meeting seems to have originated from a quarter other than that of the Lord Mayor. There was an interview between William Pitt and the directors of the Bank of England on 23 February, in which a delegate from the Bank suggested to Pitt that: 'it would in the present circumstances be highly requisite that some general meeting of the Bankers and chief Merchants of London should be held, in order to bring on some resolution for the support of the public credit in this alarming crisis'.[34]

Even though the London meeting had been pre-arranged by Pitt and the Bank, there is no evidence to indicate that any direction – to adopt the same measures – went from London to other regions. The whole proceedings were so readily accepted that one wonders whether the people involved knew exactly what they should do.

The news of the suspension arrived by express post on the evening of 27 February in Norwich. The next day, several banks were shut and a meeting of the bank proprietors took place; they resolved 'to follow the regulation of the Bank of England as far as possible'.[35] Then the Court of Mayoralty was held at the City Hall and their resolution confirmed the bank's decision. The next day, principal merchants confirmed the resolution of the Court of Mayoralty. It was doubly confirmed by the larger meeting on 2 March. The procedures taken in Norwich look almost flawless (in order to make the exigency legitimate), though there was no legal ground allowing them to suspend cash payments themselves. Only the Bank of England and the Bank of Ireland were covered by acts relieving them from cash payments – in the case of the latter, it was done retrospectively. Legitimizing this extraordinary measure was therefore a difficult task, especially for the majority of the banks which were not covered by the legislation. For this reason, simply following the Order was not enough, and the declaration movement was therefore crucial in supporting public credit.

Though there was no legal justification for the measure on which everyone could rely, there seem to have been two ways to legitimate it: precedence and quasi-legal appearance. In the London meeting, Brook Watson evoked the memory of a crisis which took place half a century ago. In September 1745, the Jacobites' success in Prestonpans caused a run on the Bank of England. During this plight the bank tried to exchange its notes with silver instead of gold, which was the customary method. The measure would not have worked if there had not been the merchants' declaration, issued by the meeting held in a London coffee house, 'that we will not refuse to receive bank notes in payment of any sum of money to be paid to us. And we will use our utmost endeavours to make all our payments in the same manners'.[36] On this occasion, 1,140 signatures were collected in five days, and the run was halted. Watson suggested at the London meeting that: 'If such a resolution was entered into by the present opulent meeting, it would answer every purpose'.[37]

If the origin of the declaration is placed in 1745, there is also another precedent. The form of declaration was a method used extensively in the association movement in 1792. In that year, to counteract the radical societies, John Reeves initiated the formation of the 'Association for the Preservation of Liberty and Property against Republicans and Levellers', and on 24 November 1792, he published a declaration in the newspapers. The declaration was an expression to uphold the constitution as established in 1688. The form was picked up by Pitt as a weapon to fight radical elements, and the movement spread throughout the country. London merchants, bankers, and other inhabitants produced a declaration in this year, and then in 1795. We can assume that declaration was a method which was fairly well known to the London community, the Bank, and the government.

[33] *St. James's Chronicle*, 28 February - 2 March 1797.
[34] *Third Report from the Committee of Secrecy on the Outstanding Demands of the Bank* (21 April, 1797), p.180.
[35] *Norwich Mercury*, 4 March 1797.
[36] *Gentleman's Magazine*, vol. XV (1745), pp.449-500.
[37] *The Times*, 28 February 1797.

There was also a quasi-legal aspect to the declaration. Declarations were issued at the quarter sessions in some regions with, according to William Cobbett, 'a magisterial weight and authority'.[38] In Newcastle, this was connected to a precedent in 1793 when a declaration guaranteeing local banks' stability was adopted – in this case, individual signatories not only expressed their support of public credit, but also the amount to which they would be liable in case those banks failed, which ranged from 100 to 600 pounds. In this way, a declaration could be more binding than mere lip-service.

Precisely to what extent the declarations contributed to avoiding the general collapse in the 1797 suspension crisis is hard to tell – the reserves in the Bank of England improved after the suspension, and no serious failure of private banks occurred. In any case, the declarations certainly formed the basis for the acceptance of inconvertible banknotes. It is also important to note that a conscious effort was made to prevent the run on banks, which was a real enough possibility in this period. The effort was made by the local community at large, which was not necessarily dominated by the so-called 'monied interest'.

At the same time, the involvement of the 'landed interest' is to be reckoned with – like the Bishop of Durham and the Duke of Northumberland – and some landowners proclaimed that they would accept banknotes in payment of rents. This means that an interrelation between various interests in the community was created by the acceptance of banknotes, the nature of which goes beyond political boundaries. We can see the names of pro- and anti-government people working side-by-side in the declarations. This all-embracing aspect of declarations could be one of the reasons why the declaration movement spread throughout the nation. Participating in the movement did not necessarily entail complete allegiance to the government – by disguising it as a financial decision, one could suspend political consideration for the moment.

As we have seen, the 1797 suspension crisis was more of a nation-wide crisis, starting earlier than had previously been considered. The London meeting was, to some degree, pre-staged by the Bank and the government, but the scale of the whole movement suggests that there were other forces at work – they were spontaneous and based in local communities. During the crisis, the declaration was considered the best way of supporting credit, and it proved to be effective in this case. Although no one expected the Restriction Period to last for more than two decades, it was a conscious effort that opened the door to an era that brought about the experience of inconvertible paper money. Paper money, in this case, was not simply forced on people, but accepted by them. The participation of local communities was crucial in the suspension crisis during which paper money became a *de facto* national currency.

[38] William Cobbett, *Paper against Gold* (London, 1815) vol. I, p.228.

Tracking down Germany's pre-World War I business cycle: a dynamic factor model for 1820-1913

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Introduction

The timing of the German business cycle is still a matter of considerable disagreement. Scholars of the historical national accounting school in the tradition of Walther Hoffmann (1959, 1965) do not agree on a timing convention due to Hoffmann's different NNP-estimates for the period prior to World War I. As an alternative to historical national accounting, diffusion indices have been used to find upper and lower turning points (Grabas 1992, Spiethoff 1955, Spree 1977, 1978). This method is able to capture much more of the available time series information, since it uses them in a more flexible manner. However, the quantitative methods used so far in calculating diffusion indices can be improved. This paper suggests a new methodology. Instead of applying the traditional NBER-methodology or related techniques we estimate a single factor from a dynamic factor model using Bayesian methods.

The data sets we use are taken from Spree (1977, 1978). Our results confirm the booms in 1857 and 1873. In addition, we also find booms in 1900 and 1907-8. Generally, we find a very regular structure of upper and lower turning points that are in the range of the Juglar cycle. However, we do not claim to find any deterministic features of the pre-World War I business cycle, nor do we campaign for the renaissance of the Kondratieff long swing hypothesis. We are – apart from the dating itself – rather interested in a structural interpretation. Therefore we estimate sectoral sub-factors, and show that agriculture was dominating the business cycle in the 1850s, while it lost influence during the 1860s and its effect almost completely disappeared in the 1870s. Construction and heavy industries contributed strongly to the 1873 boom. A comparison of our factor to Hoffmann's (1965) and Hoffmann and Müller's (1959) dating schemes confirms earlier findings by Ritschl and Uebele (2005). A stock market index tracks the factor closely from 1870 on.

Methodology

Dynamic factor models are a rather infant area of research, and this is certainly true for its application in economic history. The 'factor' is a single time series that represents an indeterminate number of observable macroeconomic time series. It is described by its linear fit to the n-dimensional vector of observable time series. In order to account for cross-contemporaneous correlation the error term can be modelled and serially correlated of order *p*. The coefficients of the linear relationship can be estimated from the data in different ways one of which is Bayesian estimation.

The model

In this paper we implement a mix of Otrok and Whiteman's (1998) estimation method to forecast economic conditions in Iowa, and Del Negro and Otrok's (2003) method.

A time series has been observed and is represented by

y_t

Let there be *n* observed series in total and *i = 1, ... , n* be the index identifying them. We therefore denote the observable variables by

y_{it}

Assume there is a common factor y_0 that is linearly related to all y_{it}. This can be formulated by

$$y_{it} = a_i + b_i y_{0t} + \varepsilon_{it}$$

where the parameters a_i and b_i describe the linear relationship, and ε_{it} is the idiosyncratic shock to the system. The error terms of each observed series *i* are independent of each other,

$$E\left[\varepsilon_{it}\varepsilon_{jt-s}\right] = 0, \forall i \neq j$$

and serially correlated of order p_i.

$$\varepsilon_{it} = \phi_{i1}\varepsilon_{it-1} + \phi_{i2}\varepsilon_{it-2} + ... + \phi_{ip_i}\varepsilon_{it-p_i} + u_{it}.$$

The error term u_{it} is serially uncorrelated, has mean zero and is normally distributed.

The movement of the factor through time is specified as an autoregression of order *q*:

$$y_{0t} = \varepsilon_{0t}$$

$$\varepsilon_{0t} = \phi_{01}\varepsilon_{0t-1} + \phi_{02}\varepsilon_{0t-2} + ... + \phi_{0q}\varepsilon_{0t-q} + u_{0t}$$

The error term u_{0t} is also serially uncorrelated with mean zero and normally distributed.

Bayesian estimation of parameters

Bayesian estimation requires to find the posterior distribution of the unknown sample parameters rather then a single point estimate, and then letting the computer draw randomly from this distribution. The outcome of the experiment is then presented as a probability distribution, which states both the most likely value of the parameter (the mean or the median) in question and also the uncertainty about it (as can be inferred from the density function of the parameter).

In order to solve the model, find *T* times a value for the factor y_{0t}, and *n* times a value for a_i and b_i. Moreover, y_{0t} is being described by an autoregression of order *q*, so this involves finding q ϕ_0. Then, the observation equation's idiosyncratic term is modelled as an AR(p_i) as well, and therefore np_i ϕ_i have to be found. The respective error terms u_t and u_{it} are distributed normally with the parameters σ_0^2 and y_{it} to be estimated.

We normalize one of the elements of b_i to be positive (see Otrok and Whiteman [1998]). Second, we assume σ_0^2 to be equal to a constant (say, one), following Sargent and Sims (1977), and others.

We use Gibbs sampling for estimation, which means to determine the distribution of the unknown parameters, and of the unobserved factor separately, but conditional on each other. After the algorithm has converged, the computer starts to sample from the distributions several thousands of random values and produces the outcomes as described above.

Data

Spree (1978) analyzed 18 annual time series for the period 1820-1913. The series cover a wide range of economics including prices, production, productivity, consumption, finance, investment and demographics. All series cover the area of the German Empire as it existed from 1871 on without Alsace-Lorraine (if not stated differently). Note that we excluded total population from the sample, since the relevance of this time series for business cycle considerations can be doubted in our view.

Yet the data set has some additional disadvantages. One is that no railroad information is accounted for, which according to all sources means to disregard one of the most important sectors of the nineteenth century economy. The iron industry is represented by production only, while

consumption would be a better indicator since the German iron industry was not very well developed in the first half of the nineteenth century and therefore did not represent the business cycle but rather idiosyncratic shocks to the iron production facilities.

Spree's (1977) larger data set makes up for those problems, but it only covers the period 1840-1880 so far. Since the smaller data set suffers from the abovementioned disadvantages and the larger data set is only 41 years long, we extract factors from both sets and compare them for the overlapping period. Should they coincide for 1840-80 this could be taken as evidence that Spree's smaller data set also represents the German business cycle well enough.

Results

1820-1913

Figure 1 shows the factor extracted from Spree's (1978) data set. Its first striking characteristic is its regularity after 1840. The cycles are on average about eight years long.[1]

Before 1840 the variance is smaller and the cycles are not regular. We think that this is due to bad data quality, since a number of Spree's (1978) data was observed only in two-year frequency and linearly interpolated in between.

We observe three periods regarding variability: 1820-1840, 1840-1880 and 1880-1913, where the centre period is the one with the highest variability. An interesting explanation we have not investigated so far could be the gold standard to which Germany adhered to from 1871 onwards.

Referring to the timing of the upper and lower turning points we observe that the booms of 1857 and 1873 *(Gründerzeit*) are confirmed. The notion of a *Gründerzeit* has been attacked in the literature. Burhop and Wolff (2005) for example find a recession in the early 1870s and the boom following in the middle of that decade, according to Hoffmann and Müller's (1959) estimate. However, our factor as well as Output confirm the traditional view.

The *Gründerzeit*-bust in the late 1870s is also accounted for by our factor. We also find booms in 1890 and 1900/1 as well as in 1907/8.

1840-1880

The factor extracted from the larger, but shorter data set (Spree 1977) fits well to the factor extracted so far (Figure 2). This means that – although a different data set has been analyzed – the smaller data sets seems to reasonably represent the whole economy. A minor difference is that there seems to be an additional cycle in 1850. Later we will see that heavy industries contributed largely to that boom. The variance of the larger data set's factor is somewhat smaller. The 1873 boom and 1878 bust are again found.

Comparison to existing dating schemes

Hoffmann's NNP-estimations

Figure 3 plots the extracted factor against Hoffmann's (1965) output series in Burhop and Wolff's (2005) revised version (hereafter called 'Output'). Figure 4 shows the respective income estimate ('Income'). Output as well as Income reveal shorter cycles, especially in the period 1840-1870, but also in later periods. Spectral analysis reveals that the average cycle length of Output is six years, and that of Income six years five months.[2]

Some cycles seem to be confirmed by all three series: The 1857 boom is depicted in the literature as a dual development (Spree 1977, 1978), where the agricultural and the industrial sector move in opposite directions. Our investigation cannot confirm this: Both industrial output as well as agricultural output seem to have grown above average in that year (see the sectoral discussion below).
The *Gründerzeit* boom following the victory over France, and the founding of the *Kaiserreich* is captured by the factor as well as the NNP estimate-based business cycle dating procedures. The

[1] Please note that as we speak of cycles we mean quasi-cycles in the spirit of Fischer (193?), thus not referring to any deterministic theory.

[2] Univariate spectral analysis results taken from unpublished diploma thesis (Uebele 2003).

following downturn comes earlier and lasts longer if one is to believe the factor model. Output shows an additional upswing after the *Gründerzeit* boom before the crisis sets in around 1878.

There are three more booms (c.1890, c.1900 and 1907) which seem not to be disputed here, only the 1907 boom happens two years earlier if Income is to be believed. Output reveals additional cycles, so here the recessions differ more heavily. However, the picture completely changes if the factors are compared to Hoffmann and Müller's (1959) estimate, which also approaches the NNP from the income side, but uses income tax data instead of averaged wages and capital income to do so ('Taxes', Figure 5). 'Taxes' moves mainly anticyclical to the other series and factors.

Here the source for arguments against the *Gründerzeit* boom is found: Taxes shows a downturn during the early 1870s and an upturn thereafter until 1879, when the economy just started to recover according to the factor. Ritschl and Uebele (2005) showed that Taxes nominally is an artificially smooth series, while it draws its volatility almost only from the deflating procedure, which means dividing by a price index. Thus the cycles move against the procyclical price movements and against any reasonable real business cycle estimate as well.

In conclusion, the factor confirms Hoffmann's Output and Income series, whereas the Taxes series reveals a completely different picture of the business cycle. Before 1870, existing series show double the number of cycles than our factor. *Gründerzeit* boom and *Gründerzeit* bust can be confirmed even with a factor extracted largely from real data.

Comparison to the stock market

Ronge (2002) calculated the DAX (the 30 largest German stocks) back to 1870. This stock market index contained mainly banks, railroad and heavy industry stocks. It is a good representation of the German industrial and service sector and has been used by Ritschl and Uebele (2005) as a benchmark for the business cycle.

Neither of the data sets we use contains stock market information. However, both the factors and the stock price index exhibit impressive co-movement with each other (Figure 6). We interpret that as an additional confirmation of our factor model approach.

Structural analysis

Agriculture

A first step toward a deeper understanding is to construct sub-sets of Spree's (1977) data set for different sectors. Figure 7 shows all business cycle information for the agricultural sector, which mainly contains wholesale prices and consumption. Here we deal with the question of when and how the sectoral change from an agricultural economy to an industrial economy happened.

The factor from the agricultural sub-set shows that in the 1850s agriculture was completely in line with the factor constructed from the cross-sectoral data set. However, the procyclical behaviour starts to decrease in the 1860s and disappears in the 1870s, when the agricultural sub-sector behaves anti-cyclically. We conclude that the German economy gradually evolved into an industrial economy between 1850 and 1870. Considering that the employment share of agriculture in 1890 was still at about 50 per cent, this is rather early.

Construction

A second industry we looked at was construction. Figure 8 shows that virtually no cyclical structure existed before 1870, while it largely contributed to the *Gründerzeit* boom of 1873. The latter can easily be accepted, since even today buildings from the *Gründerzeit* are well known for their rich decoration and expensive materials. Why no cyclical information is contributed from this factor before 1870, however, seems unclear.

Heavy industries

Mining, metal processing and machine building are the industries that contributed to the overall business cycle over the whole period 1840-1880. Their influence increased since the sub-factor's peak's height reaches the peak of the factor not before the 1870s (Figure 9). As mentioned above the

notion of a dual development cannot be confirmed here, as both the agricultural and the heavy industry's sub-factor peak in 1857. The additional peak in 1850, however, is an example of a dual development that indeed can be found with our methods.

Apart from that our sub-factors show that as the agricultural sector's importance ceases as the nineteenth century proceeds, heavy industries take the lead in influencing the business cycle, while construction seems to have largely contributed to only one boom, namely the one in 1873.

Conclusion

Although good time series information is available for the nineteenth century German economy, modern statistical methods have not yet been used intensively to analyze them. We take a step in that direction by estimating a single factor of a dynamic factor model using Bayesian estimation methods. We find not only a regular cyclical structure that coincides with a stock market index, but we can also infer structural interpretations by constructing sectoral sub-factors and comparing them to the business cycle drawn from the cross-sectoral factor. Thus agriculture had ceased to dominate the German economy before 1870, and heavy industries had taken the lead, while construction was only in the *Gründerzeit* boom heavily influencing the business cycle.

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Data

Factor extracted from Spree (1978) 1820-1913:

1	Crop net production	mio. Mark, 1913 prices
2	Sugar consumption	1,000 t
3	Prussian coal output	mio. t
4	Labour productivity coal mining Dortmund	t/capita
5	Pig iron production	1,000 t
6	Gross investment cotton spinning works	1,000 Mark
7	Yarn production	1,000 t
8	Marriages	number per 100,000 population

9	Wholesale prices crop	index 1913=100
10	Profits yarn production	pfennig/kg
11	Wholesale prices industrial raw materials	index 1913=100
12	Bill discount rate Hamburg/Berlin	annual avg. (per cent)
13	Stocks of bills of exchange	mio. Mark
14	Birth rate	number per 100,000 population
15	Death rate	number per 100,000 population
16	Bankruptcies	total number
17	Import prices Scottish pig iron Hamburg	mio. Mark per t

Factor extracted from Spree (1977) 1840-1880: On request (uebele@wiwi.hu-berlin.de)

Figures

Figure 1

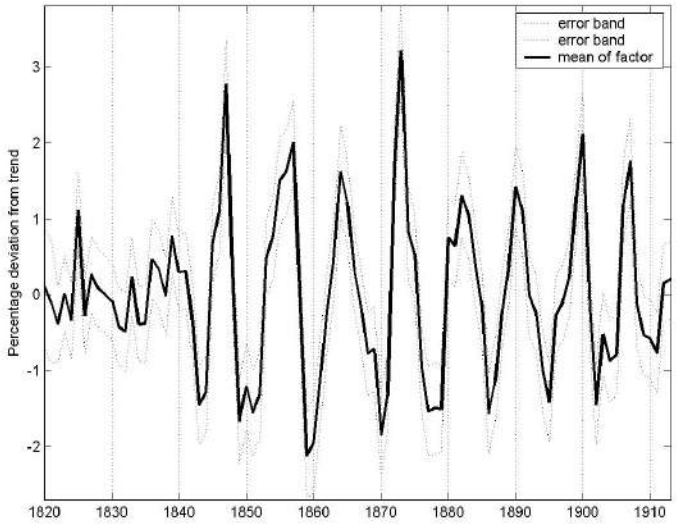


Figure 2

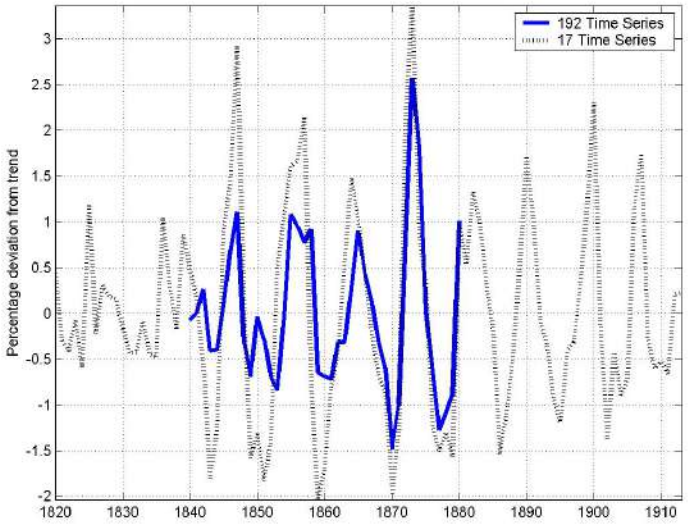


Figure 3

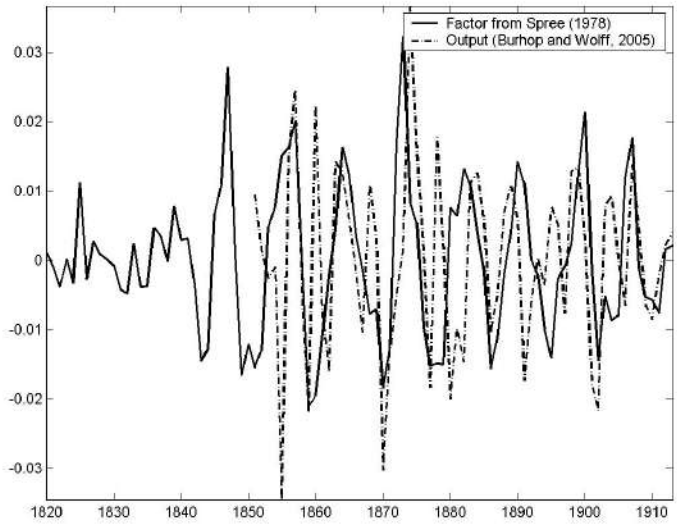

Factor from Spree (1978)
Output (Burhop and Wolff, 2005)
0.03
0.02
0.01
0
-0.01
-0.02
-0.03
1820
1830
1840
1850
1860
1870
1880
1890
1900
1910

Figure 4

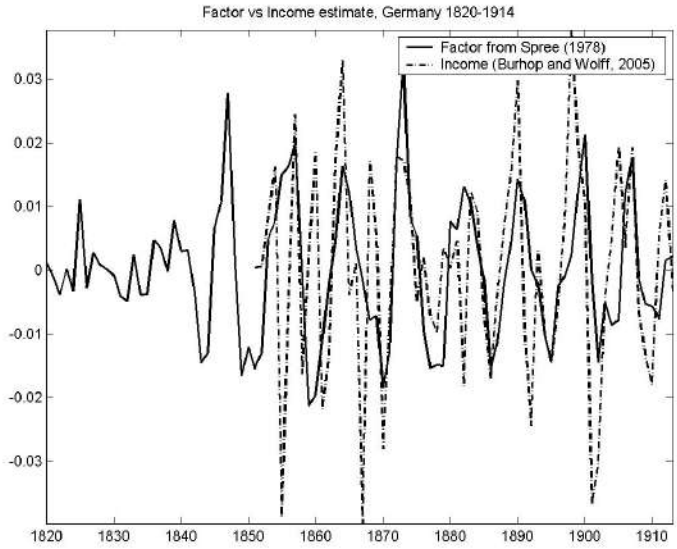

Factor vs Income estimate, Germany 1820-1914
Factor from Spree (1978)
Income (Burhop and Wolff, 2005)
0.03
0.02
0.01
0
-0.01
-0.02
-0.03
1820
1830
1840
1850
1860
1870
1880
1890
1900
1910

Figure 5

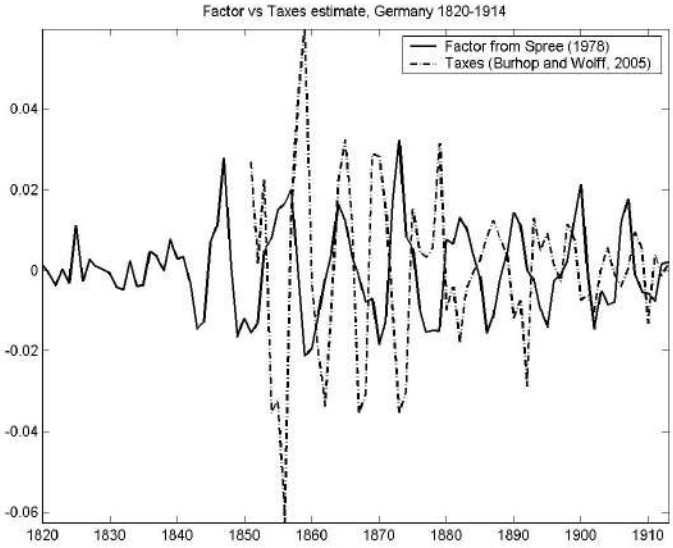


Figure 6

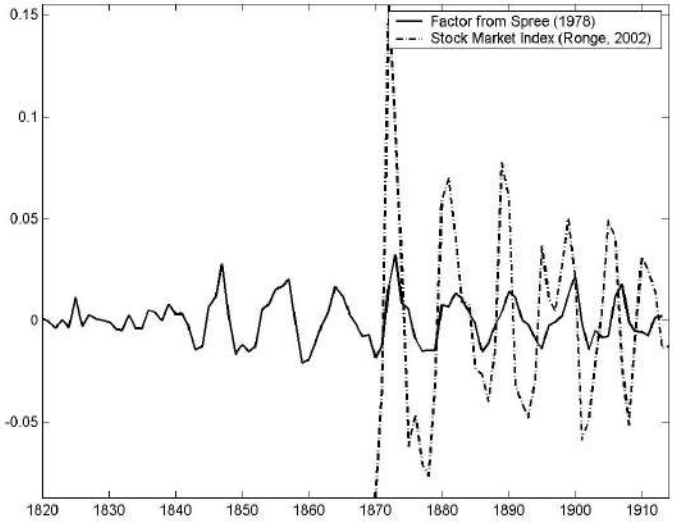


Figure 7

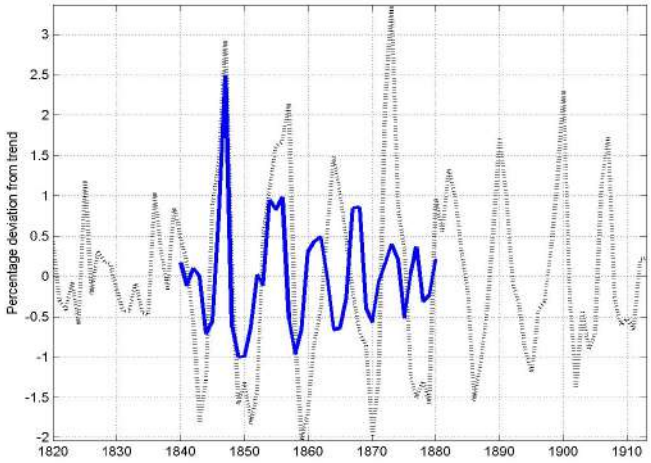


Figure 8

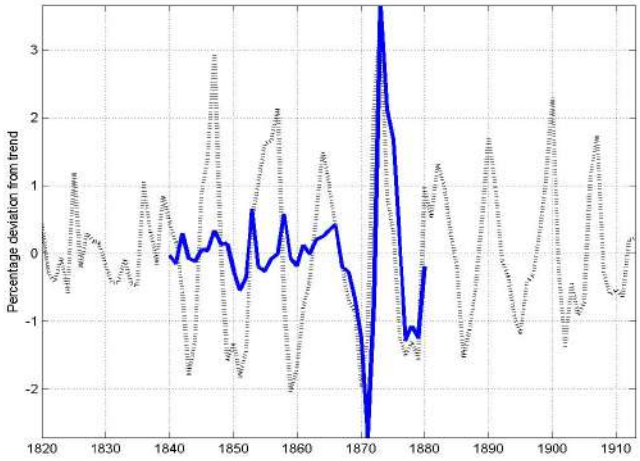
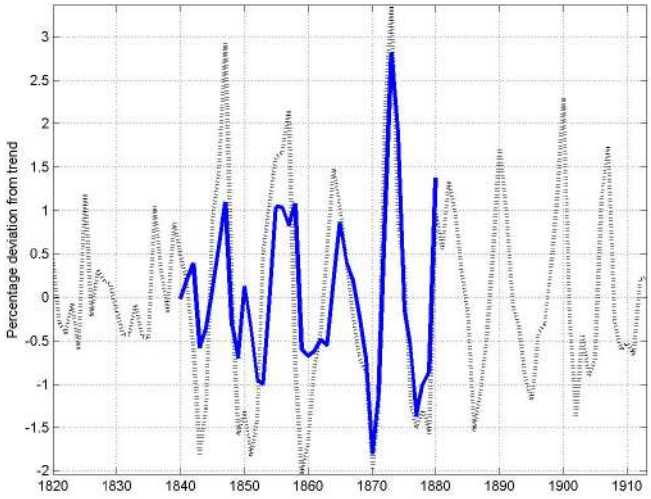


Figure 9



Early British computer development and the emergence of Americanization: 1945-63

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A tempting, and fruitful method of studying the history of computers is to provide a rich and textured story, detailing the sequential and evolutionary development of individual projects set against an implicit historical framework. This traditional approach yields an internalist and less engaging historical account. This research project is set apart from this approach by taking into account, and emphasizing the importance of, the 'culture of computing' in the UK by setting computing in its historical context and understanding the development of the technology and concomitant industry as a process of construction in which the structure and ideology of the process of innovation is moulded by existing culture. Within this structure, or surface of emergence, the research styles and ideologies of these early actors in computer development, and the material agency of the codified technological structure that they created, pushed the British industry in a particular direction, unique to the British experience. More significantly this distinct approach to computing history demands that the distinction between the experience of innovation in the UK and in the US is made explicit.

In making this distinction I will make reference to Foucault's 'surface of emergence' as a methodological construct to understand the form of computer innovation at work in this period.[3] One can understand the structure of human agency in developing technology to be based on 'performative human agency' in which the intentionality of that agency is modelled by existing culture.[4] In other words, the culture in which humans conduct themselves is the 'surface of emergence' for their agency. Performative human agency is his understanding of how innovation proceeds, that is science is the 'doings' of human agents in a world of material agents. The intentionality of human agency is defined by the existing culture and material agency takes its form through the temporally emergent character of innovation.

By understanding the social groups that influenced both the innovation of computing and the culture in which that innovation took place, one can arrive at an understanding of the 'performative human agency' of computing set against the extant culture of research configuring the human agency of these actors. These actors fall into a number of broad groups including scientists, users, and computer industry and government actors. In looking at these actors, one can plot the divergence between the UK and the US in terms of their cultures of computing. Ultimately this led to the emergence of *Americanization* as a rhetorical determinant of computer development within the UK. The impact of Americanization is seen to go beyond the mere use of American ideas and models of development. America was used as a rhetorical construct by British actors to push development of the UK computer industry towards the single, rationalized industry that emerged in the sixties. To put the paper in the context of the overall research project, in which the process of Americanization as an influence on UK computer development throughout the post-war period is explored, this paper will explore the genesis of the distinct, British culture of computing. By considering this cultural aspect of computing, a more detailed and nuanced account of the history of computing in the UK can be developed than is possible through a more traditional approach.

A range of sources was used in order to arrive at a detailed understanding of the innovative process and the existing culture in which that innovation proceeded. Primary materials from the company archives of the key computer companies operating in this period from the National Archive for the History of Computing were used to develop an understanding of the process of innovation within the computer industry itself. A wide range of material in the National Archives was consulted to provide the governmental aspect to this throughout the long run of the period in question. This

[3] Foucault, M, *The Archaeology of Knowledge*, Tavistock Publications; London; 1972.
[4] Pickering, A, *The Mangle of Practice: Time Agency and Space*, University of Chicago Press; Chicago; 1995 pp.20-21.

included not only documents specifically related to the computer industry, but more widely, sources that point to the ideological framework of science policy and its development. The personal recollections of key actors are used to fully explore these themes alongside academic and trade journal research of the period. Through these sources one is able to develop an understanding of the surface of emergence from which innovation in the computer industry sprung, and as a result, understand the culture that underpins human agency and how it is modified by rhetoric constructions such as Americanization, which are perceived rather than actual.

How then are we to develop a particular understanding of the early influences that led to this process of emergence of a British culture of computing, distinct from the US? It is in the field of computer memory that one can tease out the nature of the distinction. Memory is the principal tool of divination between tabulating machines of the pre-computer world to the stored programme computer that can rightfully claim the title of 'computer' in the modern conceptualization. It is clear that the innovation of memory is intricately bound up with the question 'who first conceptualized the computer?' This may seem a rather impotent tool by which to question the development of computing. 'Who first?' questions tend to yield little in the way of useful history. However, in considering 'who first conceptualized the computer?' in the interconnected world of the US and the UK, the question proves surprisingly potent at distinguishing significant differences between these two closely related programmes, and provides a useful outline of two distinct cultures of computing. One in the US focused around John von Neumann, and one in the UK around Alan Turing. The key feature of the difference between them is *memory*.

Memory indexing may seem a rather eccentric place to start when considering the heroic innovations of computing, however it is within this rather lowly sounding field that the genesis of two cultures of computing find their place, and in turn influence the development of two distinct industries on either side of the Atlantic. Two reports were issued in 1946 both of which detailed the direction of future computer developments after the War, the ACE report in the UK and the EDVAC report in the US.[5] Both sprung from research into the use of computing for defence applications during the war. The EDVAC was based on work by the ENIAC team, consisting of Eckert and Mauchly with von Neumann who had built computers for the computation of firing tables for the Ballistics Research Laboratory. The ACE on the work carried out at Bletchley Park in decoding German encryption methods by Max Newman, Tommy Flowers and Alan Turing amongst others. The ACE report is distinctive in its different intellectual framework from the EDVAC report.

Two significant differences can be discerned. The first rather general observation is the clear difference in styles. Alan Turing had developed a theory of computing in 1936 in his paper "On Computable Numbers, with an application to the Entscheidungsproblem".[6] Though his work tended towards conceptualizing machine intelligence rather than the specifics of computer design, it provided a conceptual basis for the mathematical rules of computing. In the thirties and throughout the War the effects of this early grounding in 'universal machines' provided a strong foundation to a number of automated decoding machines. Included in these were machines necessary for decoding of the Fish and more famously the Enigma signals. Through the work in Bletchley Park, the stored-programme principle was developing rapidly in this closely-knit UK culture of electrical engineers. The ACE report was a detailed and systematic account of the requirements to build a machine secure in its conceptualization of the stored programme principle and even contained costing! The EDVAC report was clearly unfinished and unreferenced when it was made public. Indeed, it became known as 'The First Draft'. Recently, Martin Davis has suggested that Turing influenced von Neumann far more than von Neumann influenced Turing.[7] Indeed, von Neumann, humiliated by an earlier failure in mathematical logic, did not mention Turing's work on computable numbers in recommending his application for a PhD in 1936-1938 at Princeton. Von Neumann focused on other areas of mathematics that were more compelling to him in 1936. It seems more likely that Turing's influence reignited von

[5] ACE and EDVAC reference.

[6] Turing, M, 'On Computable Numbers, with an application to the Entscheidungsproblem' in *Proceedings of the London Mathematical Society*, Series 2, vol. 42 (1936-37) pp.230-65.

[7] Davis, M, *The Universal Computer: The Road from Leibniz to Turing*, WW Norton & Co.; New York; 2000 pp.166-70.

Neumann's interest in the concept of mechanical devices for computation. Indeed the celebrated von Neumann architecture appears to have been born largely from von Neumann regurgitating Turing with a little help from Eckert and Mauchley and their practical experience. The ACE report generally comes from a more mature intellectual culture of computing and became recognized as unique in computing as a novel and farsighted approach to computing.[8]

This maturity had an impact on the approach to memory evident in the two documents and highlights the second difference between the two documents in their treatment of memory architecture. It is here that a more concrete distinction can be made. Strangely it is not only in Turing's ACE project at Cambridge that this second distinction can be made, but in a related project at the University of Manchester under his long-term collaborator Max Newman. Newman had been a maverick mathematician with Turing while they were both at Cambridge and had worked closely on wartime projects at Bletchley Park in the early 1940s. The culmination of the work of Newman, who supervised machine development at Bletchley Park, was the colossus which struggled towards limited programmability and was a stepping-stone to the universal machine envisioned by Turing in his 1937 paper.[9] Following the War, Newman, under the auspices of Patrick Blackett, moved to Manchester together with his Royal Society grant to study computable numbers in the same field as Turing. Blackett and Newman were instrumental in securing the move of FC Williams, the inventor of the cathode-ray storage tube, to Manchester after the war towards aiding the mechanical requirements of such a task. The 'Williams tube', initially developed independently from computing, became the standard memory device for storing data in early computers. The aim was to establish a rival to Turing's work at the NPL and to provide the necessary practical applications of Newman's grant.[10] The team at Manchester quickly surpassed the somewhat inept management at the NPL and their ACE effort and Turing came to Manchester to work on the Manchester Mark 1. However, to what extent Williams concerned himself with machine architecture is uncertain, claiming that Newman described the store-programme concept to him in 'all of half an hour'.[11] Newman did however have an influence on the work, and his sizeable Royal Society grant was equally as important initially. Williams appears to suggest that the overall architecture of the machine was an assumption and his job was just to get the thing to work.[12] Indeed the reason it was an assumed architecture, rather than the explicit von Neumann architecture, was that Turing's stored programme principle and the need for workable memory were understood in the UK well in advance of the US and there was a good understanding of these principles and their basis for future computing in the UK. UK actors clearly understood this and were prepared to deviate from the American line of innovation. Indeed it was the existing culture of computing, and an understanding of the future shape of innovation flowing from a more developed 'philosophical' understanding of the computer amongst the wartime researchers such as Blackett and Newman that led them to understand the need for someone like Williams and his discovery of cathode-ray tubes (CRT) as a memory device for computing.

The key to understanding this is to look at the mercury delay line memory used in machines like the EDVAC and UNIVAC and the CRT tubes of the Mark 1. Superficially they both do the same thing by storing data to be operated on by the processor. However, delay line storage mimics the early conception of machine memory as suggested by Turing in 1936: that is as a sequential memory that is accessed in a consistent and linear order. This is the archetypal Turing tape that he discusses at length in 'On Computable Numbers'. The CRT storage is, conceptually a more advanced form of memory, which is clearly an improvement on the early conception. The memory can be accessed randomly and out of sequence, as and when the machine requires the data. The advantages of this were clearly understood by the UK actors at a time when the US actors were not as understanding of the importance of this distinction. The EDVAC report's discussion of CRT Storage suggests that the indexing of

[8] Lavington, S, *Early British Computers*, MUP; Manchester; 1980 p.46 and Davis (2000) p.188.
[9] Agar, J, *Turing and the Universal Machine*, Icon Books; Cambridge; 2001 p.111.
[10] Ibid, p.349.
[11] Ibid. p.390.
[12] NAHC/MUC/Series 1. "Frederic Calland Williams 1911-1977" T. Kilburn & L.S. Piggott, reprint from Biographical Memoirs of Fellows of the Royal Society 24 (1978) A2 p.595.

random memory would be impossible for the foreseeable future. Both Turing at NPL and Flowers at the Post Office who in 1946 were working on their own computing engines, recognized that CRT storage, of which Williams had a unique working knowledge, would be a distinct advantage over the delay lines that they intended to use in their machines. This knowledge flows from the strong 'philosophical' understanding of the stored-programme principle and all that it entails. As a result the necessary and wide-ranging infrastructure of actors, like Williams in fields such as radar and radio, were able to be gathered centrally in a university infrastructure to capture government funding, focusing on the key difficulties of computer development and produce workable memory solutions earlier than their US counterparts.

By the nature of the university environment from which these early actors in the UK came, their approach to computing, having its roots in mathematics research in Cambridge and Manchester, and the central place of these actors in later computing advances points to a strong university culture extant in computing from the pre-war era. If the infrastructure of a university is the key to successful innovation, as Florida and Cohen contend, then it is the infrastructure of actors collected by the Edison-like network engineer of Blackett around universities and government funding that afford the UK an early lead in computing and maintain it.[13] However, throughout the fifties LEO, BTM etc remain out with the NRDC (which became the principal government actor in commercializing computer technology) and the Ferranti/Manchester axis of computing that builds up around Blackett, Newman, Turing and Williams at Manchester. They remain haemorrhaged from these developments for the best part of a decade, conducting, at best, 'ad hoc' development as Campbell-Kelly calls it.

This is recognizably different from their private US counterparts who receive high levels of funding from the US government. In the US, the culture of computing was less focused on the mathematical and intellectual pursuit of computing as it was in the UK and the opportunity for network builders such as Blackett, Newman and Turing to create a strong, centralized network of experts within the university structure that had conceived of the computer was smaller. However this less university-led culture allowed the focus of research to move into the private sector where the US culture of computing begins its development around more commercial applications earlier in its development. This in turn precipitates competition amongst the data processing companies in the US and the emergence of IBM. The British culture was unable to develop a similar culture as computing remained an intellectual and philosophical issue that failed to integrate with private concerns. It became the goal of UK industrial reorganization in the sixties to reverse this culture and through the use of America as a rhetorical construct, with its now significantly distinct culture of computing, the UK industry was directed along a path quite distinct from its origin.

[13] Florida, R. & Cohen, W.M., *Engine or Infrastructure? The University Role in Economic Development* in Branscromb, L.M.; Kodama, F. & Florida, R. *Industrializing Knowledge*, MIT Press; Camb. MA; 1999 p.606.

British shipbuilding 1950-80: trends and developments with a case study of the Scott Lithgow Shipyard, Greenock

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Introduction: The Demise of British Shipbuilding 1950-80

The literature on British industrial decline in the face of competition from Japan and West Germany, has focused on whether the decline was relative (Abramovitz 1986) or whether it was a process of absolute decline (Olson 1982, 1986). In recent years, the literature concerning the relative decline of the United Kingdom as an economic power in the period 1950-1973, the so called "Golden Age" of economic growth, has focused on two conflicting arguments, namely the Broadberry-Crafts 'productivity growth failure' hypothesis versus the Booth assertion that actually no decline was evident in the UK during this period (Broadberry and Crafts 2003, Booth 2003). These two viewpoints are based on in-depth analysis of contemporary data covering a wide range of British industries and yet it is the contention of this paper that a closer study of a specific industry can demonstrate the themes outlined by all three academics. As a specific industry, shipbuilding in the United Kingdom underwent a rapid transformation from an important player in the world shipbuilding market to a much smaller specialist industry and yet in terms of output and productivity improved its overall performance.

The literature on British shipbuilding has focused on either the technological reasons for decline, the institutional reasons for decline or on the political economy of decline. The first view, advocates that British shipyards failed to modernize and increase productivity when compared to competing yards in Japan, West Germany and Sweden (Strath 1987). The second, as proposed by Lorenz (Lorenz 1991) is that British institutional arrangements and relationships, for example between labour and management, were fractious in British yards especially when compared to the arrangements in Japan and West Germany, which hindered the development of British shipyards accordingly. The political economy analysis undertaken by Johnman and Murphy (Johnman and Murphy 2002), states that governmental failures exacerbated the problems of the shipbuilding industry and did not, in its attempts at reorganization and modernization, seriously address the concerns of the industry.

Since the early 1800s the United Kingdom had the world's largest shipbuilding industry in terms of tonnage produced and vessels constructed and was unchallenged despite shipbuilding industries developing in Germany, Japan and the United States from the late 1890s and with a strong Japanese performance during World War One.[14] From 1950 onwards, competition from western European nations such as Denmark, Sweden and Germany as well as a resurgent Japanese shipbuilding industry started to gain a larger share of what was traditionally a British market, orders for private carriers based in the UK and those in Greece and Norway. These ship-owners were taking advantage of the increasing imports of crude oil for western nations, whose consequent growth led to the ship-owners requiring larger vessels, the so-called 'Supertankers' vessels of over 100,000 tonnes in carrying capacity.[15] Although this was a boom period in the output of shipbuilders globally, the United Kingdom's share of the market declined and output remained relatively static at approximately a million gross tons produced annually, as the following table demonstrates.[16]

[14] Minami, R. *The Economic Development of Japan: A Quantitative Study;* Studies in the Modern Japanese Economy; (Basingstoke: Macmillan, 1986).

[15] Over 100,000 tonnes deadweight (carrying capacity) is a Supertanker, over 250,000 a Very Large Crude Carrier (VLCC) and over 350,000 an Ultra Large Crude Carrier (ULCC).

[16] *Fairplay International*, (London: Fairplay, 1970-80).

Table 1: *British and Japan Merchant Vessel Output in Global Comparison (000's Gross Tons)*

	World Production			Japanese Production				UK Production			
	Dry Cargo	**Tankers**	**Total**	**Dry Cargo**	**Tankers**	**Total**	**% of World Total**	**Dry Cargo**	**Tankers**	**Total**	**% of World Total**
1963	3365	2891	6256	1216	1053	2269	**36. 27**	625	471	1096	**17. 52**
1964	2757	4524	7281	1157	2607	3764	**51. 70**	525	283	808	**11. 10**
1965	4539	4876	9415	2269	2617	4886	**51. 90**	735	547	1282	**13. 62**
1966	6083	4657	10740	3762	2733	6495	**60. 47**	721	353	1074	**10. 00**
1967	8001	3756	11757	4752	2465	7217	**61. 38**	1041	147	1188	**10. 10**
1968	7790	5154	12944	4835	3514	8349	**64. 50**	824	222	1046	**8. 08**
1969	7082	7272	14354	4421	4747	9168	**63. 87**	781	48	829	**5. 78**
1970	7725	7914	15639	4998	5012	10010	**64. 01**	821	503	1324	**8. 47**
1971	9725	8410	18135	6311	4808	11119	**61. 31**	793	441	1234	**6. 80**
1972	11585	7704	19289	7753	5108	12861	**66. 68**	820	371	1191	**6. 17**
1973	10604	11480	22084	6565	8096	14661	**66. 39**	840	221	1061	**4. 80**
1974	5490	11419	16909	3949	7558	11507	**68. 05**	423	456	879	**5. 20**
1975	10303	23202	33505	4251	12739	16990	**50. 71**	579	590	1169	**3. 49**
1976	12948	20378	33326	6397	9472	15869	**47. 62**	734	767	1501	**4. 50**
1977	15496	11623	27119	8798	2911	11709	**43. 18**	583	437	1020	**3. 76**
1978	12074	5828	17902	5551	756	6307	**35. 23**	500	633	1133	**6. 33**
1979	8854	5209	14063	3101	1596	4697	**33. 40**	396	295	691	**4. 91**
1980	8140	4811	12951	2964	3129	6093	**47. 05**	339	88	427	**3. 30**

Source: *Lloyds Register of Shipping: Annual Report.* (London: Lloyds, 1950-1981 and *Fairplay International*, London: Fairplay, 1970-1980)

Technology and productivity plays an important part in the development of shipbuilding after 1945 in all nations concerned. New mass production methodologies developed for the Allies standardized 'Liberty Ship' during World War Two, such as prefabrication, welding and standardized components were being introduced, as well as automated metal working techniques and improved drafting and design skills. However, these improvements were not taken up by British yards en masse until the early 1960s, indeed some yards involved in the construction of Liberty vessels in the 1940s had reverted to earlier methods of construction. Japanese shipyards however (Britain's main competitors), had modernized in the early 1950s as a result of the transfer of technology by National Bulk Carriers (N.B.C.) as part of its contract with the Japanese government to purchase and manage the former Japanese Imperial Naval yard at Kure. N.B.C. introduced a range of construction methods based upon the Liberty Ship programme that increased productivity in an already modern shipyard and as a condition of its purchase, trained other technicians from yards such as Hitachi Zosen, Chiba and Mitsubishi, Nagasaki.[17] In addition to these measures, indigenous methods of organizing and managing a shipyard as a production line leading to a central 'building dock' also increased productivity and output in Japanese yards. As a result, Japanese shipyards were producing more tonnage than the UK by 1956 and by 1964 had completely outstripped British production.[18]

British shipbuilders also had additional problems. Trade unionism, in the form of demarcation and restricted practices, was rife in shipbuilding as were industrial stoppages in comparison to competitor nations. Moreover, high wage costs and a strong pound (as opposed to low wage costs and

[17] Davies, P.N. 'The Role of National Bulk Carriers in the Advance of Shipbuilding Technology in Post-War Japan' *International Journal of Maritime History* 4.1, (1992) pp.131-142.

[18] Chida, T & Davies, P.N. *The Japanese Shipping and Shipbuilding Industries: A History of Their Modern Growth;* (London: Athlone Press, 1990).

an undervalued Yen) further compounded attempts by shipyards to run profitably. Certainly when compared to West Germany with its *Mitbestimmung* union system and Japan with its consensus management style, UK industry, overall, was restricted by institutional arrangements, adding credence to the Olsonian hypothesis of absolute decline cause by entrenched and deep-seated institutions resistant to change.

However, attempts were made to change the fate of shipbuilding in the UK, which suggests that institutions were not as resistant to change as previously thought. The newly elected Labour government of 1964, as a result of pressure from both the shipyards and unions, set up a committee of inquiry under the chairmanship of Reay Geddes, Chairman of the Dunlop tyre company, to look into the causes of decline in British shipbuilding and to recommend courses of action for its modernization. After making a series of visits to shipyards and after taking into account submissions from interested parties, the Geddes report was released to much media interest in 1967. The report recommended that shipyards be modernized with the latest equipment, without specifying what the equipment would be, that the yards merge into larger 'super-groupings' based upon existing regional centres and proposed that the government provided both grants and loans to suit this purpose. No mention was made of Japan other than labour costs and certainly the report opposed the creation of large modern shipyards based on the tailorised building dock as being too expensive and elaborate for the British shipbuilding industry. A dedicated body, The Shipbuilding Industry Board (S.I.B.) was set up for the purpose of modernization.

The results were mixed and certainly the industry failed to survive and adapt. Other than Harland and Wolff, Belfast, no shipyards underwent a comprehensive redevelopment to increase production and reduce costs, and in Harland and Wolff's case the yard was heavily in debt because of its redevelopment. Mostly, existing shipyards merged into larger groups, yet kept their distinct status as individual yards. Only three yards were large enough to enter the supertanker market, Harland and Wolff, Scott Lithgow and Swan Hunter, and yet these yards only made a fraction of the vessels that a single yard in Japan, for example Mitsubishi, Nagasaki, had done in the same period.

After the 1973 OPEC oil crisis, which cut the demand for crude oil carrying vessels by 90 per cent, shipyards globally had to compete with a much-reduced demand for merchant vessels during a period of economic slump. Consequently, British shipbuilding, competing for a smaller slice of a reduced market and with impending bankruptcies and the wholesale demise of shipbuilding in the UK, the industry was nationalized in 1977. After privatization in the 1980s, British shipbuilding faced additional competition from yards in countries such as Korea and Taiwan and the industry never again reached the same prominence as it had only 40 years previously, only manufacturing warships for Royal Navy and vessels that, for political reasons, had to be made in the UK.

Scott Lithgow 1960-87: A case study

The Scott Lithgow shipyard was the result of a bid by the Greenock based shipyards of Scotts and Lithgows to create a second grouping on the river Clyde separate from the yards based on the Upper Clyde in Glasgow. Although the Geddes report made no specific mention of the need for two separate groupings on the Clyde, the Shipbuilding Industry Board (S.I.B.) reacted positively to the proposal, realizing that Greenock and Glasgow had different wage structures and proximities to suppliers. However, the creation of Scott Lithgow and its subsequent failure as a shipbuilding company is a reflection not of a lack of ambition of the part of the shipyards and government, but rather a lack of clear management and financial ambition.

Both shipyards were successfully engaged in merchant construction in the mid-1960s, with Scotts building conventional submarines for the Royal Navy and export customers and Lithgows large bulk and crude oil carriers. Both yards had undertaken re-equipment to use more modern methods of steel handling and construction and both were considered modern yards that could compete in a global market place.[19] Therefore, when they proposed a merger in 1967, at the very beginning of the five year

[19] 'A Rebuilt British Shipyard' Completion of a £3-million Reconstruction Scheme on Lithgows' Kingston Yard at Port Glasgow, *The Motorship*, June 1961 pp.154-155 & '250 Years of Progressive Building: The Growth and

existence of the S.I.B., the subsequent government enthusiasm lent a great deal of attention to the opinions of the yards' management, specifically the appointed Managing Director of Scott Lithgow Mr Ross Belch and its chairman, Sir William Lithgow. However, the intentions of the S.I.B. and the intentions of Scotts and Lithgows were highly divergent and the attempts at formulating a government-funded plan within the five-year lifetime of the S.I.B. were affected by the negotiating techniques employed by Belch and Lithgow.

Over the course of almost four years, the efforts to merge the two shipyards, both of which shared physical proximity as well as suppliers and were considered to have few concerns as to integration, were slowed down by Belch's refusal to give details of Scott Lithgow's development before receiving undertakings from the government concerning guaranteed naval work.[20] Additionally, Belch refused in meetings until October 1968 to give any details of development plans unless he was given an indication about how much the shipbuilding industry board was willing to spend.[21] The exasperation of the principal members of the S.I.B. can been seen in their correspondence between 1967 and 1968; they felt an opportunity was being wasted on issues that were not its concern. The Ministry of Defence was the final arbiter of naval contracts and the S.I.B. could not comment on any funds without an idea of what Scott Lithgow's required.[22] Through the intervention of the Minister of Technology, Anthony Wedgwood-Benn during August 1968, who bluntly reminded both Scotts and Lithgows that no guarantees could be given and that the lifespan of the S.I.B was due to end in 1971, did work progress and a merger was enacted in 1969.[23] However, as demonstrated by the following diagram, the two companies remained, in effect, separate entities, both owning 50 per cent of a holding company that owned the stock of the two shipyards. Integration and modernization were expected to follow, but even this did not proceed entirely as expected by the S.I.B.

Development of Scotts' Shipbuilding and Eng. Co. A modernized Shipyard for Ships up to 40,000 tons d.w. Scotts' Contribution to Marine Engineering' *The Motorship*, October 1961, pp.312-314.

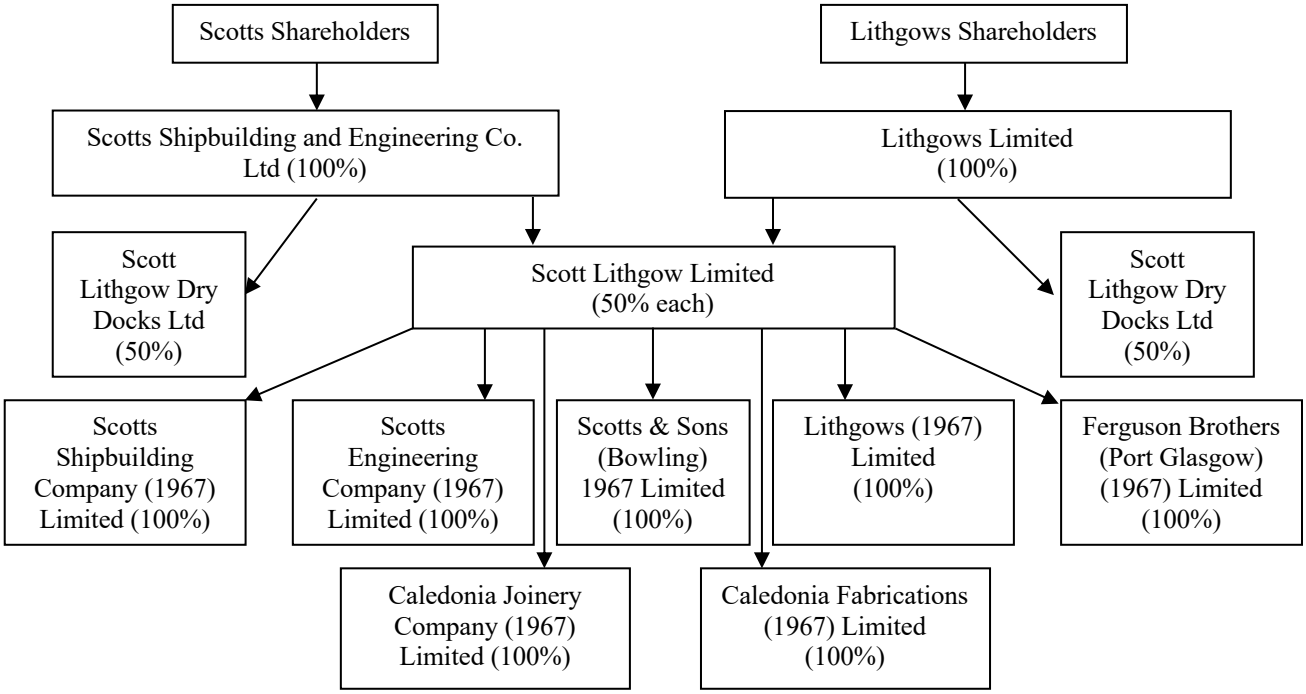
[20] The National Archives, Kew (Henceforth known as TNA) FV 37/21 'Note of a working lunch: Lower Clyde Merger' Minutes dated 20 November 1967.

[21] TNA FV 37/21 'Note of a meeting at S.I.B. re: Scott Lithgow project' undated. p.2.

[22] TNA FV 37/21 Shipbuilding Industry Board (Henceforth known as S.I.B), dated 9 April 1967.

[23] TNA FV 37/21 'Lower Clyde Shipbuilders' Note of a meeting held on Monday 28 October 1968.

Diagram 1: *The Planned Structure of Scott Lithgow's after 1969 (Percentage Ownership in Brackets)*



Source: TNA FV 37/21 "Report to Mr. B Barker on present position of Grouping on the Lower Clyde under Scott Lithgow Limited" Letter from Scotts' Shipbuilding & Engineering Co. Ltd to S.I.B dated 24 March 1969.

Scott Lithgow produced a multi-tiered development plan in 1970, with a minimum and a maximum option, with the development of its existing facilities as a least option and the construction of a building dock as the more costly approach. The least cost option, developing existing berths for the construction of vessels up to 500,000 tonnes in two halves, was well thought out and all costs were taken into account. However, the more expensive option of turning the James Watt dock into a building dock, did not take into account the associated manufacturing infrastructure required, nor the fact that the dock was used by Tate and Lyle to deliver sugar on a daily basis (an event which occurred until 1997) and therefore without an expensive relocation of their terminal, unsuitable for the three month build of a supertanker.[24] Consequently, it can be seen that although Scott Lithgow was willing to become a recipient of state aid in the form of grants and loans and its negotiating stance is an indication of that, it is doubtful that the intention was to spend more than strictly necessary on infrastructure. Certainly, considering the location of Greenock and Scott Lithgow, the decision to construct tankers in two halves, a methodology developed by NSDM Amsterdam to build large vessels in the tight space of the North Sea Canal and with the potential for quite substantial funding from the S.I.B, appears to be inadequate; equivalent shipyards in similar locations (Mitsubishi Nagasaki, Akers Norway and Odense Denmark) followed the modern building dock-based ship factory approach.[25] Although this methodology allowed Scott Lithgow to build larger vessels using its existing facilities, the construction of VLCC supertankers was not a success, with only four vessels being completed in the yard between 1969 and 1980. As the following table demonstrates the yard was not profitable from 1969 with additional problems such as poor productivity growth and industrial action affecting the yard's performance.

[24] Glasgow University Archive Service (Henceforth know as GUAS) GD323/1/1/50 Scott Lithgow Development Plan, 1970.

[25] 'Melania: Largest Tanker built in Holland' *Shipping World and Shipbuilder*, February 1969, pp.331-332.

Table 2: *Profits and Loss, Scott Lithgows, 1967-71*

Year	Number of Vessels	Dead Weight Tonnes (X 000)	Revenue (1971 UK £ x 000's)	Profit (1971 UK £ x 000's)
1967	8	196	14082	312
1968	6	177	11019	129
1969	8	295	16220	-206
1970	8	189	15333	-1550
1971	7	367	21772	-262
TOTAL	**37**	**1224**	**78426**	**-1577**

Source: *British Shipbuilding 1972, A report to the Department of Trade and Industry by Booz-Allen & Hamilton BV*, Cmnd 4942, (London: HMSO, 1972), Chapter 17 "Finance and Accounting" pp.174-86.

The British shipbuilding industry and its three main supertanker building yards, Scott Lithgow, Harland and Wolff and Swan Hunters were dealt a further blow by the nature of the tanker market between 1967 and 1973, which as the demand for tankers had outstripped supply had become speculative. Consequently, any vessel delivered to its owners for the contract price in this period could potentially be sold for more on the second-hand market.[26] This was the reasoning behind a large order for supertankers by the Israeli owner Maritime Fruit Carriers (six at Harland and Wolff, 11 at Swan Hunter and two at Scott Lithgow), a shipping line that would not be able to use ports in the Arabian Gulf in this period. Therefore, the vessels ordered almost certainly were for the speculative second-hand market.[27] However, with the collapse of that market not only was it the case that Maritime Fruit Carriers (M.F.C.) were no longer a reasonable financial proposition for merchant banks to support, but the vessels themselves had a resale value substantially lower than the contract price. The British supertanker yards were all hit by this event, but Scott Lithgow with few other orders to fall back on, was hit the hardest.

The two vessels being constructed for Maritime Fruit Carriers at Scott Lithgow, yard numbers 1192 and 1191, were registered under the ownership of two single ship owning companies based in Panama, a popular way for shipowners to reduce their liabilities. Therefore, although ownership of the vessel ultimately rested with M.F.C., the relationship between Scott Lithgow and the purchasers was between themselves and the Cartsdyke Dockyard Company Limited which owned vessel 1191 and Atlantine Ltd, the owner of vessel 1192. Therefore, although M.F.C. was in the process of insolvency; the two vessel owning companies were not and no action for payment could be taken until their payments were in arrears. This occurred in November 1976 and through government pressure, (the loans for the vessels were guaranteed by the government) the Bank of Scotland called in the loans.[28] Cartsdyke and Atlantine were taken into the ownership of the bank and a new purchaser was found in the form of the Dexter Shipping Company, a branch of the Niarchos shipping empire. For the first vessel, Niarchos initially offered £15.75 million in cash, but after the poor performance of the vessel, now named 'World Score', in sea trials and with a contrived diplomatic incident at a cocktail party in Athens, Niarchos managed to receive a further reduction in the price of the ship of £3.45 million.[29] The second vessel, now called 'World Scholar' was more problematic for the government and Scott Lithgow to sell, but in 1977 Niarchos agreed on a price of £17 million, on condition that a government grant of £5 million was paid to Scott Lithgow, which was now part of the nationalized British

[26] Newton, J. *A Century of Tankers: The Tanker Story*, Oslo: Intertanko, 2002). and Stopford, M. *Maritime Economics*, (London: Routledge, 1997).

[27] 'Discussions on MFC tanker sales" The Times, 19 September 1973, p.25.

[28] GUAS GD323/13/11/1191/4 'Notes on a telephone conversation on 21 September 1976 with Mr. A.P. Harvey of S.M.F.C. re: contract for vessel 1191.

[29] TNA BT 321/213 'Maritime Fruit Carriers: MV Cartsdyke' Memo to department of Industry Deputy Secretary, R.E. Dearing from J de Pauley, dated 14 January 1976 and GUAS GD 323/13/11/1191/4 'World Score 1191: Dolman Shipping Company' Letter from Neil, Clerk & Murray, Solicitors, Greenock to A.G. McNeilage, Lithgows Limited dated 30 October 1978.

Shipbuilders, to guarantee construction. Scott Lithgow never made a profit on either of these vessels, despite receiving over £24 million for World Scholar, including payments made by Maritime Fruit Carriers.[30]

World Scholar was delivered in 1980, and the yard's final vessel ever, a 130,000 ton tanker for BP, was delivered in 1982. Scott Lithgow became part of the Trafalgar House group and specialized in offshore construction. However, the offshore boom years had passed and in 1987 the yard was closed for good. From a position of relative strength in 1964, Scott Lithgow in the 1970s underwent a process of decline that few would have expected only a decade earlier. The intentions of management when proposing modernization and their further efforts at negotiation with the Shipbuilding Industry Board prolonged matters whilst at the same time leading to a lack of confidence in Scott Lithgow's abilities. Many British heavy industries at the time, such as shipbuilding, coal, steel and automobile manufacture were undergoing a relative, and in many cases an absolute, decline in the face of competition, yet many industries survived in one form or another to the 1980s and indeed the two equivalent yards to Scott Lithgow in the UK, Harland and Wolff and Swan Hunters are still in existence today. Scott Lithgow was facing extreme trading conditions caused by competition from abroad the same as any shipyard in the UK in the 1960s and was in a position to receive government help in the same way as any yard. However, to conclude, Scott Lithgow's approach to its merger and modernization was such that the underlying causes of its commercial failure were compounded by the attempts at a rescue that neither reflected the reality of either Scott Lithgow's position within the global shipbuilding market nor its relationship with central government and the Shipbuilding Industry Board.

Conclusion

The demise of Scott Lithgow is indicative of the erosion of British shipbuilding capacity between 1950 and 1980. It can be stated that British shipyards, in a period of economic growth, had to face increased competition as industrial output grew in Western Europe and Japan, all of which had developed or developing shipbuilding industries. Consequently, the United Kingdom's share of an existing market would have fallen in the face of increased competition. However, the rise in crude oil consumption in the United States, Japan and Western Europe combined with a rise in seaborne trade, led to an increased demand for shipping and an exponential rise in the number of vessels constructed globally. That in such a market the United Kingdom's shipbuilding industry's output remained static, demonstrates an inability by 1965 for that industry to adapt to changing demand and react accordingly. However, Scott Lithgow faced other factors in its decline not related to issues of competition from abroad that were not common to other yards.

It can seen that Scotts and Lithgows, the two constituent yards that made up Scott Lithgow, had modernized their equipment in the early 1960s to reflect contemporary techniques, but this was at a time when Japanese yards were undergoing wholesale redevelopment. Given an opportunity in 1967 to modernize much further using government funds in the form of loans and grants, Scott Lithgow prevaricated. Unresolved issues such as guaranteed military work and the amount of funding it was entitled to created tension between itself and the Shipbuilding Industries Board and extended negotiations over four years. This led to Scott Lithgow losing the initiative and its development to build supertankers in two halves was inadequate compared to other methods and by 1973 when the demand for supertankers had collapsed Scott Lithgow was fatally compromised, focusing its efforts on building a vessel no longer in demand using methods that were obsolete. After these events, Scott Lithgow spent its remaining time employing legal and governmental means to prolong its existence without developing any plans to adapt to new commercial realities and survive further. In short, the events at Scott Lithgow between 1966 and 1980 are indicative at a local level of the wider themes of industrial failure that have emerged through the study of this period and therefore providing an important insight into events that occurred on the nexus of corporate and national decision making.

[30] GUAS GD 323/13/11/1191-2/1(3) Memo of agreement between British Shipbuilders and Dexter Shipping Co., dated 21 December 1979.

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The popular election of Staffordshire coroners in 1826 and 1830

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By the eighteenth century social and legal changes had denuded the office of coroner of most of its medieval functions, and the role had become almost entirely concerned with the investigation of sudden and violent deaths. However, as a legacy of the early foundation of the office, the county coroner was elected by the freeholders of the county. This bestowed a continuing political significance on the office which has not yet received from historians the attention that it deserves.[1] The amount spent was sometimes out of all proportion to the legal or economic significance of the role. The nature of that expenditure, and the manner and circumstances in which the contests were used, throws light on the political issues, strategies and allegiances within a county, and a wider social and cultural history. This paper will examine two coronial contests in Staffordshire in 1826 and 1830. It will first set them in their wider chronological and regional context, to show that such contests were largely a phenomenon of time and place. It will then detail the opportunities presented by vacancies, and describe how a complex mix of national and local issues could be turned to maximum political advantage.

Under an Act of 1818, election to the office of coroner was by show of hands at the county court. If required, this was followed by a poll, for a maximum of ten days. Voters had to be of full age and own a freehold within the county, but there was no minimum freehold size, value or period of ownership. Sometimes there was only one candidate; on other occasions several candidates expressed interest but all except one withdrew before nomination; a smaller but significant number were decided by a poll. Parliamentary returns list 32 polls across 20 English counties between 1800 and 1837, and reveal that the average number of votes cast increased steadily between 1807 and 1832, but then declined (Table 1). The two highest polls were the Staffordshire contests that form the subject of this paper.

Table 1: *Votes cast at elections for English county coroners, 1800-37*[2]

Years	Polls	Average votes cast (mean)
1800-06	1	1,267
1807-11	1	1,100
1812-16	5	1,272
1817-21	5	2,257
1822-26	6	3,453
1827-31	8	4,063
1832-37	6	1,891

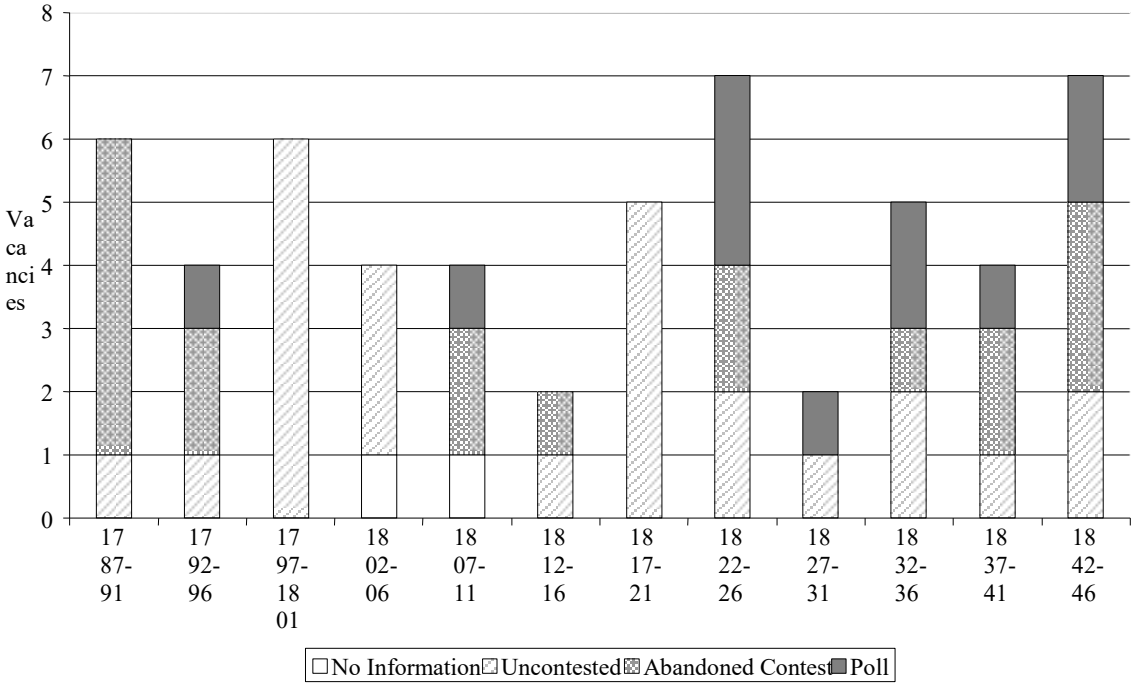
Local newspapers report the outcome of 54 of the 56 vacancies that occurred in Staffordshire and its six contiguous counties of Cheshire, Derbyshire, Leicestershire, Warwickshire, Worcestershire and Shropshire between 1787 and 1846. Overall, 25 of the 54 were wholly uncontested, 18 contests

[1] There is a brief mention of the political nature of specific elections in: J. Vernon, *Politics and the People: A Study of English Political Culture, c. 1815-1867* (Cambridge, 1993), pp.193-4; D. Eastwood, *Governing Rural England: Tradition and Transformation in Local Government, 1780-1840* (Oxford, 1994), pp.67-8; I. Burney, 'Making room at the public bar: coroners' inquests, medical knowledge and the politics of the constitution in early nineteenth century England', in J. Vernon (ed.), *Re-reading the Constitution: New Narratives in the Political History of England's Long Nineteenth Century* (Cambridge, 1996), pp.123-5.

[2] *Return of the Number of Coroners in England and Wales and Number of Contested Elections, 1800-37*, P.P. (1837-8), xliv.315; *Return of the Appointment of Coroners in England and Wales*, P.P. (1831-2), xliv.105.

terminated through the withdrawal of all except one candidate, and the remaining 11 vacancies were filled through a poll. The elections form a distinct pattern (Figure 1). Before 1797 contests were common, but generally abandoned before nomination; between 1797 and 1821 there was rarely more than one candidate for each vacancy; from 1822, polls became commonplace, deciding the outcome of nine of the 25 vacancies, including four of the nine vacancies in 1822-31. This echoes a wider pattern of popular political activity,[3] which declined during the war, but reappeared and intensified in a period of major debate over issues including Catholic emancipation, the Test and Corporation Acts, parliamentary reform, the corn laws, and Chartist demands.

Figure 1: *Coronial elections in seven midland counties, 1787-1846*



Although not identical, there was sufficient similarity with the county parliamentary franchise for those thinking of challenging for parliamentary representation to use a coronial vacancy as an opportunity to test or demonstrate the strength of their support. In 1827 a former Middlesex coronial candidate described contests as: 'a trial of strength between political parties in the county (who generally subscribe for the purpose)'.[4] In 1832, George Strickland advised fellow members of parliament that a recent coronial contest in Staffordshire had been: 'between two political parties, who wanted to try their strength, and who gladly adopted the opportunity offered them by the election of a coroner. The expenses of that contest were defrayed by them'.[5]

It was not simply a matter of party. There was a growing body of opinion that the coronership ought not to be filled simply through the power of patronage, but should be based on merit, and on the wishes of the freeholders, who had a constitutional right to be consulted. Additionally, the role might bring the coroner into conflict with mine owners and industrialists, or with county magistrates in connection with their responsibilities for law and order and the prisons, and some saw independence as vital.[6]

[3] See, for example, H.T. Dickinson, *The Politics of the People in Eighteenth-Century Britain* (Basingstoke, 1995); J. Vernon, *Politics and the People*; J. Belchem, *Popular Radicalism in Nineteenth-Century Britain* (Basingstoke, 1996).

[4] The National Archives, HO 84/1.

[5] *Parliamentary Debates, 3rd series*, vol. xiii, column 922.

[6] The deaths at 'Peterloo' in 1819 demonstrated the need for the coroner to be independent of the magistracy.

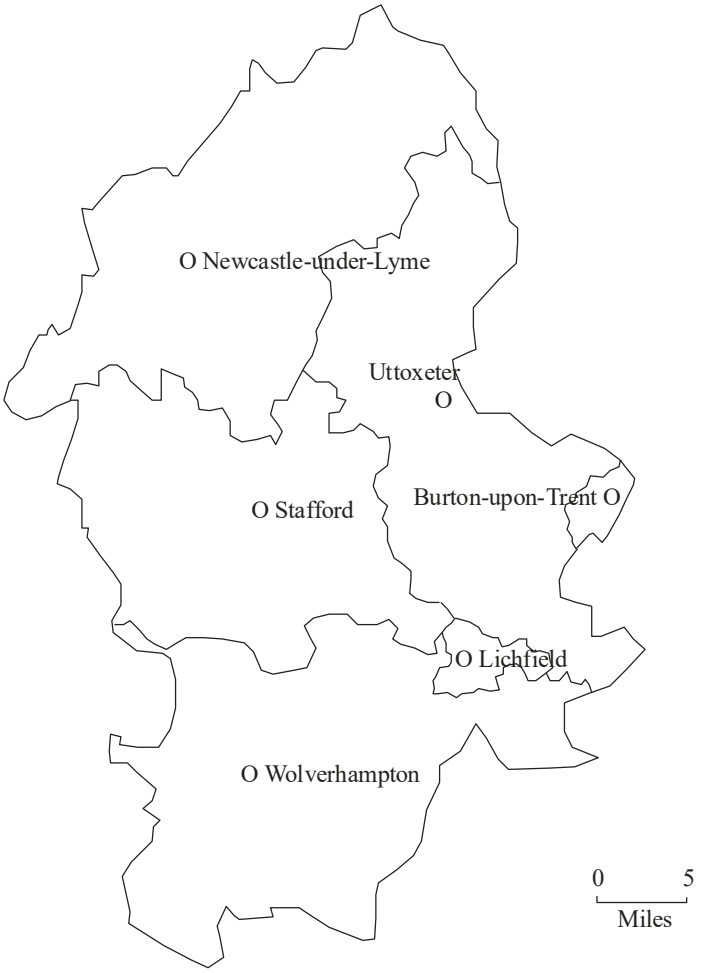
Both the 1826 and 1830 coronial contests in Staffordshire were ten-day polls, and newspaper reports paint a vivid picture.[7] In 1826, vehicles of every description entered Stafford each day, handbills were issued, songs composed, and speeches made. In a scene reminiscent of the conclusion of a parliamentary contest, the eventual victor, lawyer John Dent, was carried through the streets of Stafford, before several thousand people, in a decorated chair, behind a band of musicians and a parade of banners. He left Stafford in an open carriage drawn by eight horses, behind a procession of horsemen, flag-bearers and musicians, for a tour of the Potteries towns, ending in his home town of Hanley, where he was greeted by an estimated 40,000 people. In 1830, musicians wearing the sky-blue favours of William Harding paraded the streets of Stafford for the two days preceding the nomination meeting. On the day of nomination Harding's supporters, on foot, horseback or in vehicles and wearing sky-blue ribbons and laurel, left his home town of Burslem at dawn for a four-hour journey to Stafford, gathering supporters at the various townships along the route. Fenton's similar cavalcade, decorated with sprigs of oak, had begun from Newcastle-under-Lyme. Harding was victorious, and was chaired through the streets of Stafford and in the Potteries. Although the third candidate made no public entry, at the conclusion of the poll he was accompanied home with flags, music and carriages, despite losing, and made three addresses in Newcastle and another in Hanley, where about 20,000 people had gathered.

Until 1787 there were two county coroners in Staffordshire, based in Wolverhampton and Stafford. They covered the whole county, except for the borough of Lichfield and the manor of Burton-upon-Trent, which had coroners of their own. Over the second half of the eighteenth century population growth, stemming from the expansion of the Staffordshire coalfield, the metal industries in the south of the county and the potteries in the north, made it appropriate to appoint further coroners. On the death of the Stafford-based coroner in 1787, the magistrates obtained the Lord Chancellor's agreement to the election of three new coroners to replace him. A contest was avoided on that occasion after the magistrates indicated that: 'for the ease and convenience of the inhabitants' these three coroners should reside in Stafford, Newcastle-under-Lyme and Uttoxeter.[8] Assuming that each parish, for convenience, used the nearest coroner, four territories of broadly similar physical size were created (Figure 2).

[7] Information on the Staffordshire elections has been gleaned from: *Staffordshire Advertiser* (7 Jan. – 13 May 1826 & 26 Jun. – 18 Sep. 1830); *Pottery Mercury and Staffordshire and Cheshire Advertiser* (3-24 May 1826); William Salt Library, Broadsheets 24/1-31; J. Broughton (ed.) *Staffordshire Miscellanies* (London, 1831), pp.178-211.

[8] *Aris's Birmingham Gazette* (25.6.1787), p. 1 & (2.7.1787), p.3.

Figure 2: *Approximate territories of Staffordshire coroners, 1787-1842*



Although the coroners elected in 1826 and 1830 would serve only northern Staffordshire, freeholders from across the county were canvassed and encouraged to vote. In 1826, a total of 8,222 freeholders polled, and in 1830, 9,095 freeholders cast their votes. The county parliamentary electorate before 1832 has been estimated at 'over 5,000'.[9] It was said that in 1826 one party was prepared to spend £10,000 to secure the election, and that one of the candidates in 1830 was willing to pay £5,000. If more was spent in 1826 it may be due to the time it would have taken to establish a list of freeholders, for there had been no parliamentary contest since 1747, and no contest for a coroner for many decades, if at all. In 1826 a local newspaper estimated that the emoluments of the office were less than £47, and pointed out that an annuity of twice that sum could have been bought for each candidate for a fraction of the money spent on the election. The actual remuneration was probably a little higher, for the successful candidate in 1830 received £128 from the role in his first full year of office.[10] The expenditure was considered justified by the wider political value of the election process, rather than the financial or social value of the role.

A coronial vacancy created a number of political opportunities. If it was hoped to contest a parliamentary vacancy at a later date, a list of the county freeholders could be constructed or updated, and the nature and extent of any influence could be identified. This would be especially valuable in counties such as Staffordshire, where there had been no recent parliamentary contest, and where extensive industrialization, population growth and urbanization were changing the political landscape. Perhaps more importantly, a canvass could test the strength of support within the county for a parliamentary candidate or a political party, as any subject could be discussed and views obtained.

[9] R.G. Thorne, *The House of Commons, 1790-1820*, 5 vols (London, 1986), 2, p.357.

[10] Over the three years to December 1831, 50 of the 120 English county coroners had annual income from the role of less than £50 and a further 40 had income of £50-100: *Return of Appointment of Coroners in England and Wales*.

Popular reaction to the speeches at the nomination meeting could be assessed, and the show of hands gave everyone the opportunity to indicate their views. A poll provided a nightly opportunity for further speeches, and an important forum for political debate in a period in which political meetings could be discouraged or forcibly dispersed by the authorities. Similar opportunities were provided by celebratory dinners at the conclusion of a contest. Although sentiment could be assessed during a canvass, the result of the poll was a public statement, which would be widely reported. The employment of local people in roles including musicians, cooks, serving staff, banner-makers and assemblers of ribbon favours, could be a way for political representatives to maintain favour outside the context of a general election, to minimize claims that parliamentary voters were being bribed.

To obtain the maximum political benefit, the freeholders had to be persuaded to vote. Employer and landlord influence had a place, and conveyances and refreshment were usually provided. To avoid accusations of partiality, newspapers did not link the candidates to political issues, but reporting could be encouraged through pageantry, and through differentiation of the candidates on non-political grounds. At coronial elections across the country debate was encouraged on places of residence and professional backgrounds. There was almost endless scope for candidates to claim that their situation was preferable, as they lived closest to a dangerous river, mines or quarries, or a centre of population. In Staffordshire a further dimension was added, that of civic pride. Occupation did not feature in these two elections, for each of the candidates was an attorney.

In 1787 the magistrates had indicated that the new coroner for the north of the county should be based in Newcastle. When he resigned in 1826, some county freeholders were determined that his replacement should live in one of the growing Potteries towns, which were vying among themselves and with the historic borough for pre-eminence in the north of the county. Newcastle, although a parliamentary borough, did not have the right within its charter to appoint a coroner of its own, and in 1826 the corporation was determined that the town should not lose its resident county coroner. The two candidates at that election were Hyatt, from Newcastle, and Dent from Hanley. Hyatt had the support of the mayor and corporation and was allegedly backed by a 'long purse'. Dent had possibly been chosen to represent the Potteries as he had not been released from a bankruptcy of 1822, and could therefore claim that he had not purchased any votes. Undoubtedly, money was subscribed by individuals, but the county had managed to wrest one of its parliamentary seats from Earl Gower in 1820, and independence was seen as important. Some votes were cast on grounds of civic pride, others either for 'Dent and Independence' or as compelled voters in the Newcastle interest. Additionally, Dent was in favour of Catholic emancipation, an important issue in a county with a large Catholic population, but Hyatt's name was linked in a handbill to a vote against 'Popery'. With a general election anticipated, some used the contest to test the degree of opposition within the county to the views of the two elected representatives, who had both voted in favour of the Catholic relief bills. It served its purpose, one party noting, following the prorogation of parliament, that the coronial contest had 'proved that they might dismiss the bugbear, expense [of a parliamentary contest] from their minds'.[11]

On the death of Dent in 1830, the borough of Newcastle determined to win back the office. Their standard-bearer was John Fenton, whose family had acted for many years as agents for the Leveson-Gower family. If his connections alone did not encourage voters, his pecuniary circumstances might have attracted sympathy, for he had a family of eight young children to support. It was initially a three-way contest, although Fenton retired after the third day of the poll. The two other candidates were from the Potteries, Griffin from Shelton who proclaimed himself independent, and Harding from Burslem. Once the Newcastle candidate had withdrawn, local rivalry between the Potteries towns featured, but the candidates were also each canvassing, and had established committees, in the south of the county. Harding won, largely due to the support he received from some of the leading Catholics in the county, including Lord Talbot and the Giffards of Chillington. The general election, called shortly after the coronial vacancy occurred, following the death of the king, was not contested, the

[11] *Staffordshire Advertiser* (27.5.1826), p.4. For the role of the Leveson-Gowers in county elections, see J. Wordie, *Estate Management in Eighteenth-Century England: The Building of the Leveson-Gower Fortune* (London, 1982).

coronial contest perhaps being preferred from a combination of the more loosely defined franchise and the lack of any formal mechanism for challenging the validity of the votes.[12]

To conclude, elections to this office had a wider significance. These two Staffordshire contests illustrate the range of political opportunities and benefits that arose from the process, and demonstrate how a complex mix of national and local issues could be used to motivate the undecided and provide a public demonstration of support for a particular political viewpoint. Such contests were a product of time and place, occurring only when considered necessary, but once underway they could be as exciting and important as any parliamentary contest.

[12] The intense rivalry between the towns of north Staffordshire is described in J. Stobart, 'Building an urban identity, cultural space and civic boosterism in a 'new' industrial town: Burslem, 1761-1911', *Social History* (2004), pp.485-98.

Institutions and economic stabilizations in Argentina and Spain, 1958-59: the political economy of reform in crony capitalist systems

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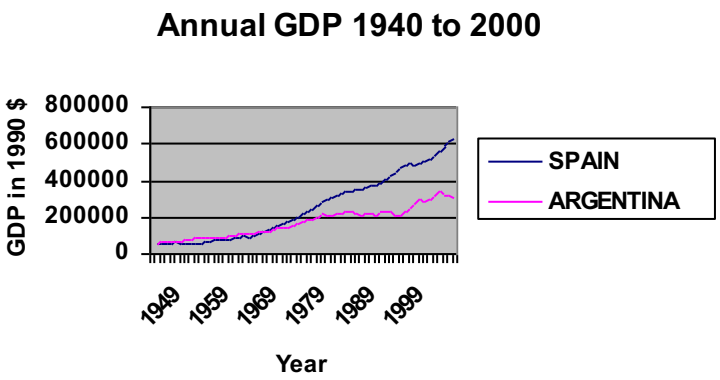
Economic historians from the institutionalist school suggest governments that cannot universally enforce property rights adopt clientelist arrangements to protect the interests of a subset of asset holders in exchange for political and economic support. This 'crony capitalism' is an inefficient allocator of resources but can ensure political stability, which in turn allows an otherwise weak government to preside over sustained growth.[13] But what determines divergence in long-term economic performance between crony capitalist systems? This paper uses a comparison of two states characterized by clientelism: Spain and Argentina, to show that the greater the variety of interests 'vertically integrated' into the web of clientelism, the closer the approximation to a credible commitment regarding universal property rights. Spain's post Civil War corporatist state represented more successful vertical political integration than its Argentine counterpart so from a shared institutional and ideological tradition mid-twentieth century, their respective fortunes diverged considerably in terms of economic growth (Figure 1).

Figure 1:



Source: Maddison, *The World Economy OECD, 2001*

If a weak government fails to integrate a broad spread of interest groups into the corporatist state, political discourse can become a zero sum game of perpetual distributional conflict and contradictory policies. But if a particular faction conclusively gains the upper hand, a hierarchy falls into place reflecting a "pact of domination" which is more likely to evolve into an effective and autonomous bureaucracy.[14] This paper will proceed with a comparison of almost simultaneous economic reform programmes in Spain and Argentina in the late 1950s as examples of each of these scenarios. Both cases incorporated IMF-backed macroeconomic stabilizations centred on fiscal restraint and monetary tightening intended to address imbalances associated with the exhaustion of autarkic experiments in forced industrialization carried out under Spain's General Francisco Franco and Argentina's Juan Perón in the 1940s and 1950s. Both packages were components of broader reforms of each country's development model associated with current account liberalization and courting of foreign investment.

[13] Haber, S. Maurer, N. & Razo, A. 'Sustaining Economic Performance under Political Instability', in: Haber, S. (ed.) *Crony Capitalism and Economic Growth in Latin America,* Stanford, 2002.

[14] Rueschemeyer, D and Evans, P. 'The State and Economic Transformation: Toward an Analysis of the Conditions Underlying Effective Intervention', in: Evans, P, Rueschemeyer, D and Skocpol. (eds.) *Bringing the State Back In,* Cambridge, 1985, p.48.

Implementation was tempered in each because of objections by vested interests to the associated austerity. Yet the Spanish reforms are commonly identified as the catalyst for an economic miracle lasting until the mid-1970s that added credibility to the Franco dictatorship, while Argentina's liberalization failed to overcome resistance within the state and civil society. The architect of the reforms, president Arturo Frondizi, elected in 1958 after a period of military rule, was ultimately overthrown amid disenchantment with his economic record at all levels of society. In newly industrialized countries, a deflationary stabilization will meet stiff opposition from groups nurtured by industrial growth. Macroeconomic stabilizations therefore provide an appropriate comparator because they represent a test of state capacity to withstand opposition to unpopular reforms.

The Argentine Case

Perón's economic model of the late 1940s had favoured national over foreign capital and urban wage labour over agro-exporting elites. The pursuit of 'light' industrialization and a progressive income distribution resulted in budgetary imbalances and a state perpetually handicapped by a struggle to reconcile diverse economic pressures from different factions in civil society.[15] Attempted reform by Frondizi, elected after the military agreed to reinstate democratic government on condition that Peronism remain outlawed, were consequently vulnerable from the outset to competing interests. Frondizi's aspiration for the Argentine economy was a programme of industrial 'deepening', with an emphasis on heavy industries, supported by foreign investment and underpinned by fiscal and monetary discipline. To steer a course through social and ideological sensitivities Frondizi put great rhetorical emphasis on a three-way effort shared between the State, labour and industrialists assigning a fourth element, foreign capital, a pivotal though subordinated role (Figure 2).[16] In practice, however, the social balancing act required to build this pact resulted in a chameleonic approach of short-term and inconsistent pledges to buy temporary support. Much of the deal-making was clandestine and secretive. A secret agreement with the exiled Perón to gain his supporters' electoral support, for example, was honoured with an end to government intervention in Peronist trade unions and wage increases,[17] but later collapsed on account of tough economic choices that reduced the purchasing power of waged labour.[18]

During the early months of the Frondizi presidency, spending was expansionary and financed through lines of credit from both the Central Bank and the Industrial Credit Bank. This suited labour and a credit-starved business community but resulted in budgetary deficits and rising inflation. An attempt to achieve energy self-sufficiency through development of the domestic oil industry, thereby improving the balance-of-payments without alienating supporters with more austere measures, provoked the ire of nationalist elements at all levels of society because of the involvement of foreign oil companies. It also undermined Frondizi's credibility as he had identified himself as an economic nationalist while in opposition particularly in respect to Argentina's oil reserves. At the same time foreign investors needed to be convinced of Frondizi's sound economic credentials so a degree of macroeconomic discipline became inevitable.

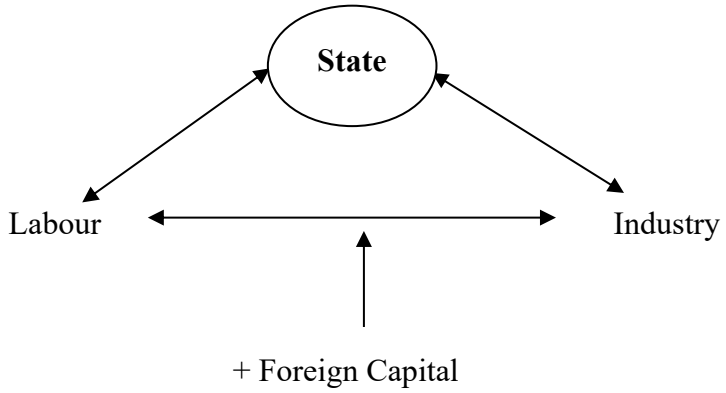
[15] See: Diaz Alejandro C. 'Stages in the Industrialisation of Argentina', in Diaz Alejandro, C 'Essays on the Economic History of the Argentine Republic', London, 1970 Or: Schverzer, J. *La industria que supimos conseguir,* Buenos Aires, 1996.

[16] Frondizi, *Algunos Aspectos del Pensamiento Económico Radical,* in: Frondizi et al 'UCR Intransigente, Definiciones Radicales, 2nd edition, Buenos Aires 1958, p.130.

[17] Frondizi, Arturo 'Aumento de Emergencia', Radio Address 13 March 1958, reproduced in 'Mensajes Presidenciales', Buenos Aires : Centro de Estudios Nacionales, 1978.

[18] Prieto, R. *Correspondencia Perón - Frigerio,* Analisis Critica, Buenos Aires 1975, pp.11-12.

Figure 2: *Frondizi's attempted three-way alliance between the state and two factions of civil society*



The IMF-sponsored Stabilization Plan of 1959 may have achieved this but was simultaneously at odds with Frondizi's previous commitments. It restricted credit, froze wages and included measures to increase taxes and utility rates to boost revenues, alienating two factions of the three-way alliance. Frondizi was careful in his choice of words when announcing the Plan, framing the new measures within his long-term visions for Argentine development. He suggested it was part of a preconceived strategy, a second stage to follow 'modernization' of the economy.[19] Such statements were clearly intended for a popular audience and hardships including wage freezes and rising utility rates were dressed up as necessary sacrifices for a common national good. Simultaneously, however, the Plan was presented to an alternative audience as evidence of the government's responsible economic management.[20] Indeed, Frondizi appointed a new economics minister, Alvaro Alsogaray in June 1959, who was known for pro-business sympathies. This appeared to impress foreign investors at least who welcomed proof that the Stabilization Plan was to be "rigorously implemented".[21]

But to domestic actors, the Plan represented an idiosyncratic and contradictory approach to government and the network of alliances and contracts of appeasement became ever more unsustainable. The Plan itself is thus best understood as another alliance, in this case with foreign capital, and its restrictive prescriptions, at best unenforceable given a rise in popular discontent, and at worst merely cosmetic and intended to trick investors into funding further expansionism. Though Alsogaray did implement much of the recessive policy at the heart of the plan, his actions were frequently frustrated by the president's caution about antagonizing an already volatile labour force. This was an irritant to the business community who had held high expectations of a reduction in their wage bill as a consequence of the new monetary caution and an influential business lobby declared the Plan a failure on account of: "labour policy proceeding without any attention to economic reality".[22] The same interests were also irked by the restriction of credit.

While the Central Bank claimed fiscal reform meant Treasury revenues exceeded expenditure by 15 per cent in 1960 and 23 per cent in 1961, this estimate did not include transfers to state enterprises which more than offset any surpluses.[23] Essentially, the government did not fulfil its pact with foreign capital made via the IMF. Discrimination against agriculture in favour of industry was depressing export revenues while industrial re-equipment had resulted in an import boom so by 1961 trade results were "unusually bad".[24] But if fear of antagonizing labour prevented effective action against fiscal indiscipline, Frondizi failed to portray himself as champion of the common man. His three-way

[19] Arturo Frondizi, *Programa de Estabilización para la Economía Argentina: Verdad, Trabajo y Grandeza,* Radio Address, Red Nacional de Radiodifusión, 29 December 1958.

[20] Dirección General de Finanzas, Departamento de Estudios e Investigaciones Financieras – Division Legislación e Información Parlamentaria: 'Discurso del Señor Secretario de Comercio Dr Jose Carlos Orfila. 1 de Marzo 1959.

[21] Bank of London and South America Quarterly Review Vol.1, No.1, July 1960. *Argentina,* p.8.

[22] Union Industrial Argentina, *Memoria y Balance 1961-1962,* p.27.

[23] IBRD (World Bank) Restricted Report No.WH-114a, *Argentina: Current Economic Position and Prospects,* Jan. 11 1962 pp.3-5. See also Review of the River Plate, April 1961.

[24] *Ibid.* p.15.

alliance and the notion of sacrifices to be endured equally by all lacked credibility as the burden would most likely fall disproportionately on labour.[25]

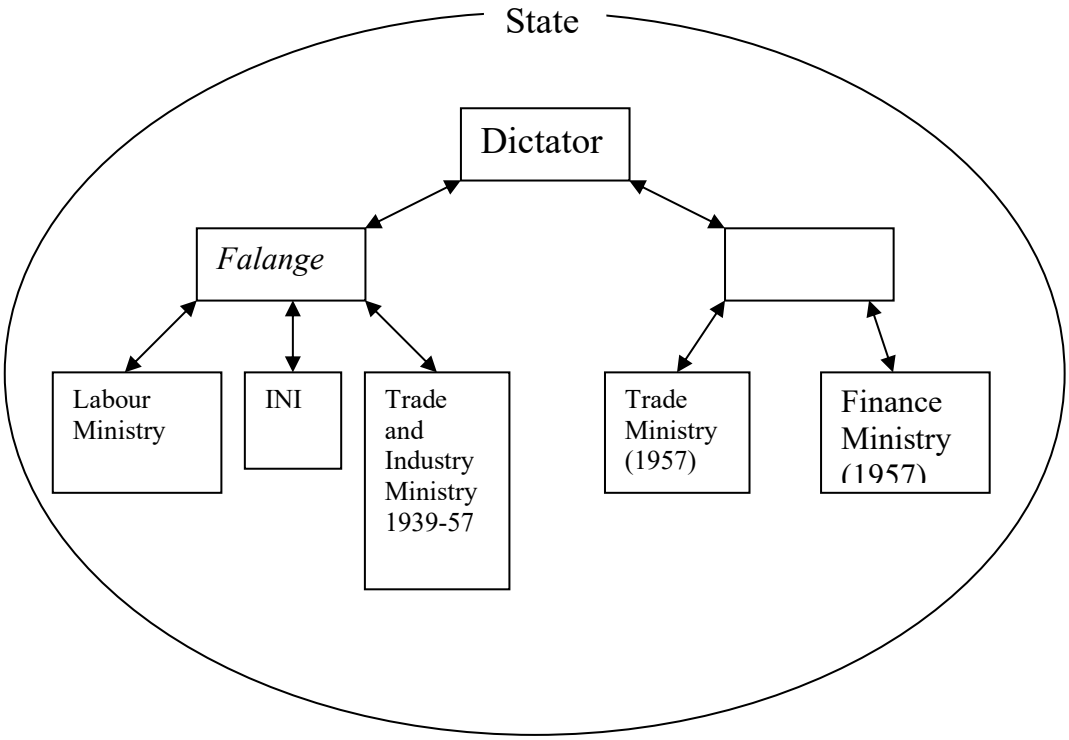
The months following implementation of the Plan saw increasing civil unrest with Peronist labour in open revolt against the government which had apparently betrayed them and their leader. For the restless military, suspicion of Peronism was galvanizing into concern about communism, particularly after the Cuban revolution in 1959, and the government invoked an authoritarian decree granting the military exceptional powers to counteract 'terrorism'. Frondizi's presidency eventually imploded after proposed legalization of the Peronist party provoked the military into removing him from office. To sum up the experience, therefore, Frondizi was constrained by the realities of Argentine survival politics which meant agreements with individual factions for political support were reneged soon afterwards and the number of groups alienated accumulated until his rule became unsustainable.

The Spanish Case

Franco had entrusted economic policymaking in the 1940s to the Falange, a fascistic nationalist-syndicalist movement which prioritized rapid autarkic industrialization to ensure Spanish self-sufficiency and improve living standards for the popular classes. This, they argued, would prevent a resurgence of the distributional conflict behind the Civil War. Exhaustion of this attempt to industrialize in isolation was evident by the end of the 1950s with severe imbalances in both trade and the country's finances. The cabinet was reshuffled early in 1957 allowing the ascendance of a number of young technocrats to ministerial posts, many of whom were members of *Opus Dei,* a conservative Catholic lay society. Part of an intellectual movement promoting orthodox economics, the new ministers sought to open Spain's economy and end the economic autarky promoted by the falangists. But imposing monetary and fiscal discipline on Spain was to be an extremely difficult task. In spite of their authority the new ministers were to take on some powerful figures who had helped shape the ideological vision of the Franco regime since the Civil War. Monetary instability and budget imbalances were clearly tipping Spain into crisis and threatened to undermine progress in improving living standards. But the tangible progress in industrialization was widely attributed to the ideologues of the early dictatorship who still enjoyed much support both within the military and other elite factions close to the dictator. The war of attrition over economic policy that took place within the state was thus between the Opus Dei technocrats, who were in control of the ministries of Trade and Finance, and the Falangists who retained their mandate over the Labour Ministry and the state-owned enterprises (Figure 3).

[25] Panorama de la Economía Argentina. Vol.II, Marzo 1959. *Editorial.*

Figure 3: *The war of attrition over economic policy within the Spanish state*



The reformers' ultimate course of action was to issue a consultation to academic institutions, interest groups and state agencies inviting opinions on such concepts as currency convertibility, trade liberalization and closer ties to an integrating Europe.[26] They then lobbied intensively to ensure favourable responses and correspondence from the era shows that clandestine meetings between reformers and representatives in various agencies that excluded hostile members of the leadership was an increasing irritant to the old guard.[27] Spain's reinsertion into the international trading system was a radical departure. But clear evidence of interest-group consensus would serve to placate the highest authorities in government and subdue the objections of conservatives. In the event, responses were broadly favourable with the exception of that submitted by the Institute of National Industry (INI), the state holding company of national enterprises and spiritual home of the old ideology. The Institute's submission acknowledged Spain would be well advised to reduce its isolation in the long term. But it also echoed the authoritarian propaganda of the immediate post Civil War era by calling for a continued drive to greater productivity, continued state control of prices alongside labour law that would "reinforce the principles of authority and responsibility".[28] The report thus railed against veneration of economic theories that endangered "the sources of well-being and progress", stating that while Spain remained an international laggard in terms of living standards, industrial expansion and employment growth had to take precedent over modish theories calling for restraint and budget austerity.

The reformers, who hoped to demonstrate the Institute as out of touch with broader consensus, may have expected this. With otherwise universal endorsement, the conservatives would find it difficult to veto the Stabilization Plan imposed later that year which was designed in cooperation with the IMF. Responses to the consultation were published to coincide with the launch of the Plan in July 1959 and gave the ministers enough confidence to nail their colours to the mast regarding what they

[26] Oficina de Coordinación y Programación Económica: Documentación Económica, *Contestaciónes al Cuestionario Económico del Gobierno,* Madrid, 1959, p.7.

[27] Letter of resignation from Suanzes to Luis Carrero Blanco, Minister of the Presidencia del Gobierno, 8 May 1957: Archivo Personal de Juan Antonio Suanzes, Centro de Documentación del Instituto Nacional de Industria.

[28] *Contestaciónes al Cuestionario Económico del Gobierno*, 1959, p.167.

referred to as the 'New Economic Order'.[29] This involved conventional IMF-style austerity designed to reduce inflation by curbing excess demand. Devaluation of the currency and inducements to capital inflows, it was hoped, would restore a healthy balance-of-payments. Thus, the system of Central Bank financing of extravagant public investment was terminated with greater restrictions on credit.

However, an OECD report compiled six months later warned liberalization of the economy was "fragmentary and insufficient". In spite of notable progress in abolition of price controls and the suppression of mechanisms for intervention in the economy, private firms remained subject to rigid controls on investment and employment.[30] Given that the Civil War had been fought against an enemy that derived much of its support from an anarcho-syndicalist movement, the regime's greatest fear was a resurgence of labour militancy. Industrialization and generous wage policies alongside rigid employment regulation were central to the regime's quest for order. Thus, in spite of the liberalizing zeal of the architects of the Stabilization Plan, certain sacred cows of the regime were still untouchable.

Conclusion

If reforms were similarly diluted in each case, what qualifies the assumption of this paper that Spain was the more successful? Firstly, the continuity of the Franco dictatorship provided a degree of institutional stability despite the splits within the government. Political discourse was a war of attrition kept within the state while the diversity of interests represented by state agencies represented a broader reach of 'credible commitment' within a system defined by cronyism. In Argentina, however, there was no binding force to which interest groups were formally answerable. Bargaining was thus external, between the executive who wished to impose reforms, and interest groups such as business and labour. The zero sum game of Argentine factions making tenuous alliances with Frondizi based on ever less credible assurances that their economic interests would be protected, was less stable and the goodwill of asset holders and the wider civil society more limited. This snapshot may go some way, therefore, to helping us understand Spain's economic out-performance of Argentina over the longer term.

[29] Discuso Pronunciado por el Excmo. Sr. D. Mariano Navarro Rubio, Ministro de Hacienda Ante el Pleno de las Cortes Españolas en Sesión Celebrada el 28 de Julio de 1959, Oficina de Coordinación y Programación Económica, Documentación Económica No.7: *Nueva Ordenación Económica,* Madrid, 1959.

[30] OEEC*, Informes de la OECE sobre el Plan Español de Estabilización,* Madrid, OCPE,1960, p.14.

Mahatma Gandhi and the Prisoner's Dilemma: Strategic Civil Disobedience and Great Britain's Great Loss of Empire in India[31]

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"Force cannot, like opinion, endure for long unless the tyrant extends his empire far enough afield to hide from the people, whom he divides and rules, the secret that real power lies not with the oppressors but with the oppressed." ─ Marquis de Condorcet[33] (1745-1794).

Twentieth-century India lived under the kind of colonial administration that James Madison and Thomas Jefferson had rejected[34] – the kind that would have made John Adams angry.[35] And it did anger a great many Indians.[36] To the British, the Indian economy existed for the enrichment of Great Britain. Industry was for the profit of the English Midlands. Indian salt was to be managed for the benefit of Cheshire. India was an extractive state under British colonial rule that was not able to invest more in physical and human capital and use these factors efficiently to achieve a greater level of income. (For example, Acemoglu, Johnson and Robinson, 2001; Acemoglu and Robinson, 2002; Banerjee and Iyer, 2002; Engerman and Sokoloff, 1997; 2000; 2002). History is nothing but an artificial extension of social memory.[37] In the view of that memory based model of bounded rationality (for example, Mullainathan, 2002) and the new institutionalist view of history (for example, North, 1990), history is crucial because history shapes institutions and institutions shape the economy. This proposition is further fortified by La Porta et al (1998; 1999; and 2000) who argued that the experience of colonization can have a permanently lasting effect on the legal system of any country and through that on that country's economic performance.

Salt and the Rational Fools:[38] Imperial Confiscatory Taxation and Indian Strategic Civil Disobedience – A New Behavioural Economic History

Salt is essential to human life as it regulates the amount of liquid that can be held in the body. Without it people dehydrate. Before the British created artificial trade barriers, India had affordable, readily available salt.[39]

It is impossible to know just how many people died as a result of exorbitant taxing and pricing of salt. In addition to dehydration, salt deficiency contributes to people's inability to recover from many diseases. Many deaths caused or aggravated by lack of salt would not be recorded as such. Although there is no reliable estimate of how much salt an average Indian family would need, the estimates of what Indian families were able to afford, even in times without famine, were way below the minimum the British recommended for their own soldiers. The price of salt was fixed so artificially

[31] The political geography of "India" in this paper implies pre-partitioned India prior to her independence in 1947, which includes present day nation-states of Pakistan and Bangladesh.

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This paper is dedicated to the memory of courage and conviction of the people of undivided India.

[33] Condorcet, J.A (1795) *Sketch for a History for the Progress of the Human Mind.* Connecticut: Hyperion Press, 1979.

[34] Bernard Bailyn (1967) *The Ideological Origins of the American Revolution*. Cambridge, MA: Harvard University Press.

[35] Gordon S. Wood (1992) *The Radicalism of the American Revolution.* New York: Alfred A. Knopf.

[36] Getz, Marshall J. (2002) *Subhas Chandra Bose: A Biography.* North Carolina: McFarland & Company.

[37] Becker, Carl (1931) *Annual address of the president of the American Historical Association, delivered at Minneapolis. December 29, 1931.* Reprinted in the *American Historical Review,* Volume 37(2), pp.221-236.

[38] Sen, Amartya, (1976-77), "Rational Fools: A Critique of the Behavioural Foundations of Economic Theory," *Philosophy and Public Affairs*, No. 6, 1976-7, pp.87-109.

[39] Agarwal, S.C. (1976) *The Salt Industry in India.* New Delhi: Government of India Press.

high that smuggling was profitable and this was often the only way many families could obtain the salt that they needed.

Human beings have only imperfect control over their memory. The rationality of ignorance dictates that we humans are not able to learn everything that we intend to learn, given our inherent and evolutionary cognitive limitations. It is only possible to integrate new knowledge into one's memory by applying sufficient effort, time and resources. *Unlearning* various practices enforced by habits formed under colonial institutions, i.e. removing information from one's memory on colonial ways of organizing economic activities is more difficult to achieve. It is, for example, impossible to forget the information that the price of salt was fixed so artificially high by the colonial authorities that smuggling was profitable and this was often the only way many families could obtain the salt that they needed. One would be better off not knowing that smuggling was the only means for obtaining salt for their most basic consumption, but one could not choose to forget such utility enhancing information given their colonial circumstances. This *"retention effect"* suggests that there is a fundamental asymmetry between *learning* and *unlearning*.

Moreover, making an effort to get rid of a piece of information stored in our memory tends to have a *counterproductive* effect: it is rendered more vivid and therewith stored more effectively in our memory. This *"imprinting effect"* produces higher transaction costs in principal-agent relationships as evident in the colonial political economy where the colonized as dependants (or dominated principal) of the colonizer (or dominant agent) can retain as *"imprint",* the activities that were prohibited. These retained psychological *"imprints"* of prohibitions could later be transformed into non-violent forms of subversive collective action against the authoritarian colonial regime, as demonstrated by Mahatma Gandhi; where a colonial government that strictly prohibited making salt from the sea by its alien subjects, often made it more difficult for them not to think of doing so, thereby creating an *"imprinting effect"* that had produced very high transaction costs in the principal-agent relationship between the colonizer and the colonized, ultimately costing the British Empire in India its very existence.

Impossibility to forget, given a history of imperialism, may help people to behave rationally in the long run. In that sense, the failure to forget may in some respects be evolutionarily advantageous. If history is any evolutionary indicator of path dependence, then failure to forget the economic consequences of imperialism yielded strategic civil disobedience and eventually national independence. Non-forgetting is an instance of bounded rationality. (Simon 1957, 1982; Selten and Tietz 1980.)

On 12 March 1930, Gandhi and approximately 78 male Indians set out, on foot, for the coastal village of *Dandi* some 240 miles from their starting point in *Sabarmati*, a journey which was to last 23 days.[40] Virtually every resident of each city along this journey watched the great procession, which was at least two miles in length.[41] On 6 April he picked up a lump of mud and salt and boiled it in seawater to make the commodity which no Indian could legally produce – salt.[42]

He implored his thousands of followers to begin to make salt wherever, along the seashore, "was most convenient and comfortable" to them. A "war" on the salt tax was continued during the following weeks. Salt was sold, illegally, all over the sea-coast of India. A pinch of salt from Gandhi himself sold for 1,600 rupees (approximately $750 at the time.) In reaction to this, the British government had incarcerated over sixty thousand people by the end of the month.[43]

Soon thereafter one night, when Gandhi was sleeping, he was apprehended by heavily-armed forces under a regulation of 1827. The effects of the salt march were felt across India. Thousands of people made salt, or bought illegal salt.

According to Albert Hirschman (1970)[44] individuals express their preferences by three distinct processes of *exit, voice* and *loyalty*. A necessary condition for the effective use of the *exit* option is full

[40] Jack, Homer A. *The Gandhi Reader: A Source Book of His Life and Writings*. Bloomington: Indiana University Press, 1956. p.237.
[41] Ibid. p.237.
[42] Ibid. p.240.
[43] Ibid. pp.240-243.
[44] Albert O. Hirschman (1970) *Exit, Voice and Loyalty*. Cambridge, MA: Harvard University Press.

mobility (free *entry* and *exit*) of *buyers* and *sellers* to promote market efficiency. Under an imperial regime of confiscatory salt taxation, such mobility did not exist. Since the boundaries of the polity are predefined and inclusive, the citizenry is fixed. As there is no political process within an imperial order, the citizenry have no choice to *voice* their concern. Neither can the citizenry leave the extractive imperial state to avoid the consequences of its decisions. Given the assumptions of fixed boundaries and imperial citizenship in an extractive state, the characteristics of a pure public good, nonexcludability and jointness of supply, required that a collective voice or non-market decision process be used to reveal individual preferences in order to achieve Pareto efficient outcome, as Samuelson (1954) emphasized.[45] The Gandhian strategy of civil disobedience was a manifestation of this necessity. "The rules of the Prisoners' Dilemma create an environment that is inimical for rational cooperation and, just as one cannot reasonably expect someone to juggle successfully with his hands tied behind his back, so one cannot expect rational agents in cooperating when constrained by the rules of the Prisoners' Dilemma"[46] (Binmore 1994).

A colonized person could have been given one preference ordering, and as and when the imperial extractive needs of the colonizer might have arose or changed, this was supposed to reflect the colonized person's interests, represent his welfare, summarize his idea of what should be done, and describe his actual choices and behaviour. Can one preference ordering for the colonized person do all these things? A policy of colonization thus described may be 'rational' in the limited sense of revealing no inconsistencies in the choice behaviour of the colonizer imposed on the colonized person, but if the colonizer has no use for these distinctions between different concepts of preference ordering, he must be a bit of a fool. The purely economic colonizer like Amartya Sen's purely economic man is indeed close to being a social moron[47] (Sen 1977).

Identity and Cognitive Dissonance – Ethnic Capital Formation and the Logic of Collective Action

The construction of a nation or a homeland for an imagined community is a collective good in the sense that "other individuals in the group cannot be kept from consuming it once any individual in the group has provided it for himself".[48] The corollary to this general conclusion is that a collective good can be provided only if it is seen as a private good by the actor. A person's identity or his sense of self is his private good (Akerlof and Kranton 2000). The collective action literature teaches us that situations characterized by collectively supplied benefits and privately incurred costs will not motivate participation in collective endeavours. Therefore additional incentives are needed to move the potential participants into action. In other words, the leaders of an independence movement need to be able to present their objective worth pursuing for its own sake and be able to provide additional incentives simultaneously in the form of reputation enhancing private rewards. One particularly effective way to provide an individual with a reputation enhancing private reward is to supply an identity based ethnic reputational reward. Ethnic reputational rewards can be the basis for political exchange in collective action and investments in ethnic networks can subsequently serve as *ethnic capital* (Wintrobe 1992). The crucial feature of *ethnic capital* is the uniqueness of *ethnic identity* as a basis for network "membership". To the extent that this criterion is used, entry and exit from the ethnic network is blocked for a generation. Since identity based *ethnic capital* cannot move from one group to another, it follows that competition among ethnic groups does not equalize returns among them. Consequently, differences in returns and therefore in incomes persists. If there are two distinct ethnic groups, one representing the colonizer and the other representing the colonized, the income differential between the colonizer and the colonized creates *cognitive dissonance*[49] for the colonized. Since there can be no

[45] Samuelson, Paul A. (1954) "The Pure Theory of Public Expenditure" *Review of Economics and Statistics* 36.

[46] Binmore, Kenneth (1994) *Game Theory and the Social Contract*. Vol. I. Cambridge: MIT Press. p.103.

[47] Sen, Amartya, (1976-77), "Rational Fools: A Critique of the Behavioural Foundations of Economic Theory," *Philosophy and Public Affairs*, No. 6, 1976-7, p.99.

[48] Olson, Mancur (1965) *The Logic of Collective Action: Public Goods and the Theory of Groups*, Cambridge, MA: Harvard University Press. p.35.

[49] Akerlof, George A. (1982) and Dickens William. "The Economic Consequences of Cognitive Dissonance" *American Economic Review* Vol. 72. pp.307-317.

competition between the ethnic group of the colonizer and the ethnic group of the colonized to equalize returns, the social and political value of the colonizer's identity based ethnic capital will always remain artificially and discriminately higher than the social and political value of the ethnic capital of the colonized, the economic consequences of whose *cognitive dissonance*[50] cannot be ignored by any other means but subversive collective actions of strategic non-violent forms.

In the communitarian 'constitutive' conception of an *ethnic community* (Sandel 1998, Sen 1999) identity comes before reasoning for choice: "the self came by its ends, not by choice but by reflection, as knowing (or inquiring) subject to object of (self-) understanding".[51] Therefore, "a person's *identity* is something he or she detects, rather than determines".[52] Social organization can then be seen as attempts to "create opportunities for men and women to give voice to what they have *discovered* about themselves and the world and to persuade others of its worth".[53] If the social organization of the British Empire in India can be seen as attempts to create opportunities for English men and women to give voice to what they believed to have *discovered* about themselves and the world around them – a "civilizing" belief that England should assist in the development of "backward peoples" towards greater refinement, just as the early Romans were believed to have brought civility to England,[54] it became a necessary cognitive dissonance reduction strategy[55] of the colonized people to invest in ethnic networks to produce identity based ethnic capital for distribution as private reputational rewards within the members of their ethnic community for the resistance of the empire. This special reward was contingent upon actual participation in the independence movement. Participation, in short, is a necessary and sufficient condition for being rewarded with an extra private reputational good – an extra reputational benefit to flow to a participant who joins the collective action movement. A potential participant who does not join the independence movement receives no extra reputational benefit. Such selective incentives in the form of reputational benefits are always defined as private goods or side payments that are available to potential participants who participate in the independence movement. Participants in an independence movement thus receive multiple payoffs for their contributions: divisible and excludable private reputational rewards as well as nondivisible and nonexcludable public goods.

The Model

Consider a group of N symmetric players (Indians of Colonial British India).
Benefits and costs depend on the number of active (nationalist-Indian) players:
When there are n participants, every player gets gross benefits $b(n), b > 0$
participants incur costs of $c(n)$ each.
Thus, every participant gets the payoff: $p(n) = b(n) - c(n)$.
Each non-participant/free-rider/shirker gets $s(n) = b(n)$.
The decision whether to participate or to shirk depends of course on what the others are doing. They consist of n participants and $(N - 1 - n)$ shirkers.
Thus if you shirk you get $s(n)$ and if you participate you get $p(n + 1)$.
Implying you shirk if $s(n) > p(n + 1)$, you participate if $s(n) < p(n + 1)$

We can now construct a Collective Action game in general form for the 2 players' case:

	PARTICIPATE	**NOT PARTICIPATE**

[50] Ibid.

[51] Sandel, Michael (1998) *Liberalism and the Limits of Justice,* 2nd ed. Cambridge: Cambridge University Press. p.150. Quoted by Sen, Amartya K. (1999) *Reason Before Identity*. Oxford: Oxford University Press. p.17.

[52] Ibid.

[53] Crowley, B. (1987) *The Self, the Individual, and the Community*. Oxford: Oxford University Press. p. 295. Quoted by Sen, Amartya K. (1999) *Reason Before Identity*. Oxford: Oxford University Press. p.17.

[54] Colley, Linda (1994) *Britons* New Haven: Yale University Press. p.77.

[55] Akerlof, George A. (1982) and Dickens William. "The Economic Consequences of Cognitive Dissonance" *American Economic Review* Vol. 72. pp.307-317.

PARTICIPATE	p(2), p(2)	p(1), s(1)
NOT PARTICIPATE	s(1), p(1)	s(0), s(0)

Where the total payoff for the Colonial Indian society in terms of collective welfare would be:
$T(n) = n.\ p(n) + (N - n)\ .\ s(n) = Ns(n) - n[s(n) - p(n)]$
Now Consider the Right hand side:
1st term: increasing because $s = b > 0$
Therefore, it all depends on the 2nd term, i.e., a shirker's or free-rider's extra pay-off:

$$[s(n) - p(n)]$$

If it is small and does not increase heavily, welfare is maximized at:

$n = N$ **=> Prisoner's Dilemma I, Chicken I (Assurance).**

If it is heavily increasing, welfare is maximized at:

$n < N$ **=> Prisoner's Dilemma II, Chicken II**

Observe:

1) For all $n \leq N - 1 :\ \ s(n) > p(n + 1)$, shirking from participation is the best response independently from n, i.e., Nash Equilibrium at $n = 0$
2) $s(0) < p(n)$: everybody contributing is strictly preferred => Prisoner's Dilemma.
3) Yet, collective welfare not necessarily max at $n = N$,
since it depends on $T(n)$ if the shirker's extra payoff is small and increases not too heavily => **Prisoner's Dilemma I, otherwise Prisoner's Dilemma II.**

Now consider the Chicken case:

Observe:

1) For small n: $s(n) < p(n + 1)$ => participation is the best response.
2) For large n: $s(n) > p(n + 1)$ => shirking from participation is the best response.

With (1) and (2) together, Nash equilibrium is at $n > 0$.

3) $p > 0$ is not necessary.
4) If collective welfare is maximized at $n = N$, then **Chicken I**.
5) Yet, if collective welfare is maximized at $n < N$, then, $n = n$ only accidentally.

Minor problems:

1) Intersection is not necessarily at an n.
2) n separates shirkers and participants.
3) The problem of the 2-player case remains: Who are the chickens?

Possible solutions:

(1) Leadership by strong social, religious and political charismatics such as Mahatma Gandhi.
(2) The strong players (nationalist-Indians) participate, while the weak players (weak-nationalists) ride free.

Observe:

1) for small n: $s(n) > p(n + 1)$ => shirking from participation is the best response.
2) for large n: $s(n) < p(n + 1)$ => participation is the best response.
3) Taking both (1) and (2) in consideration, there are 2 Nash equilibria, at $n = 0$ and at $n = N$.

Yet, how likely is the good equilibrium in large groups?

1) If N is large a single player decision has only very little effect on overall payoff:
   $p(n + 1) \approx p(n)$
   But, $p(n) = b(n) - c(n) < b(n) = s(n)$

i.e. shirking from participation is always the best response.
Expect for every game: a prisoner's dilemma if N is sufficiently large.

The political economy of road and rail competition in inter-war Britain and Germany

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The subject of this PhD thesis is the role of government policy in the twentieth century road transport revolution. Previous research has often assumed that the transformation from railway monopoly to road-dominated competitive markets was an inevitable consequence of supply-side improvements in motor vehicle technology. In contrast, in the heated debates on the road-rail question during the inter-war period, advocates of both road and rail transport assigned a decisive role to the state for the division of labour between road and rail, blaming the government for faulty policies and implicit subsidies concerning quantity regulation, motor taxation, transport taxes, infrastructure investment or legal liability. Moreover, although contemporary actors agreed that the two technologies had natural spheres of operation, there was no agreement as to the nature and futures of the two technological systems. The purpose of this thesis is to revisit these debates in two ways. The first task is to understand the role of cultural conceptions of technology for shaping transport policy. The second task is to assess the arguments about the impact of specific policies on competition in the transport market. To what extent did the government have an impact on the process and to what extent was it exogenous? The comparison of Britain and Germany highlights the similarity of the development in spite of stark differences between the political systems and regulatory traditions.

This research requires the combination of two methods. The first is a comparative history of political economy with focus on actors, ideas and the discursive construction of policy. The second is an understanding of competition in the transport market based on institutional economics and theory of large technological systems, using quantitative methodology. The main argument of the thesis is twofold, answering the two questions outlined above. As for the nature of policy-making, transport policy in both countries was guided by two different policy paradigms, which were only partly determined by the underlying technological qualities of the two modes, but strongly influenced by ideas about modernity and the public interest. The first, mainly connected to the railways, emphasized notions of public service and virtues such as servitude to the nation, reliability, and capital accumulation. The other, mainly connected to the private motor car and vehicles operated by traders and industrialists, emphasised flexibility, self-organization, liberty and evolutionism. The history of transport policy of the inter-war years in both Britain and Germany was dominated by the attempt and failure to extend the public service policy regime to include the motor vehicle. As for the impact on the transport market, the outcome of the two distinct policy paradigms was that the railways were consistently placed at a disadvantage in competition with road traffic – although not always in the manner claimed by the railway companies. The most severe hindrance to railway competition was the restriction on pricing. While there is no doubt that the migration from rail to road was based on underlying technological advantages, the process was accelerated by state intervention.

Industrial regions, agglomerations and industrialization: evidence from the iron and steel industry in central Sweden, 1805-1910

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The aim of this study is to explore the geographical change and industrial development of the iron and steel industry in Central Sweden 1805-1910. The paper provides a sketch of the location of industry during this period. The statistical Cluster Analysis, the DIANA[1] application, is used, where the employment structure of all parishes in Central Sweden are compared and analyzed for the benchmark years 1805, 1855 and 1910. The aim boils down to two central and strongly interconnected questions. First, are there one or several agglomerations of the iron industry in Central Sweden and have the concentrations formed different geographical patterns over time? Second, is the statistical cluster analysis, DIANA, a fruitful method when grouping parishes, considering differences in employment structures?

The Swedish iron industry and industrial agglomerations

The iron industry in Central Sweden has a history dating back to the middle ages and it has been a major part of the economy since the fifteenth century. Iron dominated Swedish exports until the second half of the nineteenth century, when wood, paper and pulp became leading export commodities.

The concepts of agglomeration, industrial district and cluster point to the fact that industries are often concentrated in certain geographic areas. Thus, theories about economic agglomeration focus the phenomenon of the spatial configuration of economic activities, which are the outcome of a complicated balance of forces that push and pull between consumers and firms.[2] Localization of industries can in a wider sense be understood either as a result of the access to natural resources or as a result of cost-minimization, for example costs of production, transport or as a result of the size of the market. The localization of industry can also, in a more general view, be seen as a result of the fact that production factors are not uniformly distributed across the world.[3]

Alfred Marshall's thoughts and writings about agglomerations and industrial districts are of basic interest.[4] According to Marshall the industrial district, or, in other words the spatial concentration of a specific industry, evolves out of three features. The first one is that an agglomeration provides a labour market, which attracts labour with industry specific knowledge. The second feature is that the agglomeration provides an opportunity for specialized input services. The third feature is that the agglomeration of industry creates a dynamic environment, which is the foundation for new ideas, innovations, improved and new products. When all these conditions are present, the agglomeration becomes a dynamic industrial district.[5]

One can, like Andrew Popp, argue that the Marshallian framework is appropriate when one tries to understand historical agglomerations of industry and the functions of industrial districts. It is a framework that suggests an " … investigation of a matrix of factors displaying complex lines of causality".[6]

[1] Divisive Hierarchical Method.
[2] Fujita – Thisse (2002), pp.1-5.
[3] Marshall (1920), pp.268-270. A modern view of the localization of industry can be found in Asheim (1994), Krugman (1991) and Porter (1990), where factors like proximity and need of competition are highlighted.
[4] According to Fujita (2000), pp.11-17, von Thünen, in *The Isolated State*, had already in the first half of the nineteenth century presented the first two of the three well-known 'marshallian' localization forces.
[5] Marshall (1920), pp.268-270.
[6] Popp (2001), p.21.

The factors and forces that determine the development of an agglomeration or an industrial district fall into two general categories. The first is forces created by technological advances and the second is changes in the market, which affect the historical progress and spatial appearance of an industry specific region. However, neither Marshall nor Popp disregard the importance of social institutions, proximity and networks in the development and performance of an industrial district. They merely mean that it is hard to analyze such factors in a historical context, and that one should in an initial phase focus on matters that, in such a context, can be analyzed empirically. The model should be quite open, and therefore capable of accommodating the variety of empirically observable forms.[7]

Mapping industrial agglomerations: Data, definitions and method

The data for this study emanates from occupational statistics in the population censuses at the parish level in Central Sweden.[8] 387, 400 and 473 parishes are included in the benchmark years 1805, 1855 and 1910 respectively.[9] The basic motive for utilizing this data set is that the economic and industrial character of a region is reflected in the occupational structure.

The total population and the number of men of working age, 10-60 years, occupied in farming, industry and trade are included in the analysis.[10] Regarding industry the employment statistics are divided into four branches: mining, iron works, basic metal industries and wood, paper pulp industries. This division will be used to analyze the employment structure at the branch level. Considering the data for the benchmark year 1910 the statistical classification includes four sectors, since the sector of woodmen is added. The classification of branches within the industry is uniform for all benchmark years.

The number of observations for each benchmark year is roughly 400 parishes multiplied by three or four sectors. This data matrix cannot be analyzed directly. Therefore, the Statistical Cluster Analysis (DIANA) has been applied.[11]

Industrial agglomerations in Central Sweden

In a first step, parishes relatively more or relatively less dominated by manufacturing industrial employment are analyzed and in a second step the possible dominance of mining industries, iron works, basic metal industries or wood, paper and pulp industries in each 'industrial parish' are studied.

In Figure 1 the outcome of the first cluster analysis, 1805, is found. Forty-seven of 387 parishes in Central Sweden were relatively dominated by manufacturing industrial employment in 1805. In the non-industrial parishes, two per cent of the population were occupied in the manufacturing industry, and in the industrial, 31 per cent. These figures can also be compared with the national average of 10-15 per cent employed in manufacturing industry and related production, during the period from the late eighteenth to the early nineteenth century.[12] The industrial parishes were scattered in Central Sweden. A number of industry parishes were isolated and not situated in an agglomeration, i.e. not geographically connected with other industrial parishes. However, in the centre of the map we find parishes that could be seen as an agglomeration. This could also be the case considering the industry parishes in the north-east of Central Sweden. But generally the result is a picture of a relatively scattered localization of the industry parishes.

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[7] Popp (2001), pp. 20-23. see also Popp – Wilson (2003), pp.281-282.

[8] Central Sweden is defined as the following counties: Dalarna, Värmland, Örebro, Södermanland, Uppsala, Västmanland and Gävleborgs. Due to the character of the sources only parishes in the southern part of Gävleborgs län are included. See also Figure 1.

[9] For the years 1805 and 1855 the data are obtained from Demografiska Databasen (DDB), *Tabellverkets folkmängdsformulär*. The reference for 1910 is Seebass (1928), Tabellen 1-14. The divergent numbers of parishes in Central Sweden between the benchmark years is due to geographical delimitation changes. The analyses and the visualization of the results in the paper are based on the parishes' boundaries of today. Despite the differences the three benchmark years the cross-section studies are comparable.

[10] Women are unfortunately not included in the occupational statistics.

[11] Kaufman & Rousseeuw (1990), Struyf et al. (1997), pp.30-31 and Everitt, Landau & Lesse (2001).

[12] Heckscher (1949), pp.139-142.

In Figure 2 the second results for the benchmark year 1805 is visualized. Iron works are predominant in most of the parishes. As to localization, it is hard to find a great concentration besides the agglomerations. Eight parishes are defined as consisting of mixed industries. In those parishes the analysis could not single out one branch as dominating. At least two branches are relatively equal as to employment. The agglomeration in the centre of the map comprises parishes dominated by mining, iron works, basic metal and wood, paper and pulp industries. However, the industrial impact caused particularly by the paper and pulp industry, is somewhat illusive due to the employment classifications. In the official statistics for 1805 charcoal burners are defined as occupied in the manufacturing industry. This leads to four parishes being defined as dominated by wood paper and pulp.[13] In the data for 1855, no charcoal burner is registered in the manufacturing industry. If this is the result of a changed classification system or if the iron works, to a larger extent, had 'out-sourced' the production of charcoal is a question that remains to be answered.

As to the industrial parishes, the number of manufacturing industry parishes decreased from 47 in 1805 to 39 in 1855, of 400 in total. The decline was also reflected in the average industrial employment in the industrial parishes. The average in 1855 was 23 per cent compared to 31 per cent in 1805. In Figure 3 it is seen that the agglomeration of industrial parishes in the centre has diminished and one can hardly speak of an agglomeration in the north-east at all. Thus, most of the manufacturing industry parishes are isolated in an environment of non-industrial parishes that comprise an average manufacturing industry employment of three per cent. New manufacturing industry parishes have arisen in the western part of Central Sweden. None of these was defined as such in 1805.

The results of the industrial branch employment analysis are found in Figure 4. The distribution between the four branches is similar to 1805. Iron works are the most frequent in the industrial parishes dominated by a single branch. However, the number of parishes with a predominance of the mining industry has risen to ten compared to nine in 1805. The mining industry together with iron works increased in the agglomeration in the centre of the figure. There, the two dominate in the industry sector and this is also the case in the two parishes (Söderbärke and Skinnskatteberg) defined as including a mixed industry structure.

The pattern of manufacturing industry had clearly changed in 1910 (Figure 5). The number of industrial parishes had risen to 109 of the total 473. The average employment in manufacturing industry in those parishes had increased to 43 and the other parishes to 13 per cent. The pattern in Central Sweden is distinct and shows clear agglomerations of the industry. We find a large agglomeration in the centre and a concentration in the north-east. The agglomeration in the centre had expanded and included more parishes than in the earlier benchmark years. However, due to the white marked parishes, in the south-west part of the agglomeration, it is not completely symmetrical.[14] The agglomeration in the north-east is concentrated around the town of Gävle on the east coast. The dividing line between the agglomeration in the centre and the one in the north-east is somewhat vague since the two concentrations are linked by a string of manufacturing parishes.

Figure 6 displays the employment by industry. The structure diverges between the agglomerations in the centre and the north-east. In the centre, mining industries, iron works and a mixed branch structure are dominating. The north-east agglomeration shows domination of the wood, paper and pulp industries together with iron works.

Compared with the earlier benchmark years the group of parishes comprising a mixed branch structure has grown. In this perspective one should pay attention to the increasing number of wood, paper and pulp industries, which had their breakthrough in the second half of the nineteenth century.

Table 1: *Industrial parishes in Central Sweden 1805-1910*

[13] The four parishes are (number of charcoal-burners in paranthesis): Säfsnäs (329), Norrbärke (160), Söderbärke (150) and Helgona LF (36). If these four parishes are excluded from the group of manufacturing industry parishes the average of employment in the industry sector decreases to 30 per cent being employed in the manufacturing industry sector.

[14] The white marked parishes are: Järnboås, Grythyttan Bjurtjärn, Storfors and Lungsund (in County of Örebro) and Gåsborn Hagfors, Gustav Adolf, Sunnemo, Munkfors and Norra Råda (in the County of Värmland).

	Number of parishes		
	1805	1855	1910
Total industry	**47**	**39**	**109**
Mining industries	9	10	15
Iron works	21	18	29
Basic metal industries	3	3	17
Wood Paper and Pulp industries	4	2	26
Mixed industries	8	6	22
Other parishes[1]	6	0	10
Inside the border of Administrative Bergslagen[2], in percent	55	46	46
Average industrial employment in industrial parishes, percent	31	23	43
Average industrial employment in non-industrial parishes, per cent	2	3	13

[1] Industrial parishes not showing employment in the four specified branches
[2] An old institutional definition, 1637-1859, which will not be discussed here

Conclusions

This paper has focused on some regional aspects of the Swedish industrialization process, especially the iron and steel industry in Central Sweden during the period 1805-1910.

The empirical basis was employment statistics at the parish level, in benchmark years 1805, 1855 and 1910. The sectoral and branch structures were analyzed with the DIANA application in the Statistical Cluster Analysis. The method has demonstrated its capability of sorting large data sets that consist of objects with more than one variable.

The analysis has shown that it is difficult to talk about one uniform industrial development in the region of Central Sweden and even in the historical iron and ore region of Bergslagen. Instead, the findings point to a development characterized by small, if any, agglomerations of industrial parishes at the outset of the period. This picture changed during the nineteenth century and in the benchmark year 1910 the region comprised two large industrial agglomerations in the centre and north-east area respectively of Central Sweden.

The results could be seen in the light of the theoretical points of departure. They correspond to Marshall's basic explanation of why agglomerations arise and how they could develop into industrial districts. This historical development from industrial concentrations, chiefly originating from natural resources (charcoal, ore and water) to industrial concentrations also embraces localization forces such as inter-related branches, technological advance and a milieu characterized by growth and competition. This will be explored in my further research.

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Figure 1: *Manufacturing industry parishes in 1805*

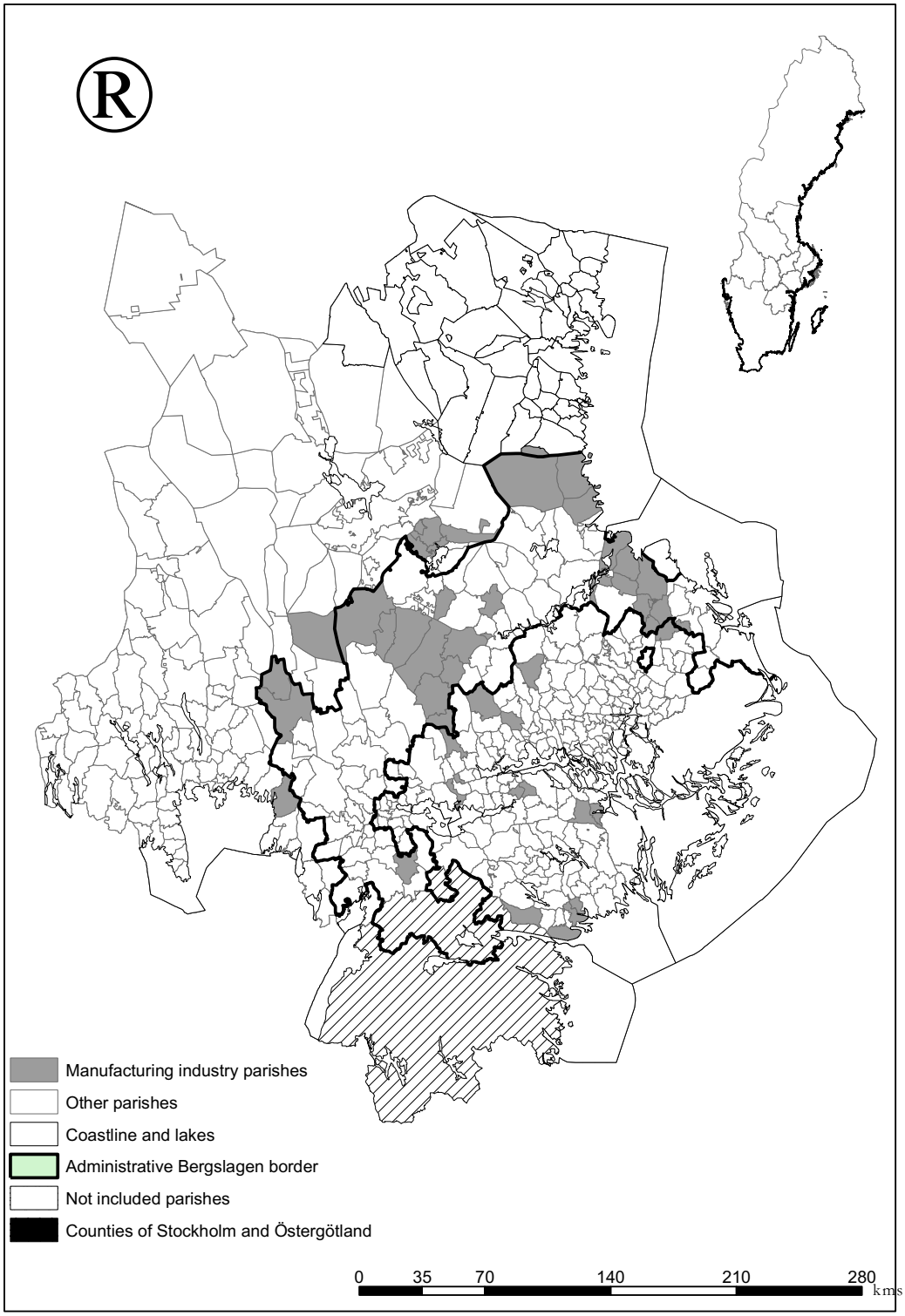


Figure 2: *Employment by industry in parishes in Central Sweden, 1805*

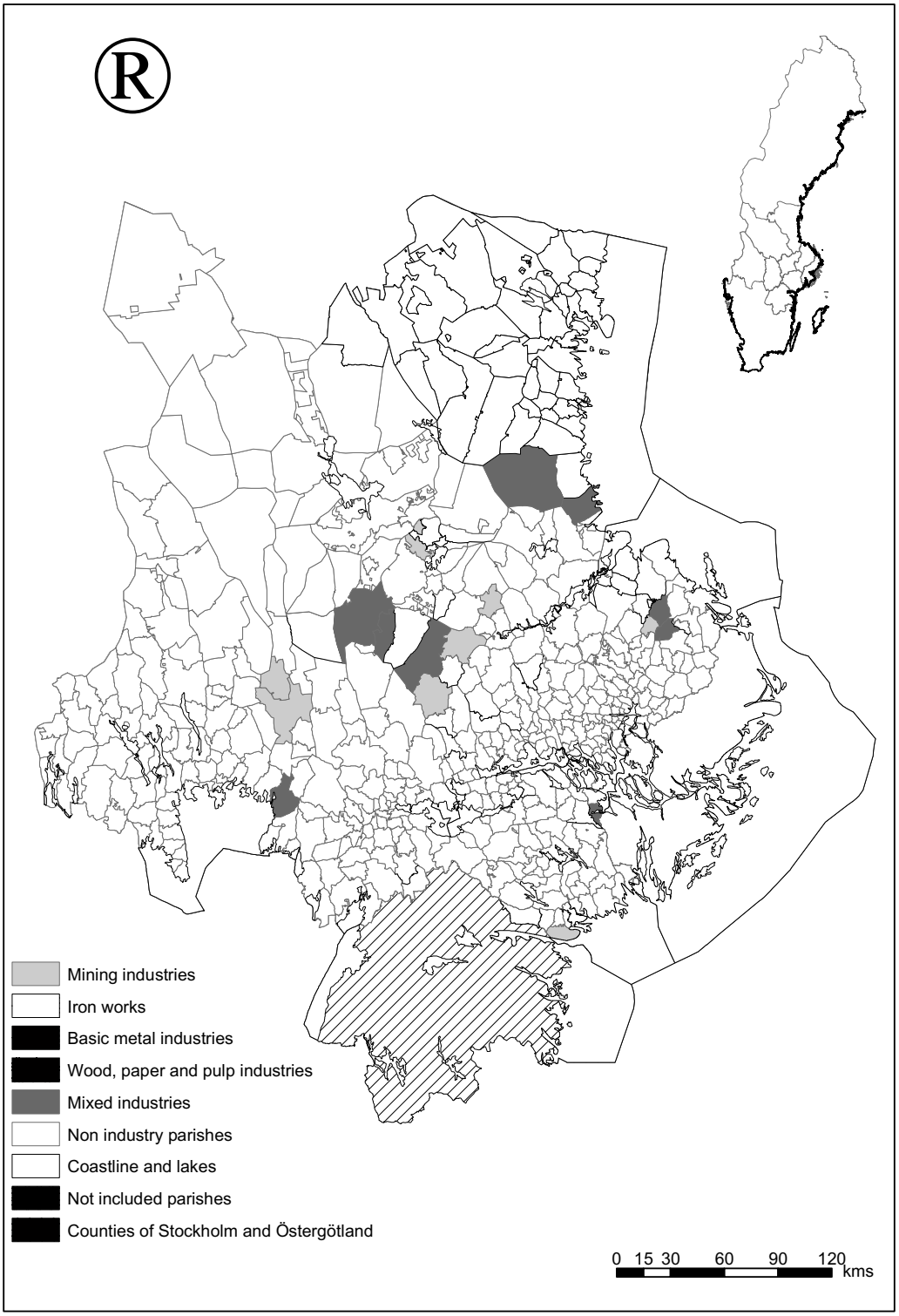


Figure 3*: Manufacturing industry parishes in 1855*

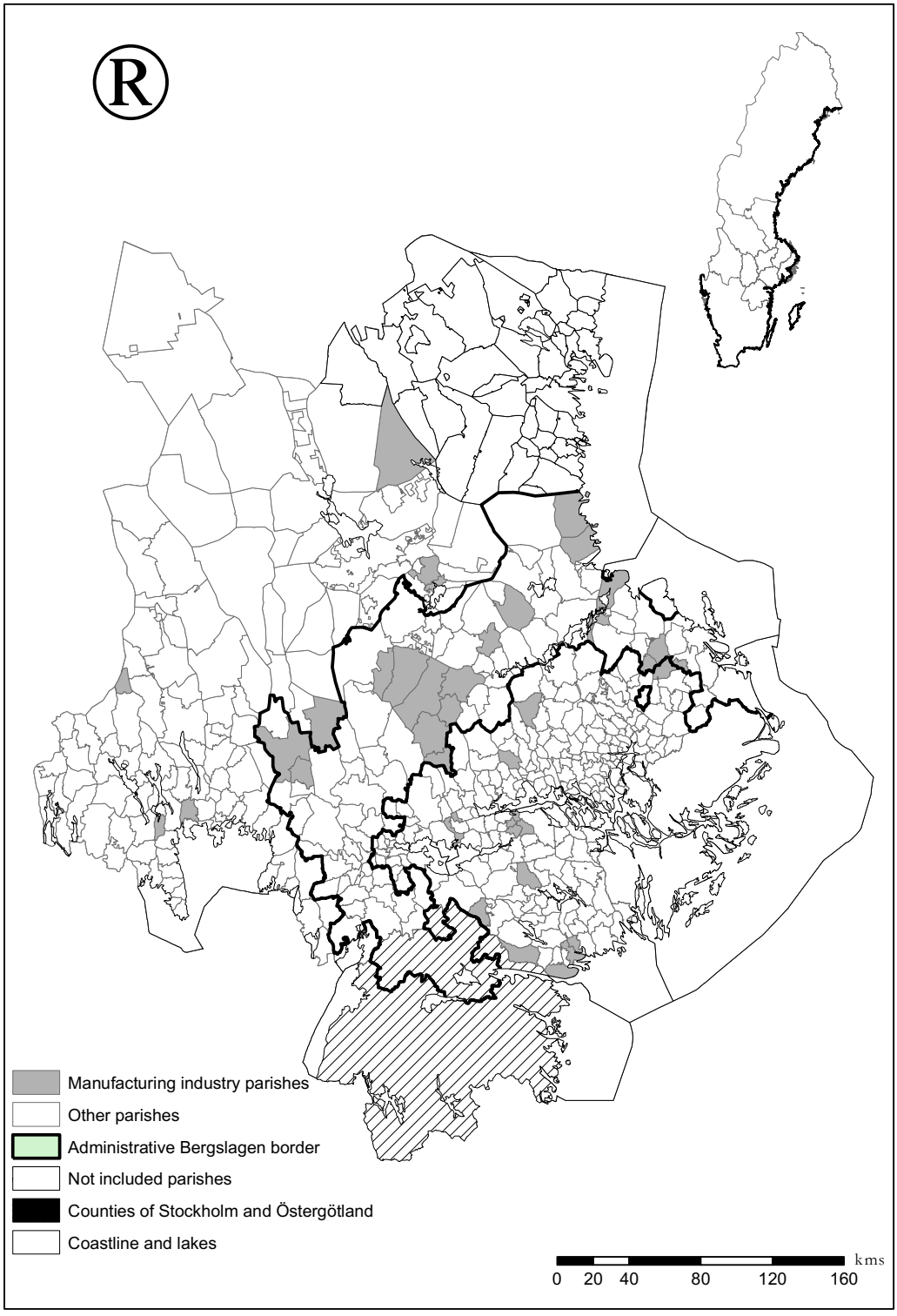


Figure 4: *Employment by industry in parishes in Central Sweden 1855*

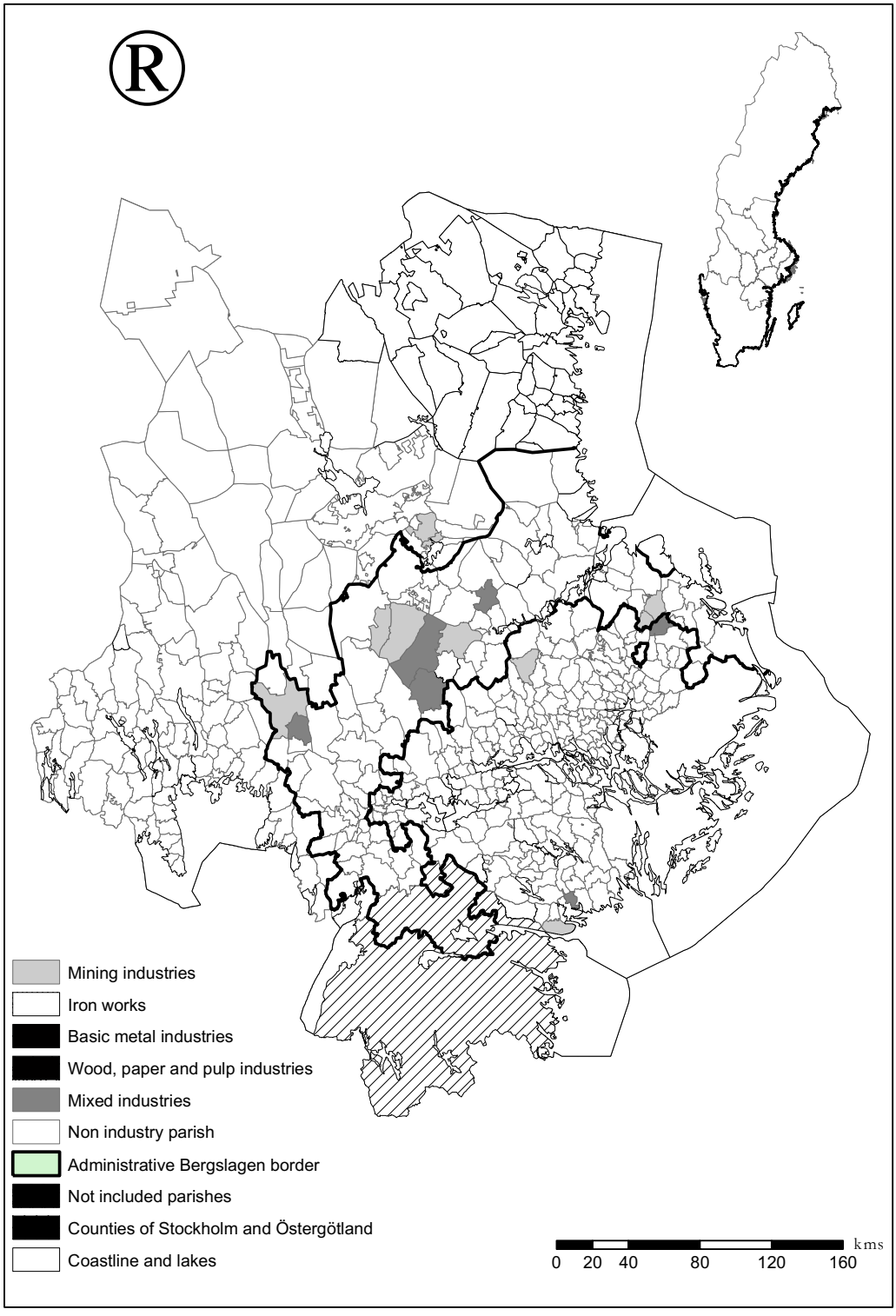


Figure 5: *Manufacturing industry parishes in 1910*

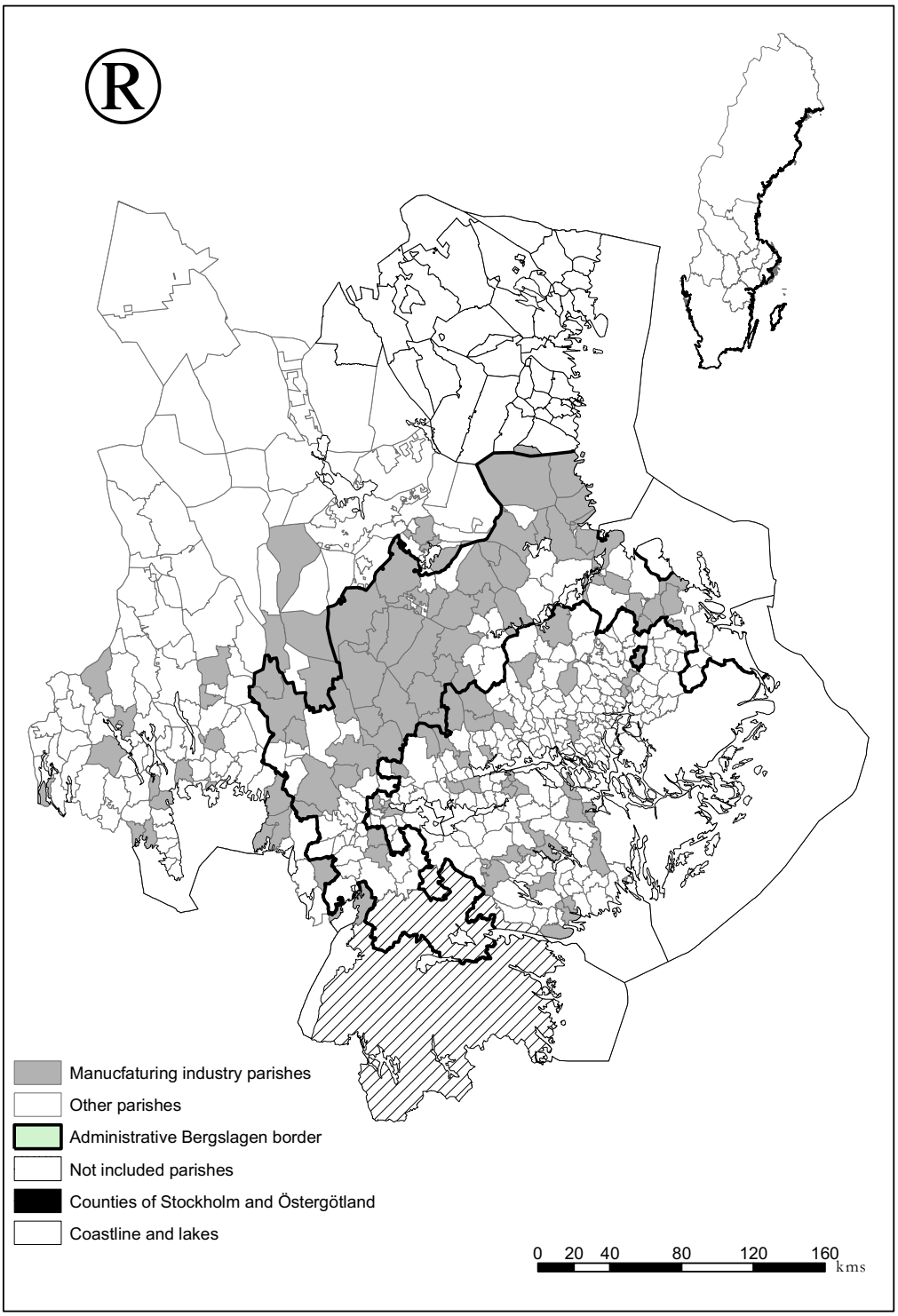
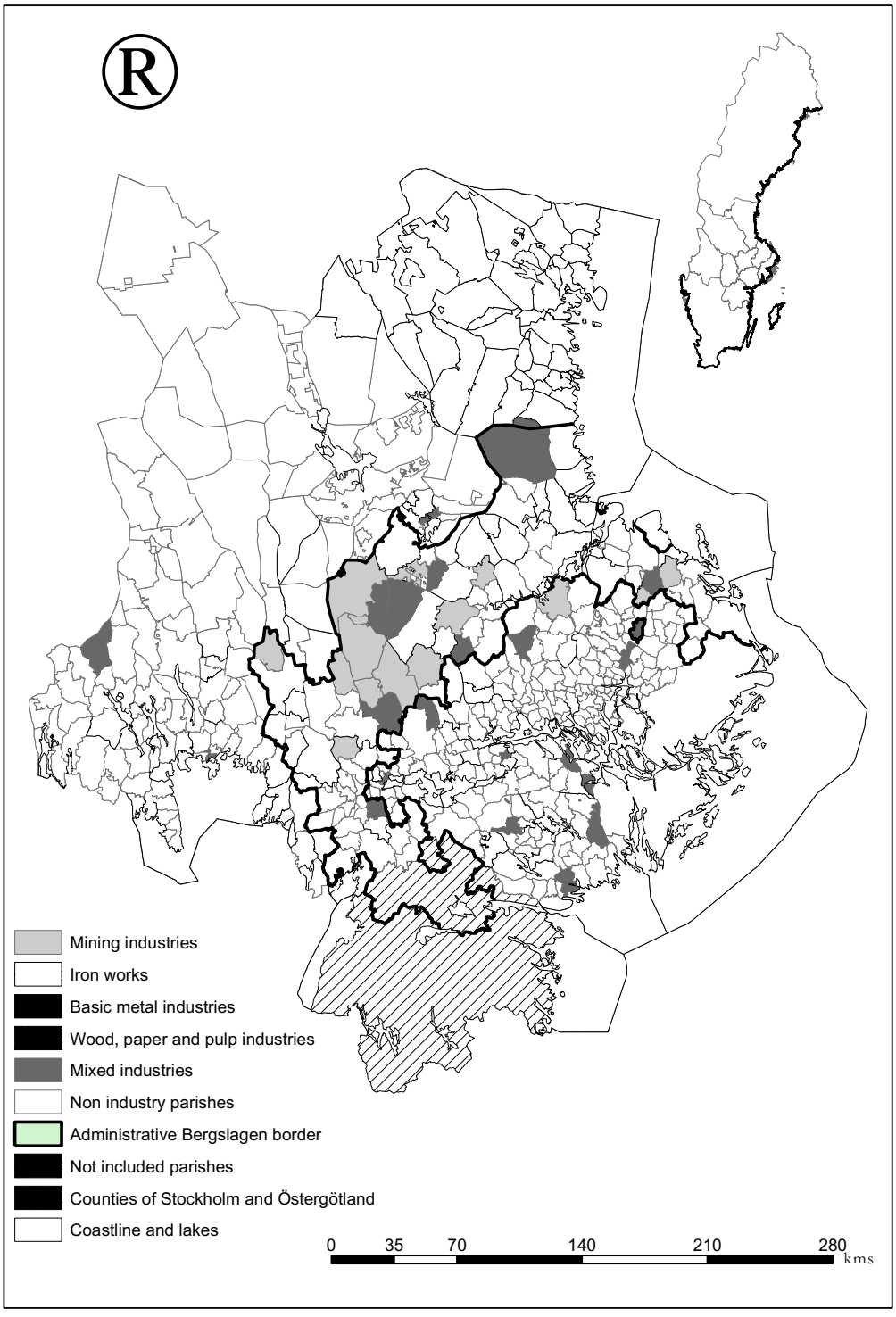


Figure 6: *Employment by industry in parishes in Central Sweden 1910*



Was imperial business hand in glove with imperialists? The relationship between the Ashanti Goldfields Corporation and the British government, 1897-1951

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The issue and the theory

> *"It is perfectly understandable that the colonial government should have been in collusion with capitalists to siphon off surplus from Africa to Europe".*[15]

The Ashanti Goldfields Corporation (AGC), incorporated in London in 1897 to mine gold in Obuasi in present day Ghana would, on the face of it, be a typical example supporting the above comment. Particularly since the diffusion of dependency theory in the 1970s the general belief is that expatriate companies made profits *in collusion* with their home governments. Exponents of this view include Rodney, Amin, and in specific reference to Ghana, Howard.[16] At the heart of dependency theory is a two-agent relationship: the core versus the periphery. The core being an undissected unification of imperial government *and* imperial business. While some instances, most obviously King Leopold's enterprises in Katanga, the capitalist agent was one and the same as the colonial power,[17] this paper examines the particular case of AGC and the British in colonial Ashanti. Dissection of 'the core' in this case study will expose the dynamic relationship between this firm and its home government. On a wider level giving new emphasis to a multi-agent core may lead to a better understanding of the colonialization process and shed light on the usefulness of dependency theory in explaining capitalist behaviour at the level of the firm.

A test

The extensive correspondence between the firm and various government figures – colonial administrators on the spot as well as in London – are an obvious source for examining the relationship between this imperial business and the imperialists.[18] The tone and content of these letters, the issues discussed, the resolutions and disagreements would allow one to paint a picture of the changing relationship.[19] This has been done in my PhD thesis. In addition to qualitative evidence I have found quantitative evidence which complements the written record. This paper is devoted to the quantitative evidence, specifically fiscal evidence. The tax burden faced by the company is a good barometer of the firm's relationship with government for the following reasons. Taxes are usually imposed after consultation and negotiation, the outcome reflects the bargaining power and influence of the parties; arguments for, and opposition to taxes reveal the motivations and priorities of the parties. Fiscal change presents an opportunity for conflict. In a nutshell the fiscal burden reflects the level of cooperation between the agents at the core, and hence can illuminate the perception of a collusive relationship.

In this paper I look at AGC's changing tax burden as measured by direct taxes as a percentage of gross revenue to paint a picture of the relationship between imperial business and imperialists.

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[15] W. Rodney, *How Europe Underdeveloped Africa*, Washington, 1982, p.169.

[16] Ibid.; S. Amin, 'Underdevelopment and Dependence in Black Africa – Their Historical Origins and Contemporary Forms', *Social and Economic Studies* 22, 1, 1973, pp.188-93; R. Howard, *Colonialism and Underdevelopment in Ghana*, London, 1978, pp.19-20.

[17] A. Hochschild, *King Leopold's Ghost: A Story of Greed, Terror, and Heroism in Colonial Africa*, Boston 1999, pp.64-7, 168.

[18] 'Imperialists' are defined here as the body ruling over an empire, and 'imperial business' as capitalists from the ruling nation who seek profit from establishing enterprises within the empire.

[19] GL (Guildhall Library, London) MS14170, AGC Outward Correspondence, vols 1-129.

Primary sources

I have made use of three sources of primary data: the company itself, government, and the mining industry. Notably, I have drawn on hitherto unused archival material at the London Guildhall Library.[20] These include annual reports from 1903-51 (although some years are missing – for the 54-year period under consideration in this paper there is tax data available for 44 years).[21] These good primary sources have allowed fairly extensive quantitative analysis.

The fiscal evidence

The following discussion highlights the direct taxation applicable to AGC in colonial Ashanti between 1897 and 1951. It does not include UK taxes paid by the firm (as these were not peculiar to imperial enterprises), nor does it include Ghana-based indirect taxes such as import duties as these are not isolated in the accounts and are therefore unidentifiable. This means the analysis is certainly an underestimation of the firm's fiscal contributions to the colonial government.

The 1897 mine lease agreement between AGC and the governor of the Gold Coast, Sir William Edward Maxwell, stipulated the payment of royalties at 5 per cent of gross revenue from gold won as well as any other earnings derived from the 100 sq mile concession. The company successfully negotiated a reduction in this royalty for the first five years of operations to assist them in their establishment.[22] Notably the negotiations surrounding the royalty were carried out in London with the Colonial Office, not with the Governor of the colony.[23]

There were no new direct taxes until the collapse of the gold standard. In 1934 a 15 per cent export duty on gold premium income was imposed through an amendment of the Customs Tariff Ordinance.[24] An Income Tax Ordinance was introduced in the Gold Coast in 1943, and in 1947 a Profits Tax, an additional income tax of 5 per cent, was applied exclusively to mining companies.[25] AGC had been exempted from this Profits Tax in 1931 because the 1897 agreement levied a 5 per cent royalty on *gross* revenue, which no other mine company in the colony paid (their royalty being calculated on net profit instead). However this exemption had been withdrawn by 1946, despite the company's protestations.[26] In 1948 a Gold Coast Ordinance created a new Gold Duty and abolished the export tax on the gold premium.[27] AGC's chairman, Major General Sir Edward Louis Spears, complained that the new gold duty, being specifically designed to give relief to low grade mines in the colony, resulted in AGC's high-grade mines subsidizing the rest of the sector.[28] The duty was a variable rate ranging from zero to 2 per cent depending on a mine's ratio of profit to gross revenue.[29] AGC's arguments for relief centred on gold's fixed market price in the face of rising costs, as well as the importance of their product in helping the UK government to purchase much-needed dollars.[30] By 1952 AGC's lobbying seems to have paid off. The colony introduced a Minerals Duty of three per cent of revenues to replace the export and gold duties.[31] This reduced the company's tax burden.

[20] The Guildhall (GL) materials cover the period 1897 to 1968; to date the only published work making use of some of this data, specifically for the years after World War II, is S. E. Stockwell, *The Business of Decolonization : British Business Strategies in the Gold Coast,* New York, 2000.

[21] 1951 is the end point because in that year imperial rule was significantly constrained by the appointment of an African as head of the Gold Coast Government in preparation for decolonization.

[22] GL MS14169 vol.2. p. 97, Royalty Statement.

[23] As part of the negotiations, Lord Duncannon, one of AGC's founding directors, conducted private meetings with Chamberlain, see GL MS14164/1, Minutes AGC Board Meeting, 7 March 1898.

[24] Gold Coast Mines Department (GCMD) Annual Report 1933-4.

[25] AGC Annual Report 1948.

[26] Ibid.

[27] Gold Duty Ordinance 1948 in *Laws of the Gold Coast*, Accra, Government Printer; GCMD Annual Report 1948-9.

[28] AGC Annual Report 1948.

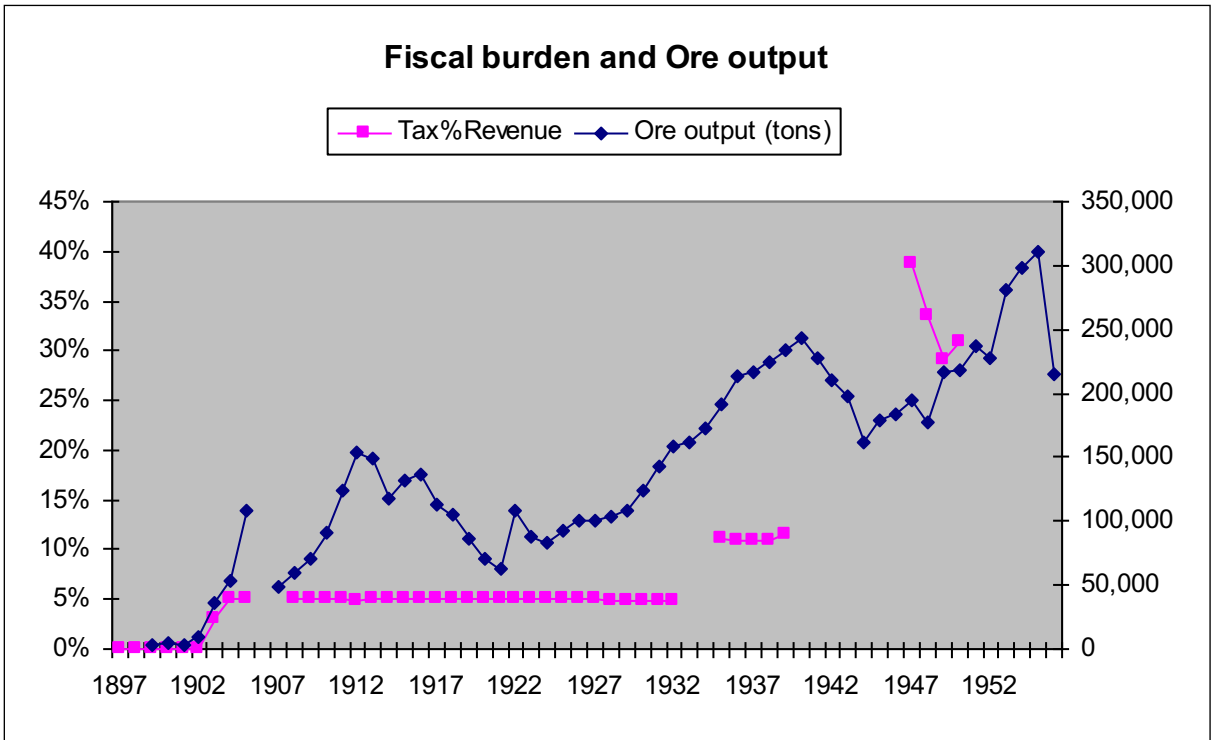
[29] Ibid.

[30] GL MS14170 vol. 90, Spears's article for the *Ashanti Times* regarding over-taxation, attached to letter dd. 16 June 1950 from Secretary to General Manager.

[31] GCMD Annual Report 1952-3.

The chart below shows the percentage of AGC's gross revenue accruing to the state in the form of direct taxes along with changes in ore output for the years available between 1897 and1952.

Graph 1



Analysis

Three phases emerge from the pattern of tax changes:

1. Cooperation 1897-1933
2. Divergence 1934 -1947
3. Accommodation 1948-51

Phase 1, from the company's establishment until 1933, can be described as a period of low taxes which never exceeded the 5 per cent royalty rate, suggestive of a close, cooperative relationship. Phase 2, from 1934 until 1947, saw continual increases in tax peaking at 39 per cent, suggesting a divergence of interests. Phase 3, from 1948 until the beginning of the end of colonial rule, saw reductions in the fiscal burden for the Gold Coast mining sector as a whole, however the tax burden remained above 23 per cent. This reflects some compromise, or accommodation, on both sides.

Various factors account for the changing relationship between the firm and government as proxied by the changing fiscal burden: changes in the home government, external political and economic factors, and political and economic factors internal to the colony.

From the fiscal evidence Phase 1 suggests a cooperative relationship between the imperialists and the company with a shared concern to get the company up and running. It was to AGC's advantage that the firm's creation occurred while a conservative government with an expansionist view of empire was in office.[32] Soon after Britain had subjugated Ashanti in 1896, the Secretary of State for the Colonies, Joseph Chamberlain, ratified AGC's mining concession and granted the firm wide powers in the development of the area.[33] AGC was one of Britain's first commercial stakes in Ashanti territory. The high level of cooperation between the firm and government served the same interests: expansion

[32] T.C. McCaskie, 'The Creation of Ashanti Goldfields Corporation, Ltd., ca. 1890-1910: An episode in the Colonial Impact upon Asante', *Asantesem*, 9, 1978, p.42.

[33] Paragraph 2 of the agreement dated 3 June 1897 allows for the establishment of townships, trading and agricultural production in addition to mining. Records of the Chief Commissioner of Ashanti, Public Records and Archives Dept, Kumasi, ARG 1/5/4/9.

into Ashanti.[34] The company boasted of its part played in "opening up and developing backward and underpopulated countries of the Empire".[35] Dependency theory's allegation of collusion between imperialists and imperial business holds true in the case of AGC and the British government in the firm's early history up until the 1930s.

The fiscal evidence describes a divergent relationship between the imperialists and AGC from 1934-47. Despite Major General Spears's enviable connections in the British parliament and Conservative Party, his tireless efforts to keep colonial administrators on-side and his sophisticated PR campaigns to try to reduce AGC's tax levels,[36] the colonial regime between 1934 and 1947 turned a deaf ear. External factors such as the collapse of the gold standard and the consequent increases in the market price for bullion and the Second World War triggered the introduction of new taxes, for example, the gold premium tax of 1934 and the Gold Coast Income Tax of 1943. During this period too, labour disturbances in the Caribbean forced the imperialists' to reassess their responsibilities towards their colonies.[37] Greater welfare and development contributions were now demanded in addition to economic extraction.[38] These sentiments reached the Gold Coast.

Internal economic and political factors in the Gold Coast following World War II introduced a new force for central government to contend with of greater priority than any individual imperialist business. An array of nationalist, native-led political parties were able to capitalize on the economic difficulties endured during and after the war to crystallize anti-colonial feelings. The rise in nationalist sentiment and the need for visible evidence of development made it impossible for expatriate business to return to the low tax levels of the early colonial period. In Accra and in London, the government's needs and concerns were far broader than, and outweighed any demands made by, AGC.

While the lowest tax burden was enjoyed under a Conservative home government when AGC was incorporated, it is interesting to note that the highest tax burden existed during Clement Attlee's Labour government of 1945-51. The demands of imperialist business were arguably silenced by the government's acceptance of the decline of empire.[39] Major General Spears expressed the hope that a change to a Conservative UK government in 1951 would help the company's African operations and bring a halt to the 'winds of change' that his own political party would soon accept.[40]

Interestingly, the rising tax burden did not affect output growth. Ore production, with the exception of war-related shortfalls, was able to increase year on year. This suggests that the mine was rich enough to absorb higher taxes without detriment to production.

Following a peak in 'state extraction' in 1947 of 39 per cent, the company's individual efforts and coalition lobbying via the Gold Coast Chamber of Mines helped to reduce taxes.[41] From 1951 the government in the colony was headed by Kwame Nkrumah in preparation for decolonization. The Korean War boom and the rise in cocoa prices at the time may have contributed to the absence of change in mining taxation until 1962.

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[34] See D. Kimble, *A Political History of Ghana, 1850-1928*, Oxford, 1963, pp.24, 290-91.

[35] G.W.E. Turner, *A Short History: Ashanti Goldfields Corporation Ltd., 1897-1947*, London, 1947, p.20.

[36] M. Egremont, *Under Two Flags: The Life of Major General Sir Edward Spears,* London, 1997; GL MS14170 vol. 84, Spears writes to the London Advisory Committee of the Gold Coast Chamber of Mines, the Commissioner for Income Tax, the Colonial Secretary and AGC's lawyers regarding taxation – Secretary to General Mine Manager 11 April 1947, see also Secretary to General Mine Manager, 12 May 1947, Secretary to Acting Mine Manager 20 June 1947.

[37] Stockwell, ch.1.

[38] The disturbances led to the creation of the Labour Department in 1938 and the passage of the Colonial Welfare and Development Act 1940.

[39] India gained independence during this administration in 1947; in the same year constitutional developments in Africa were under discussion: PRO, Colonial Office 847/36/1 no. 9, papers prepared by the Agenda Committee on the Conference of African Governors, no. 2, 'Constitutional Development in Africa', May 1947.

[40] GL MS14170 vol. 93, Spears to R.M. Park, 2 October 1951.

[41] GL MS14170 vol. 90, op.cit. ; GL MS14170 vol. 88, on the placement of AGC tax questions to House of Commons, letter not signed but from Spears to B C. Freestone, 4 April 1949, and 12 April 1949 Hansard extracts attached to letter from Secretary to General Manager.

Conclusions

This paper was limited in scope to an analysis of AGC's direct financial payments to the colonial government in an attempt to explore a central tenet of dependency theory: collusion at the core. Notwithstanding the drawbacks of the tax data used, the evidence from this narrow exploration of the changing direct tax burden shows that there was indeed collusion in the early colonial period between the imperialists and AGC's imperial business. The government was particularly accommodating until the 1930s, when it can be said that the government's and AGC's incentives for establishing a British enterprise in Ashanti were aligned. Thereafter a combination of external shocks and internal changes in the colony broke up this close and cooperative relationship.

In this case study the core consisted of the home government, the government in the colony and AGC. While the initial royalty amounts were negotiated with London, the local government later took the initiative in imposing new taxes. Clearly, dependency theory's treatment of the core as one agent is oversimplified. It obscures the priorities of each component of the core and therefore the potential for conflict and divergence. The line between the motivations of private business and the political and economic ones of the metropole and the government on the spot have been blurred in the later colonial period.

Reassessing urban women's work before the Black Death: a case study, 1300-49

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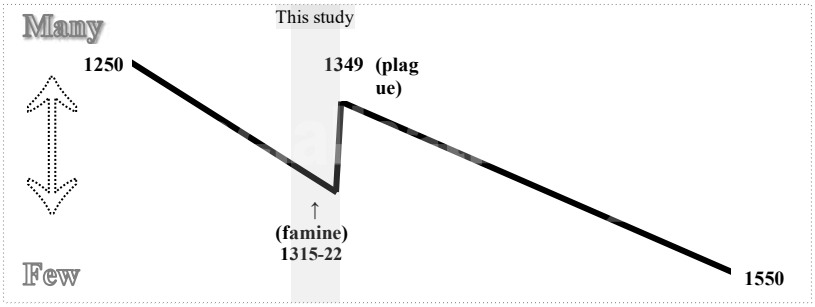
This brief paper seeks to explore the nature of local market awareness and participation by urban dwelling women, during the late pre-plague era. It does so through a case study of the seigniorial borough of Ruthin, in the Welsh Marcher Lordship of Dyffryn Clwyd, across the decades 1300 to 1349, giving special attention to the Great Famine period of 1315-22. Founded on the site of a native Welsh settlement briefly after Edward I's final conquest of North Wales in 1282, and given liberties designed to attract English Settlers, by the early fourteenth-century Ruthin was an ethnically mixed community of around 600 persons.[1] In short, Ruthin had developed into an active market town with a trading economy, similar to both other Welsh boroughs such as Denbigh and Conway, and dozens of small towns across England.

Attempts to understand the role of women in the medieval urban economy, as embodied by towns such as Ruthin, have so far been few, and resulted in radically different theories. Perhaps the two most thorough responses to such enquiries are reflected in the stances of David Herlihy and P.J.P. Goldberg. Herlihy has proposed that female participation in urban economic enterprises declined dramatically across the middle ages, beginning with a period of high visibility in the thirteenth century and eventually bottoming out in the sixteenth.[2] He has argued that this decline took place, starting with a period of rapid urbanization in the late thirteenth-century, because later medieval markets and trade-work across Europe became increasingly specialized. Meanwhile, given the time-consuming domestic obligations of most women, such as child care and food preparation, female labourers were not free to develop these specializations. This combination of circumstances then set in motion a long march toward female exclusion, which was only briefly reversed via the extreme labour shortages caused by the 30-50 per cent mortality resultant of the Black Death, in the mid-fourteenth century.

Herlihy's view of female labour & trade opportunities



Alternately, Goldberg has argued that it was not until the later fourteenth-century that women moved, only temporarily, beyond the most traditional of female tasks such as spinning and laundering. By Goldberg's reasoning, the specific labour crisis occasioned by Black Death created a profound, though not permanent, cultural shift (both economic and social). He argues that in the post-plague environment, as long as labour opportunities presented themselves, women entered available trades and significantly delayed marriage or re-marriage in exchange for income and a higher status within the socioeconomic community.[3] Once this dramatic labour shortage had passed, and its opportunities

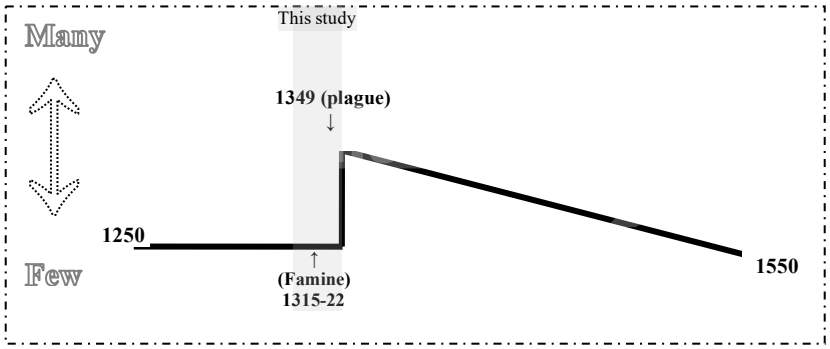
[1] M. Stevens, 'Wealth, Status and "Race" in the Ruthin of Edward II', *Urban History* 32 (2005), p.18.

[2] David Herlihy, *Women, Family, and Society in Medieval Europe: Historical Essays 1978-1991* (Oxford, 1991), pp.91-95.

[3] P.J.P. Goldberg, *Women, Work, and Life Cycle in a Medieval Economy; Women in York and Yorkshire c.1300-1520* (Oxford, 1992), p.7.

had disappeared, he suggests that women again fell prey to early marriage and a lower status within the urban economy.[4]

Goldberg's view of female labour & trade opportunities



What follows is a look at some of the best documented of Ruthin's tradeswomen, the towns female bakers, through an examination of whose experiences we may consider three possibilities:

Firstly, and most broadly, whilst the pattern of opportunistic female market participation outlined by Goldberg may be valid for Ruthin, it should not only be applied to women in the post-plague period. Secondly, the labour 'limitations' women faced were as much a matter of recognition, as of participation. In particular one of our chief sources for tracking female trade-participation, breaches of local regulatory 'assizes' (bi-annual stock-takings of all persons working within a particular trade, resulting in 'amercements', or small fines) are not concrete indicators of labour-input. Thirdly, whilst specific labour shortages may have helped women enter a trade, it was access to, and maintenance of, capital which allowed any particular woman to perpetuate her position and status within the community's socioeconomic hierarchy.

Overview, the Great Famine and baking

Collectively referred to as the 'Great Famine', the period 1315-22, personified by short and wet summers combined with exceptionally cold and protracted winters, harvest failures, and recurrent cattle murrain, resulted in a 'long series of catastrophes' unparalleled in later medieval agriculture.[5] In this environment it is likely that rural 'subsistence' or 'push' factors contributed to substantial urban population growth, of perhaps as much as 33 per cent.[6] In Ruthin, by spring 1318, a heavy toll had been implemented on the removal of foodstuffs from the borough as well as a lordship-wide ban on trading outside Ruthin's marketplace.[7] For the poor or starving, the combination of these two ordinances would have had a magnetic effect, drawing them into the borough for the purchase of food and encouraging them to consume it there.

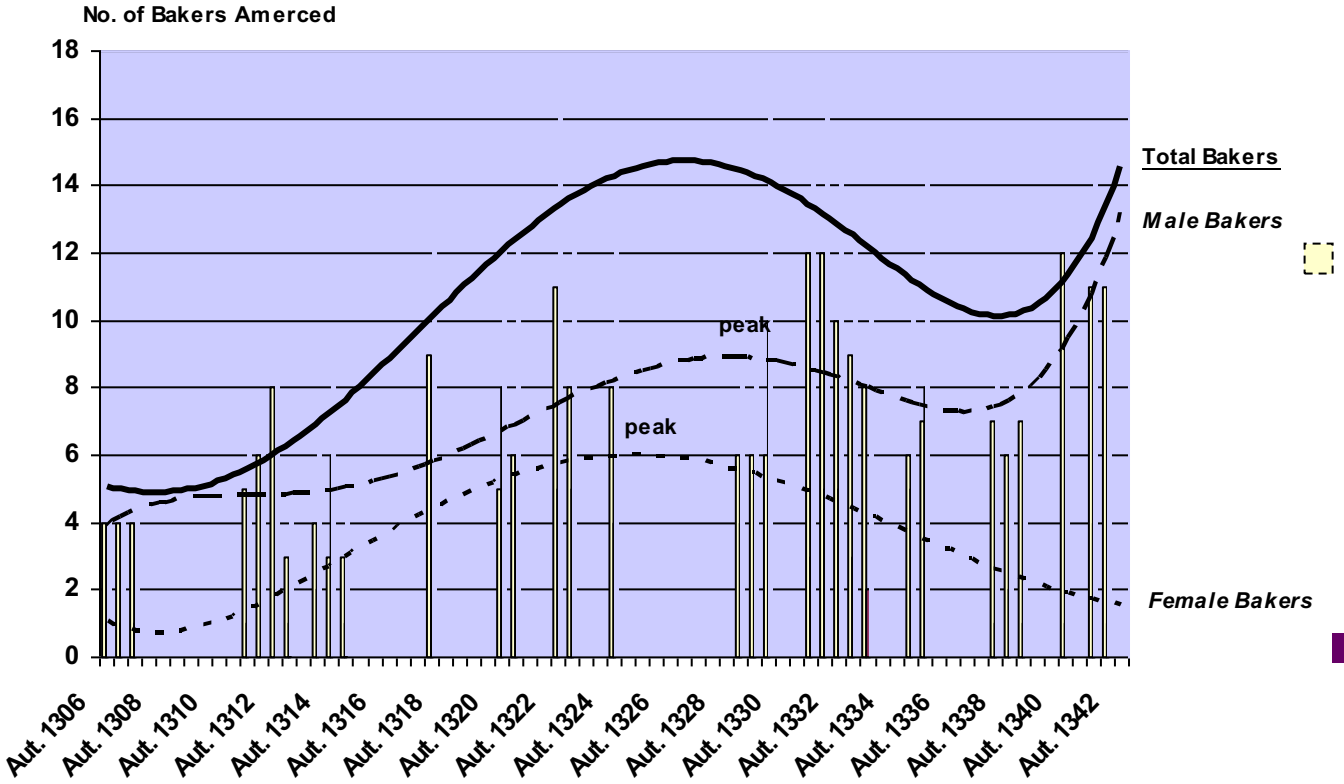
[4] *Ibid.*, p.437.

[5] W. Jordan, *The Great Famine: Northern Europe in Early Fourteenth Century* (Chichester, 1996) pp.16-9; I. Kershaw, 'The Great Famine and agrarian crisis in England 1315-1322' in *Past and Present*, 59 (1973), p.19.

[6] For analysis and comment on famine-induced urban population growth see: R. Smith, 'Demographic Developments' in B. Campbell, ed., *Before the Black Death: Studies in the 'crisis' of the early Fourteenth Century* (Manchester, 1991), p. 75; E. Rutledge, 'Immigration and population growth in early fourteenth-century Norwich: evidence from the tithing roll', *Urban History Yearbook* (1988), p.27.

[7] TNA SC2/216/1 m.20.

Figure 1: *Ruthin's Bakers per Biannual Assize 1306-1342*



Source: TNA SC2/215/69 m.3 - SC2/217/7 m4.

The abrupt need to meet the demand embodied by this influx of consumers in turn created a skilled labour shortage which women were first to fill. Across the years 1315-30 the number of bakers typically amerced per 'assize of bread' doubled, and the female portion of those named rose from 15-20 per cent to around 40 per cent (Figure 1). However, after 1330, whilst the total number of bakers amerced for breach of assize declined slightly, the proportion of bakers which was female plummeted back to pre-1315 levels of only 15-20 per cent. In this way, the circumstances of female bakers followed, in a pre-plague microcosm, the pattern of opportunity presented and withdrawn that Goldberg describes regarding the post-plague period.

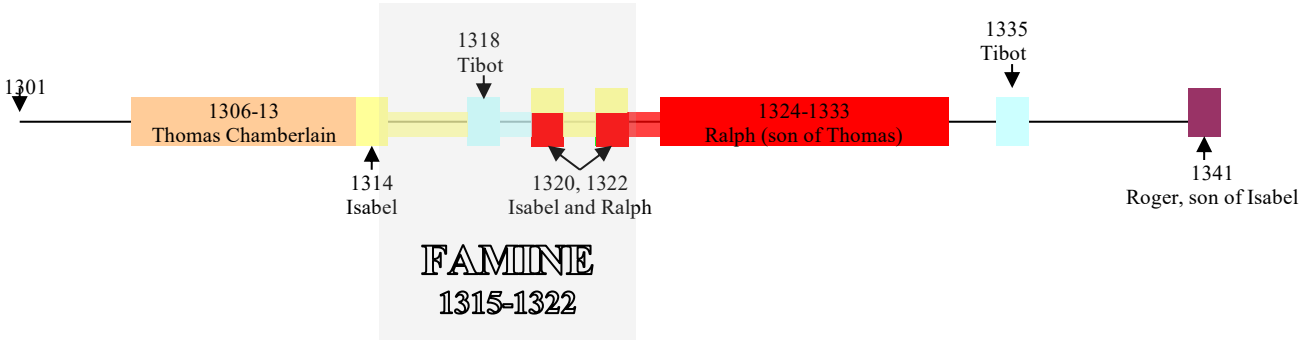
Makeshift vs. recognized, skilled labour input

Ruthin's female bakers, like most other skilled female labourers in the medieval period, were working in a typically male-dominated trade to which they recurrently supplied makeshift or occasional labour. Hence, many of those women who appear to have effected 'market entry' during the famine were not taking up a new trade but enjoying newfound recognition and an intensification of their trade-work. The children of the office holder and baker Thomas Chamberlain and his wife Juliana personify this market participation within the patriarchal sphere. Thomas Chamberlain was among those bakers amerced consecutively in all surviving assize lists from 1306-13, and in each instance he paid the highest level of amercement meted out by Ruthin's courts.[8] Whilst Thomas appeared in the borough court as late as September 1318, he was less active after 1313 and was no longer amerced for breach of assize, quite possibly due to advanced age or infirmity.[9] He was replaced by his daughter Isabel from autumn 1314, daughter Tibot in 1318, daughter Isabel and son Ralph together in 1320 and 1322, and finally Ralph alone from 1324 onwards.

[8]Either 6*d*. or 12*d*., amercements being relative to the quantity of work done. E.g. TNA SC2/216/4 m.30d.

[9] TNA SC2/216/1 (Ruthin Borough Court) session 7; 'Thomas (Chamberlain) *pistor*' appears in the borough's earliest records of 1296 (TNA SC/215/65 m.4) and seems to have died sometime before 1324.

Figure 2: *Timeline of Chamberlain Family Baking Amercements*



Source: as per Figure 1.

Isabel's name did not again appear in connection with the assize of bread until her son Roger 'son of Isabel Chamberlain' was amerced for baking in April 1341.[10] Her sister Tibot was amerced only once more after the famine period, in October 1335, when she was referred to as 'Tibot le Chaumb…' one of several 'common [bakers]' in breach of the assize of bread.[11] No doubt relative to these dates, the final appearance of 'Ralph Chamberlain' (later simply 'Ralph *pistor*') for breaching the assize of bread, after eleven years of consecutive amercements for baking, came in April 1333 only eighteen months prior to Tibot's reappearance.[12] Tibot and Isabel's continued identification by their father's title of 'Chamberlain', respectively twenty-seven and seventeen years after their first appearances in the court rolls (presumably at an age no younger than 12) suggests that these women were still unwed in their thirties.[13] The 1341 record of Isabel's son Roger, identifying him in association with his mother rather than in relation to his father or father's trade, is further suggestive of Isabel having borne an illegitimate child who in turn also entered the family business of baking. Hence, it is highly likely that throughout the decade of the mid-1320s to 1330s both sisters continued to work within the household of their brother Ralph, opting for the economic security of labouring under the umbrella of his trade rather than the uncertain prosperity of marriage. On the one hand, for young single women, earning money in any way that required significant capital outlay was clearly difficult. Therefore, as exemplified by both of Thomas Chamberlain's daughters, few could become bakers, or other skilled workers, in their own right until later in life, if ever.[14] On the other hand, it seems clear that women of such moderate means as Tibot and Isabel Chamberlain were quite continuously involved in the borough's economy, though they only received legal recognition when the crisis circumstances of the Great Famine elevated the social importance of their economic role.

Capital and extended market participation

Table 1 pertains to all women amerced for breaching Ruthin's assize of bread from 1306 to 1342, and conveys the strong impression that two distinct groups of women received legal recognition at about the same time as Isabel and Tibot Chamberlain. The first and largest group (GROUP 1**)** was comprised of the 60 per cent or more of female assize breakers who, like the Chamberlain sisters, seem to have been working within the household of a husband, father, or sibling who also paid for the right to bake commercially during the same period. The second group however (GROUP 2) would appear to be those women who attempted independently to enter the market at or around the point of its expansion in the 1310s-20s, without the benefit of other family members already baking commercially.

[10] TNA SC2/217/6 m1.
[11] TNA SC2/217/1 m.12.
[12] TNA SC2/216/1 m23d.
[13] For age of legal maturity, Z. Razi, *Life, Marriage, and Death in a Medieval Parish* (Cambridge, 1980), pp.3, 50-64.
[14] Leyser, *Medieval Women: A Social History*, p.44.

Table 1**:** *Female Bakers of Ruthin 1306–1342*

				Appear once	Appear 2-5 times	Average months total interval	Appear > 5 times	Average months total interval	
GROUP 1: Related to another baker	↓	19 **(61%)**	→	5 (26%)	12 (64%)	**110**	2 (10%)	147	=100%
GROUP 2: No known relation	↓	12 **(39%)**	→	5 (42%)	5 (42%)	**40**	2 (6%)	159	=100%
		31(100%)	→	10 (32%)	17 (55%)		4 (13%)		=100%

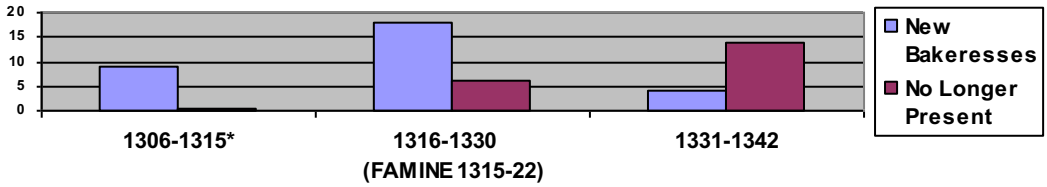
Source: as per Figure 1.

For these two groups the experience of baking for retail consumption must have been markedly different. Whilst the first group of bakeresses could draw upon the capital resources of a household already functioning as a commercial entity, the second group risked irreplaceable reserves of coin, kind, or credit. This difficulty is evidenced by the greatly reduced average interval of 40 months between the first and last breaches of assize by women who were working independently, compared to 110 months by those with discernible relations to other bakers (Table 1).

Nevertheless, in neither group did more than a couple of women become regular fixtures within the baking trade. Moreover, three of the four women known to have breached the assize of bread on more than five occasions in the early fourteenth-century, were unwed.[15] Only one of Ruthin's high-profile bakeresses, Olive the wife of Adam le Glover, seems to have been working within the household of a spouse and also to have been amerced with frequency and consistency. [16]

Whilst in some ways the experience of Olive, who was still baking in the early 1340s, epitomizes a high-point of recognition for the borough's female bakers, her longevity was atypical. For Ruthin's bakeresses the post-famine years of 1330 onwards were, as Goldberg's study of York suggests of the later post-plague period, years during which any such 'halcyon days' for women came to an end.[17] As is evidenced by Figure 1 (above) and Figure 3 (below), the broadened market access enjoyed by Ruthin's bakeresses from 1315-1320s had all but ended by the 1330s. Consequently, we might surmise that the exchange of female for male labourers, so fundamental to Goldberg's paradigm of opportunities gained and lost as the community's male labour pool readjusted in response to market forces, is not explicable as a solely post-plague phenomenon.

Figure 3**:** *New and Departing Female Bakers*



Source: as per Figure 1.

* The number of 'New Bakeresses' in this period is misleadingly high, as no previous records survive. Therefore all female bakers amerced in these years have been counted, though some are likely to have been previously active.

Herlihy's long view of women's work in the towns of Medieval Europe has identified four elements which determined the fortunes of urban women on the continent, and which apply equally to Ruthin's

[15] Amy de Checkelegh, Alice le Brounne, and Hauysia le Rede, unusually, none of whom were ever referred to as 'wife' or 'widow'.

[16] Typically amerced 3*d.* each 1333-41; TNA SC2/216/14 m.22, SC/217/1 m.12, SC2/217/6 m.2, SC2/217/7 m.3.

[17] Leyser, *Medieval Women,* p.160.

female bakers: urbanization, capitalization, market saturation, and monopolization.[18] Herlihy has observed that urbanization brought with it the professionalization and specialization of productive activities as markets became more competitive. However, given domestic obligations (for example, childcare etc.), women were never totally free to develop these specializations. The reality of this is reflected in the fact that, as noted above, three of the borough's four most active bakeresses were unwed. The importance of capital infusion is demonstrated by the reduced period of participation enjoyed by Ruthin's independent bakeresses, as opposed to those backed by a larger household enterprise (Table 1). And, even for those who overcame the obstacles of urban specialization and capitalization, the long term consequence of restricted rivalry was a spirit of monopoly which excluded women in a saturated market.

For related bakeresses this 'exclusion' was probably more symbolic than reflective, as they are likely to have continued working as members of commercially productive households. However, the disappearance of independent female bakers in the 1330s evidences a very real, lost trade opportunity. Together, this real and curial diminution struck a blow at the status of female bakers, relegating them from the prestige of skilled tradeswomen back to the obscurity of makeshift labourer from which they had come.

Conclusion

In conclusion, Herlihy's opinions as to the nature of the progressive exclusion of women from the urban workplace across the whole of the later middle ages are largely reconcilable with Goldberg's notion of the manner in which post-plague labour opportunities were gained and lost. Where they are not of an accord is as to when this status decline began and from what starting point. However, perhaps these need not be seen as mutually exclusive patterns of development if female market access is viewed as cyclical and circumstantially based, rather than finite and chronologically bounded.

This present paper only encompasses the actions of women following one trade, in one location, at one point in time. Nevertheless by meeting the criteria of Goldberg's suggested paradigm, in a different timeframe, it illustrates the willingness of medieval townswomen to enter skilled trade-work within a market at any point when labour shortages coincided with access to sufficient capital. When these criteria were met, the cycle of inclusion, decline, and exclusion, as laid out by Goldberg, was initiated. Its duration and extent were then regulated by the size and duration of the initial labour shortage, and the period of time the community required to re-adjust. This cycle could be set in motion by a small and specific labour shortage for which the community's altered conditions lasted only a generation, as was the case with Ruthin's famine-induced need for greater food production. Or, this cycle could be induced by a catastrophic and broad-ranging labour shortage such as that caused by the Black Death.

[18] David Herlihy, *Women, Family, and Society,* pp.91-95.

The work of Spanish older men: a quantitative analysis based on census data: 1900-70

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I. Introduction

The management of the last years in people's lives is a delicate issue involving economic, social and psychological factors. Historically, this phase was spent within the shelter of inter-generational solidarity, that is far from the harshness of public relief schemes.

The extreme character of this last option points actually at the most common way old age was faced, particularly before legal retirement existed. This was to remain in the labour force, often at any price and accepting unpleasant changes. Therefore, we understand that the study of the economics of old age needs to be founded on labour markets. This line of research has already been addressed in a number of works which linked a historical approach with current concern on ageing. More specifically, our paper intends to exploit the quantitative perspective allowed by national population census and, particularly, their age-profession tables.[19] Our purpose will be to test for the existence of a specific problem in the market for older workers, basically consisting of the narrowing of available jobs as a result of a *life-cycle deskilling* process, according to which old workers are pushed towards low-paid and low-skilled jobs.

This paper is structured in two sections. First, the quantitative importance of work at old age will be addressed in aggregate and comparative terms. Then, we will want to know whether those participation rates were characterized by the life-cycle deskilling factor. After the examination of alternative explanations, the logic of the pattern will be discussed and some conclusions will be given.

II. Aggregate reconstruction of work at old age through the census

Decennial population census since 1900 are adequate sources for analyzing the age structure of professional classifications in the long term. Despite prevention against their accuracy must be preserved,[20] the main trouble with Spanish census is an annoying heterogeneity with professional definitions and age intervals. With respect to the latter, two major distortions are to blame. The first one has to do with the impossibility of exploiting the 1950 census, as age groups appear on a decennial basis starting from 25 years of age. Thus, it is not feasible to unify the 1950 data with that of the remaining census, which all show ten-year-wide age brackets starting at the beginning of the decade. Secondly, no age-profession table exists for the 1960 census record. Lastly, we also faced the poor definition of age brackets in 1920 (21-60, +60) and heterogeneity arising from the 1900 and 1910 census, with 20-year-wide age intervals. To avoid an extreme simplification of the table in favour of homogeneity, we note the cases when actual age groups do not exactly match those in the matrix.

[19] Ransom, Sutch (1986, 1988); Johnson (1994). Also Lee (2002).
[20] We restricted to male employment to avoid some of those inaccuracies.

Figure 1 *Male participation matrix for age groups and cohorts, 1900-1970*

cohorts		age groups 20-29	30-39	40-49	50-59	60+
-1840						84,27
1841-1850					97,24[b]	88,10
1851-1860				97,24[b]	98,46[b]	84,08
1861-1870			95,46[a]	98,46[b]	92,80[c]	83,27
1871-1880	1900	95,46[a]	97,00[a]	92,80[c]	92,80	85,76
1881-1890	1910	97,00[a]	92,80[c]	95,56	94,19	
1891-1900	1920	92,80[c]	96,97	95,21		
1901-1910	1930	95,79	94,94			39,02
1911-1920	1940	93,09			98,73	
1921-1930				96,00		
1931-1940			96,99			
1941-1950	1970	87,63				
1951-						

Source: own elaboration from Census.
[a]: 20-39; [b]: 40-59, [c]: 20-59
Age groups, as strictly defined at the census:
1900, 1910: 20-39, 40-59, ≥60.
1920: 21-60 (1899-1840), >60.
1930: 21-30 (1900-1909), 31-40 (1899-1890), 41-50 (1889-1880), 51-60 (1879-1870), >60 (1869-).
1940, 1970: 20-29, 30-39, 40-49, 50-59, ≥60.

As seen in Figure 1, participation rates among older males were quite high during the period. We can only appreciate a slight decline in 1920 with respect to earlier cuts. Participation rises again for 1930, but not at 50-59. As expected, we see a fall in the 20-29 group in 1970. This behaviour very likely responds to more general access to higher education. Concentrating on the participation of workers aged 60 and over, the table shows both high and stable participation until a strong decline is perceived for 1970. Indeed, the 1940-70 gap is wide enough so as to make it a really steep fall. Indicatively, older workers' participation in 1950 was 66.06 per cent, although it refers to men ≥65.

However, the decreasing trend on the matrix hides some important changes occurring through such a wide time-span. For instance, we should have accounted for the changing demography of males aged 60 and more to correct for the upward bias in the first censuses, given the declining propensity to work with age. Unfortunately, this is not feasible with our data.

On the other hand, we enjoy more possibilities if we want to control for changes in the production structure of the Spanish economy. Such an exercise should capture the different patterns of retirement among different professional sectors. In this sense, there is evidence on lower retirement rates in agriculture, so structural change should be a powerful factor in the fall of participation among the oldest workers.[21] In order to establish such a comparison, we proceeded as follows. First, we applied the rates of agricultural and non-agricultural labour for 1970 (26.53 per cent; 73.47 per cent) to the sum of working population registered in each previous census. Second, these virtual figures of agricultural and non-agricultural workers were applied to the actual rates of male population below and above 60 occupied in each of the two sectors. As a result, we obtain participation rates of older men for each census according to the bivariant sectoral distribution of 1970.

The natural extension to this exercise is to control for all sectoral changes produced in the economy. So, we have applied participations for each one of the 1970 sectors to each of the earlier census. This imputation has been made according to the 29 professional groups through which census classifications were formed and presented in Figure 4.[22] With such adjustments, we will want to capture changing attitudes towards retirement across sectors.

[21] LEE (2002). The exercise becomes especially relevant for the traditional Spanish economy, where agriculture – farming included – employed in 1900 63.29 per cent of male workers. In 1910, 59.79 per cent; 62.07 per cent (1920); 49.9 per cent (1930); 54.2 per cent (1940); 51.95 per cent (1950); 26.53 per cent (1970).

[22] For 1970 we are missing some previously recorded classifications, so we had to aggregate as follows: alcohol, wine and tobacco were added to food industries; fur, and dress and shoe industries to textiles; storage to transport; professionals, clergy, army and labourers to others.

Figure 2 ***Participation rates of men ≥60, 1900-1970***

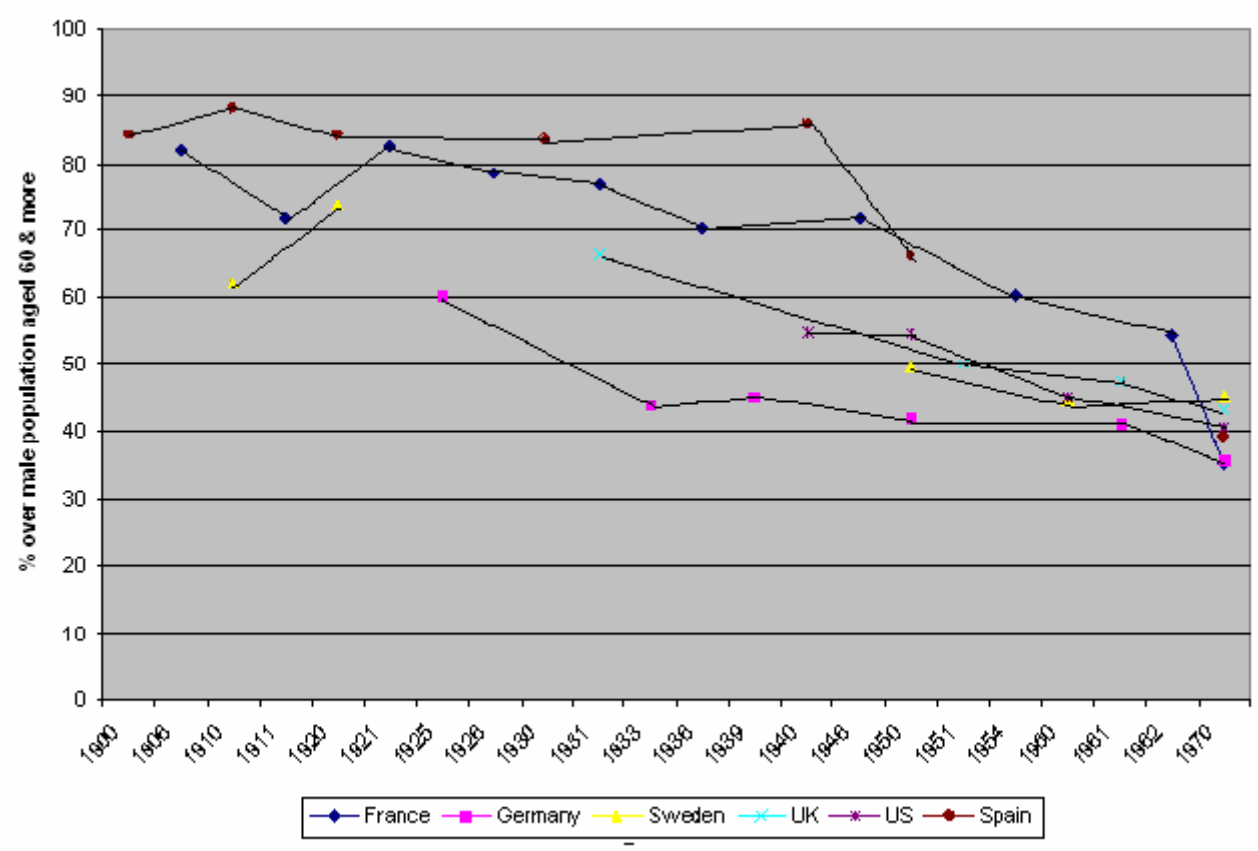
	1900	1910	1920	1930	1940	1950*	1970
Rough	84,27%	88,10%	84,08%	83,27%	85,77%	66,06%	39,27%
Agriculture-adjusted	70,46%	75,16%	72,30%	71,57%	70,69%	52,42%	39,27%
All-sector adjusted	70,24%	73,23%	80,15%	71,28%	73,08%	51,42%	39,27%

Source: own elaboration
*≥65

According to the numbers in Figure 2, sectoral shift in the Spanish economy was a remarkable force behind the decline in participation of older men. Yet, this impulse mainly corresponds to agriculture decline, given the very similar rates for agriculture-adjusted and all-sector-adjusted. However, discrepancies between these two magnitudes in 1940 and, above all, 1920 suggest that the service sector offered the better occupational opportunities for older workers.

In general, Spanish figures regarding participation rates of older men are quite high, particularly with respect to other national cases (Figure 3).

Figure 3 ***Compared participation rates of men ≥60, 1900-1970***



Source: figure 2 and JACOBS et al. (1991), pp. 38-41. Participation rates weighted with MITCHELL (2003a, 2003b).

III. The work of older males from a sectorial perspective

So far, the work of older men has been addressed on an aggregate basis. However, we need to descend to a more specific level to detect problems operating in this segment of the market. As announced, we will test whether the life-cycle deskilling hypothesis also applies for the Spanish case.

For that, we need a measure of sectorial overrepresentation of older workers. We proceeded as follows. First, a sectorial grouping of all professional categories on the census has been made controlling for an accurate uniform change of definitions throughout the census. Then, a ratio of occupational concentration was calculated to detect sectors in which older workers were over or underrrepresented. On the numerator, we placed the percentage of the workforce aged 60 and more employed in a given sector. On the denominator, we put the percentage of the total workforce, irrespective of ages, employed in that same sector. So, a ratio equal to one would point at a full correspondence between the percentage of older men employed in a sector and the percentage of the total workforce employed in the same occupation. So, indexes above unity will screen overrepresentation cases focusing our interest.

Figure 4 *Sectorial representativeness of male workers aged ≥60*

		1900	1910	1920	1930	1940	1950*	1970
1	Agriculture and farming	1,168	1,187	1,149	1,299	1,281	1,390	1,805
2	Fishing	0,887	0,888	0,624	0,942	0,817	0,581	0,742
3	Mining	0,396	0,434	0,463	0,511	0,561	0,285	0,355
4	Food industries	0,690	0,699	0,513	0,606	0,672	0,598	0,758
5	Alcohol and wine	-	-	-	0,770	0,756	0,532	-
6	Tobacco	-	-	-	1,074	0,846	0,587	-
7	Textile	0,934	0,792	0,851	0,755	0,716	0,481	0,709
8	Leather	0,590	0,636	0,690	0,679	0,722	0,712	-
9	Dressing and shoe	0,616	0,668	0,659	0,824	0,865	0,548	-
10	Paper and printing	0,358	0,380	0,724	0,446	0,484	0,502	0,622
11	Wood and furniture	0,642	0,688	0,613	0,707	0,710	0,587	0,628
12	Chemicals	0,606	0,598	0,731	0,677	0,605	0,399	0,497
13	Building	0,752	0,756	0,674	0,644	0,640	0,476	0,560
14	Metals	0,428	0,477	0,522	0,406	0,443	0,482	0,378
15	Machinery and tools	0,822	0,735	0,523	0,692	0,558	0,319	0,366
16	Transport	0,710	0,702	0,771	0,475	0,514	0,340	0,579
17	Electricity, gas and water	0,234	0,232	0,679	0,342	0,432	0,470	0,846
18	Trade and retail	0,605	0,536	0,938	0,618	0,750	0,767	1,080
19	Storage	0,476	0,516	-	-	-	0,561	-
20	Communicacions	0,789	0,692	0,710	0,668	0,732	0,472	0,506
21	Professionals	0,984	1,070	1,202	0,845	0,759	0,894	-
22	Clergy	1,344	1,438	1,199	1,708	1,991	2,374	-
23	Food services	0,849	0,873	-	0,661	0,600	0,549	0,675
24	Services	0,784	0,719	-	0,615	0,674	0,482	1,120
25	Army	0,092	0,076	0,110	0,112	0,098	-	-
26	Administration	0,988	1,131	1,173	1,348	1,119	0,567	1,046
27	Domestic service	0,700	0,673	1,079	1,070	1,255	1,245	0,797
28	Labourers	0,869	0,878	-	-	-	-	-
29	Others	0,726	0,807	1,194	0,848	0,866	1,070	0,597

Source: Own elaboration.
*≥65.

As we see in Figure 4, overrepresentation of older workers takes place more prominently in agriculture. The result is consistent with the assumed sector's higher probability of retaining workers in the labour force, assuming the sector's flexibility to adapt to the need for shorter, less intense and, in general, more flexible work days desired at old age. Other sectors where over concentration takes place are domestic service (27), or food services (23), both fitting the life-cycle deskilling pattern sketched in our hypothesis: low wages, minimal qualification requirements, etc. Inversely, under representation is stronger in leading, technology-driven sectors.

So far, our results are consistent with those of previous works. However, our numbers differ in the sense that they also support the inverse pattern of concentration on some 'better' sectors such as professionals (21; 1910, 1920) or administration. For these other cases, we should infer the retaining of experience-related abilities and skills. Such a two-sided pattern actually accentuates when the heavy weight of agriculture is ruled out from our calculations. As a result, older workers persist in some of the more attractive, better-paid sectors but over concentration now also appears in textiles (7), tobacco (6), alcohol and wine (5) or even fishing (2).

In conclusion, the *life-cycle deskilling* theory applies fairly well for Spain, despite overrepresentation in some high sectors.

IV. Alternative hypothesis

Results discussed so far may not only respond to the working of the 'life-cycle deskilling' process, as some other factors must be discarded before accepting our hypothesis.

First, the ageing of an industry might result from changes in the size of sectors. This means that ageing in one sector would account for its contraction. The way to evaluate the incidence of this is the calculation of Spearman's rank-order correlation between the percentage growth of occupied workers in each sector between census and the concentration index of eldest workers. If a sufficiently negative correlation between both magnitudes is confirmed, we will reject the null hypothesis of no correlation and so accept the influence of sectorial decline on age structures.

Our contrasts do not support the alternative hypothesis for most periods for which the exercise was made, that is 1900-70 and also each of the inter-censal years. Exceptions are 1930-40 and 1940-50. In the first of these cases, the statistic -0.50 makes us accept the alternative hypothesis (Spearman's rho is -0.392, n=26, five per cent significance).[23] For 1940-50, the statistic -0.5733 yields the same result (n=26). Both cases actually correspond to periods affected by serious contamination. On one hand, the sole testing of the 1940-50 period is arguable, as it mixes figures corresponding to workers aged ≥60 with those in the 1950 census, that is ≥65. On the other hand, the 1930-40 result is affected by the shock and consequences of the Civil War. So, we can safely state that changes in size are not a plausible explanation for our indexes.

A second alternative reason deals with possible differential mortality rates among sectors. According to this, lower mortality in some sectors causes excess concentration of older workers. This hypothesis is not easy to test, as we miss records of professional mortality for Spain. A traditionally applied proxy has been differential mortality between town and country. In this case, results supported the existence of a clear differential in favour of rural contexts for Great Britain, France or the US during the second half of the nineteenth century. However, it was also suggested that the urban penalty disappeared, if not reversed, during the first decades of the twentieth century.[24] Spanish data would support this argument. Thus, from an unfavourable position in town during the nineteenth century, a progressive smoothing of mortality differentials took place until, after the Civil War, the trend reversed.[25] But even before, for 1900-30, REHER identified how *'the fall in mortality in the countryside was always higher than in the city, except for an age group (60-69)'*.[26] Therefore, it appears that old-age concentration in the agricultural sector seems to be related to more than mortality

[23] Observations in this pair are actually 27. As there is no critical value tabulated for this n, n=26 was taken. In all cases, one-tailed tests.

[24] Haines (1991), p.181; Wrigley et al. (1997), pp.201-206.

[25] Reher (1998), pp.66-67.

[26] Ibidem, p.80.

differentials. In fact, we believe that the eventual analysis of occupational mortality figures could both support significant mortality differentials, but also the existence of a life-cycle deskilling dynamic. In this sense, it seems reasonable that more severe physical strain in some occupations, if manifested gradually, drove to less physically-demanding jobs within one sector and to other sectors as well.[27] Actually, the push factor in this case would be morbidity or loss of abilities announcing an earlier death.

V. Conclusions

As we saw, some elements advise caution in relating our occupational concentration indexes to the *life-cycle deskilling* phenomenon. Yet, our results provide some robust evidence on the gradual expulsion of Spanish workers towards less attractive sectors as they get old. Reasons behind such horizontal segmentation are several. From the demand side, it is quite certain that employers performed an effective discrimination against older workers. The perception of a decline in abilities made older employees more eligible for jobs with lower ability needs, lower training requirements or less responsibility. There are two fundamental causes for this discrimination. First, educational progress among cohorts and, second, technological change, which *per se* complicates the adaptation of any worker. In fact, even if technological change led to the requalification of a worker, the costs of this process applied to older workers do not usually compensate the present value of associated benefits.[28]

From the supply side, workers' preferences may also act in the deskilling process. With respect to this, inflexibility associated with team work or the submission to mechanization proceedings associated to high productivity may provoke an exit to more adaptable sectors. At the same time, the specificity of lifetime human capital acquired in a single job forces work continuation in a different sector.[29] Thus, a greater demand of low-skilled labour or the rise in service activities – as assumed to be more flexible – would in theory favour the work prospects of older workers.[30] The observed increase of self-occupation at older ages actually fits this pattern.[31] Lastly, the overcoming of the gain peak around 40-50 years would also incentivize the withdrawal from more profitable, but also more demanding jobs as a way to increase leisure once the fall in pay starts.[32]

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[27] Haines (1991), p. 179, Ransom, Sutch (1986), p.26.
[28] Costa (1998), p.24 on education; Jacobs et al. (1991b), p.68 on technology.
[29] Hurd (1996), p.13.
[30] Ransom, Sutch (1986), p.19.
[31] Johnson, Zimmerman (1993), p.56.
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Gender, wealth and margins of empire: wealth and will making of urban women in New Zealand, c.1890-1950

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The very richest and very poorest of communities are those most likely to have been studied in any great depth, and in the case of British colonies generally only the former have been studied, despite the fact that they comprised only a small proportion of the wealth holding population, perhaps 5 per cent at most.[33] The middle wealth holders are those most often overlooked, and yet they are important, for example New Zealand middle wealth holders, who died with greater wealth than the minimum exemption level for duties, but less than the £10,000 figure favoured as the minimum for being "very rich".[34] Such persons comprised at least half of all adults who left wealth at death in the late nineteenth century, and two-thirds by the mid-twentieth century, and their share of all probated wealth left increased from 35 per cent to 54 per cent in the same time period.[35]

In the context of studying this middle group of wealth holders, this paper's specific interest is in the different ways in which women accumulated, managed and disposed of their wealth within the context of the New Zealand cities Wellington and Dunedin in the period 1890 to 1950.

Gender, wealth and imperial urban settings

Historically, women have been rendered invisible in the processes of production in favour of highlighting their contribution to reproduction, a position particularly favoured by 'separate spheres' and 'domestic womanhood'.[36] These divisions of labour highlighted the social expectations of marriage, limited opportunities for women to work in the paid sector, and marginalized women's economic opportunities in general. The assumption of women's economic dependence pervading accounts of family wealth strategies parallels the assumption that middle-class women were also socially dependent on men and nucleated family.

Urban working-class women have been shown to work in small businesses, for example, as shopkeepers and petty traders, especially in retail, food and accommodation.[37] Urban middle-class women have not been similarly documented, although some studies acknowledge the financial and managerial skills required for the economic management of the home.[38] Middle-class women who became wealthy (such as widows and daughters of industrialists) were generally considered to be passive rather than active in wealth generation.[39]

The social structure and opportunities women experienced in urban settings on the margins of empire, especially New Zealand as the farthest British colony, were arguably more flexible than in the metropolis; "places which are saturated with possibilities for the destabilization of imperial arrangements".[40] Feminist and urban historians have tended to focus on the constraints faced by

[33] For example: Rubinstein, W.D. (1979) *The Distribution of Personal Wealth in Victoria, 1860-1974*. 'Australian Economic Review, 19(1); Shanahan, M. (2001) Personal Wealth in South Australia'. *Journal of Interdisciplinary History.* XXXII:1, pp.55-80; McAloon, J. (2002) *No Idle Rich: The wealthy in Canterbury and Otago, 1840 – 1914*. University of Otago Press, Dunedin.

[34] McAloon (2002) p.15. McAloon suggests a minimum of £10,000 for the period up to 1918, £15,000 for 1918 to 1925, and £20,000 from 1925, to take into account inflation.

[35] Private wealth by wealth grouping, *New Zealand Official Yearbook, 1893-1947*.

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[40] Jacobs, Jane M. (1996) *Edge of Empire: Postcolonialism and the City*. New York: Routledge, p.4.

women in cities rather than the opportunities,[41] but greater focus on the latter may reveal women's economic contribution was made more accessible by the nature of the urban setting.

If we take the view that the city offers women greater economic opportunity, then urban women should also have a greater opportunity to accumulate wealth. Since this cannot be tested during the lives of historical urban women, it is expected that urban women left more wealth at death than rural women, and that certain groups of urban women experienced greater opportunities for wealth accumulation than others, depending on factors such as age, marital status and location.

Sources

It is a consequence of using probate records that the women of this study are for the most part distinguished as middle-class and elderly, but they remain the most trustworthy and internationally comparable source of information about wealth. Estate values and other details were collected from all available women's probate records (including wills) and Letters of Administration for 1891, 1921 and 1951 in Wellington and Dunedin. The small population of New Zealand cities enabled the full collection of data with no sampling and resulted in a database comprising 1,036 women. A second set of data kindly lent by Margaret Galt comprises 7,772 records probated women from all New Zealand locations[42] for various years between 1888 and 1939.[43]

This data was compared to a backdrop of probated wealth holding for all of New Zealand recorded in the *New Zealand Official Year Book*. Understanding the specific processes of wealth accumulation and distribution will draw more deeply on the content of women's wills and estate inventories, while their participation in the economic life of the city will use future analysis of local street directories detailing heads of households and occupations.

New Zealand estates were granted probate if they had a valid will and were valued higher than the exemption level for death duties, which was set at £500 until 1924, then £1000 until 1952. The final estate value was declared by executors to the Stamp Office, occasionally accompanied by inventories or accounts. For people who died intestate, their estates were granted Letters of Administration for the next of kin or the government agency The Public Trust to administer, who dealt with all estates where a next of kin could not be identified, or where requested by family. Intestate estates under the exemption for death duties do not often appear in public records, except where they were administered by the Public Trust (which was surprisingly common).

Probated estates as a proportion of male and female adult deaths in New Zealand increased steadily from approximately 18 per cent to 50 per cent during the period 1891 to 1920, then settled at between 50 per cent and 60 per cent between 1920 and 1950.[44] The rapid increase in the early part of the study period may indicate either an increase in the rate of testacy, and/or an increase in the number of estates qualifying for probate on the basis of estate value. Estimates from the United Kingdom show a much more conservative figure of less than one-third of estates having wills, and females were in the minority.[45]

The study period also saw a dramatic increase in the number of estates filed for probate (testate) or Letters of Administration (intestate) as a proportion of estimated adult female deaths in Wellington and Dunedin, from about 12 per cent in the two cities in 1891 to over 60 per cent in 1951. Discounting intestate estates, this approximates to over half of all adult females passing away leaving a testate estate granted probate, a very high figure.

Estates of women in urban and rural locations

Average wealth for females increases steadily throughout the period 1890-1950, with Wellington and Dunedin showing a much higher average than all New Zealand locations (see Figure 1). Median

[41] Wilson, Elizabeth (1990) *The Sphinx in the City*. London: Virago.

[42] Galt, M. (1985) *Wealth and Income in New Zealand c.1870-1939*. PhD Thesis, Victoria University of Wellington.

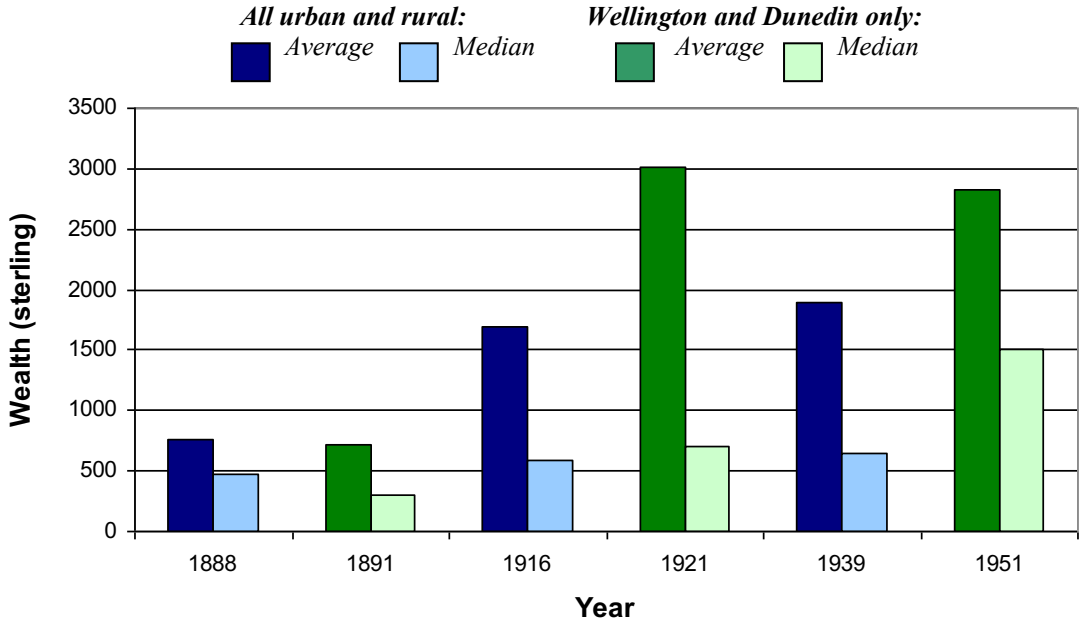
[43] A UK study used a sample of 800 wills, which is a smaller percentage of all wealth holders, given the larger population in the UK. See: J. Finch et al, (1996) *Wills, Inheritance and families*, Oxford: Clarendon Press.

[44] New Zealand Official Yearbook, for the years 1893 - 1947, *Proportion of deceased estates admitted to probate*.

[45] Finch et al (1996).

wealth remains approximately the same for all settings, until 1951 when there is a large increase in Wellington and Dunedin. Given New Zealand's increasing urbanism from 1910, and the severe economic decline in the late 1920s and early 1930s, a slow but steady increase in the pattern of median probated wealth between 1931 and 1951 for large cities such as Wellington and Dunedin could be expected, while average wealth would decrease due to the reduction in very large estates.

Figure 1: *Average and median wealth of female estates, Wellington and Dunedin, compared to all of New Zealand female estates*



Source: Wyse probate data (1891, 1921, 1951), Galt probate data (1888, 1916, 1939)

Major urban areas often had the greatest share of female probated wealth (as shown in Figure 2)[46] but the rural setting cannot be written off as insignificant. It was not until the 1920s that minor urban areas became more significant than rural areas in terms of wealth holding, which agrees with McAloon's suggestion that New Zealand's very richest (including women) from this period were predominantly found in farming, with significant property and investment in urban areas.[47] It is also highly likely that females who made their wealth in rural enterprises may have lived in provincial towns and cities until death.

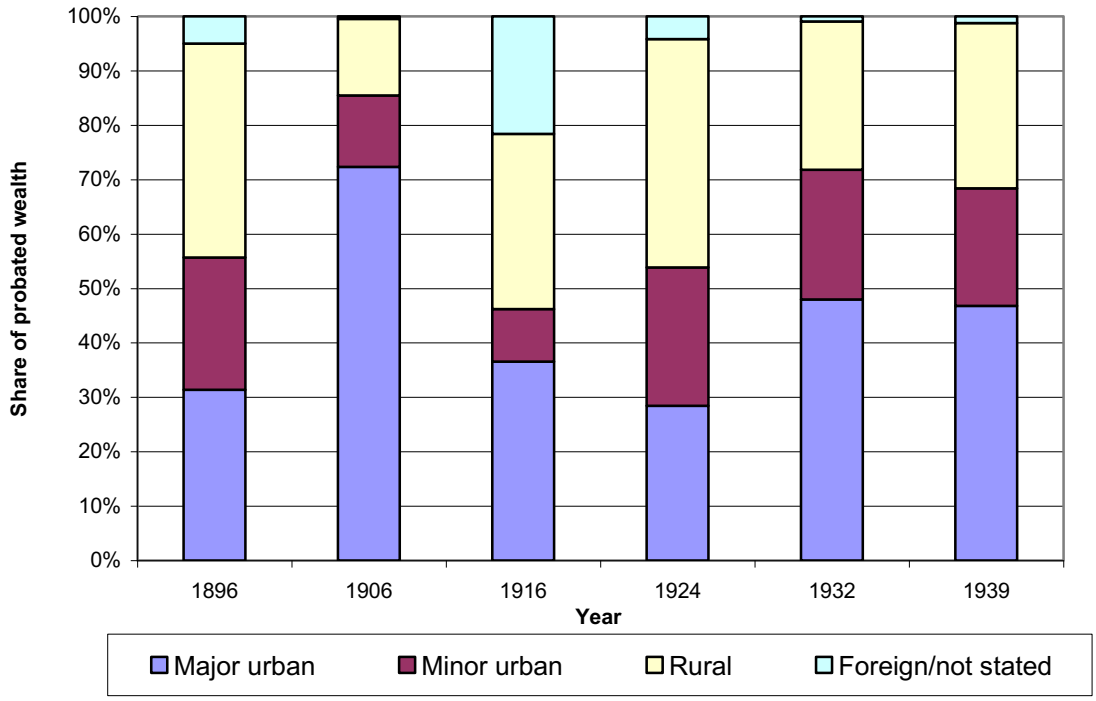
There were more female probated estates in major urban locations than for all other locations in all years (as shown in Figure 3). Galt's data indicates that female probated estates as a proportion of adult female deaths for all of New Zealand rose from 14 per cent in 1896 to 38 per cent in 1939. Since this is lower than the rate of probate in Wellington and Dunedin during this period (rising steadily to over 60 per cent in 1951), it is likely that the majority of estates that were never probated or the decedents who did not leave an estate most likely did not live in major urban areas.

Women in minor urban settings had approximately the same proportional share of probated estates as they did probated wealth, while major urban settings consistently had a larger share of probated estates than might be expected from their share of wealth. This demonstrates that women in major urban settings are of significant interest in terms of women's wealth holding in New Zealand. Not only were they more likely to have an estate probated, their average probated estate was consistently of greater value than their rural counterparts.

Figure 2: *Share of probated estate wealth by females in rural, major urban and minor urban locations*

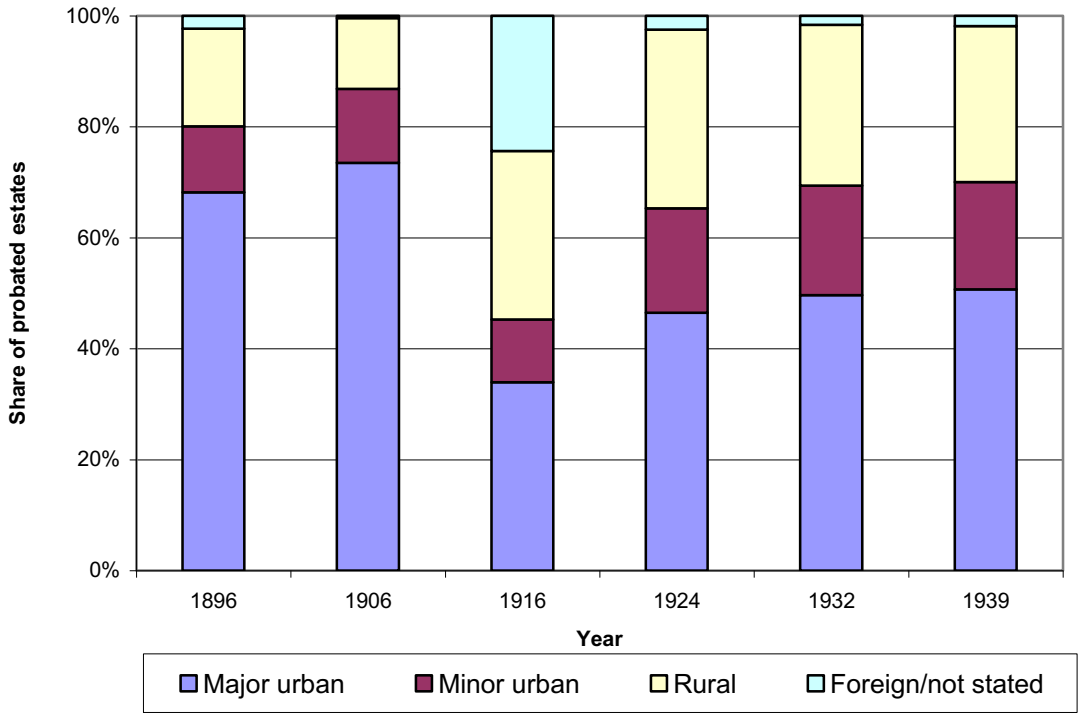
[46] Major urban areas comprise Auckland, Wellington, Christchurch and Dunedin. Minor urban areas comprise all other cities, as first defined by Statistics New Zealand in the 1921 Census, having a minimum population of 20,000.

[47] McAloon (2002) p.16.



Source: Galt probate data

Figure 3: *Share of probated estates by females in rural, major urban and minor urban locations*



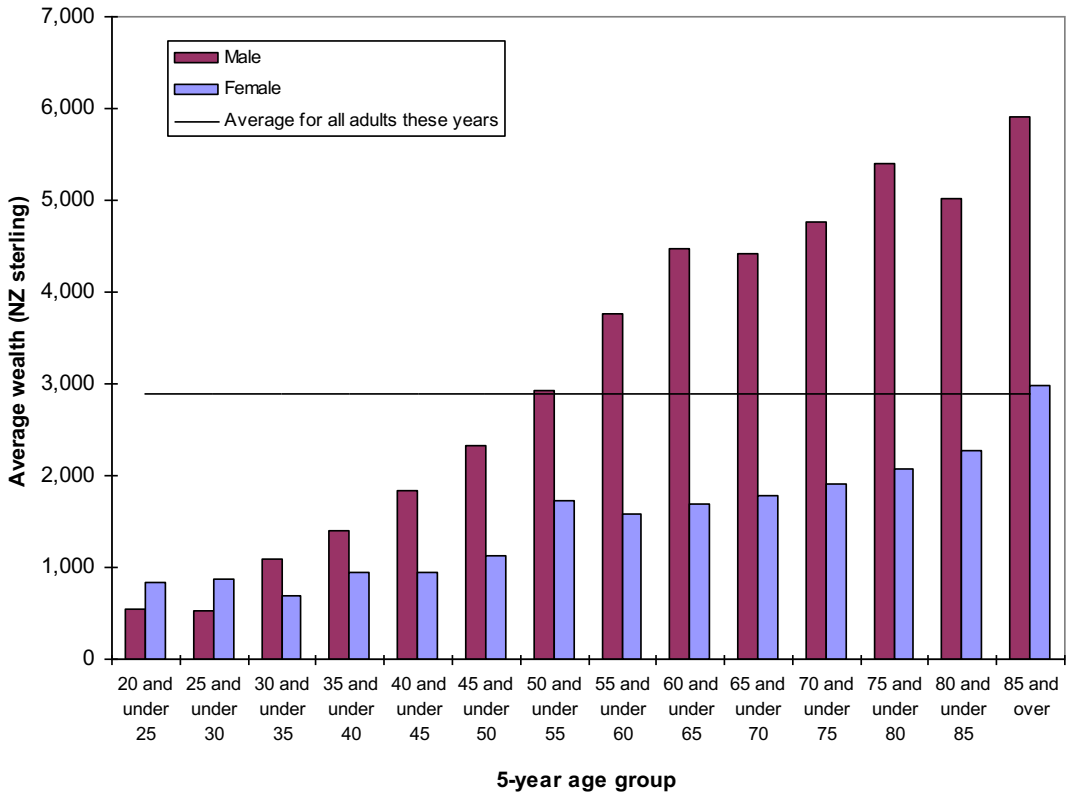
Source: Galt probate data

Gender and the life course of wealth holding

Women have been generally under-represented in probate samples, because they held less wealth than men and frequently fell below the exemption limit for death duties. However, women still accumulated small fortunes despite the cultural constraints limiting earning potential. Daughters and sons commonly received equal shares when large estates were divided, while widows acted as trustees to large fortunes, not necessarily having the power to actively manage the wealth but earning a significant share of the trust's income.[48]

Women had far less wealth than men, and in most years it was approximately half as much as men at all ages. As shown in Figure 4, men's wealth rises quickly during the working life, and then settles during retirement years from 65 years old. The point at which men's wealth is greater than that of the average wealth for all adults 1920-1924 is at 50 to 55 years old, and for men that survive past 85 years old average wealth is extremely high.

Figure 4: *Average probated wealth of New Zealand adults by five-year age group*



Source: New Zealand Official Year Book, 1925

A wealth life course model would expect to see wealth decrease from retirement age, but that is not especially clear in the New Zealand example. Perhaps careful investment saw a passive income earned during retirement years, which did not require a large amount of capital to be used for living expenses, or perhaps the cost of living for retired people was subsidized during this period by comprehensive social welfare structures and family support. However, a more likely explanation is that the proportion of the adult population who survived past 75 years old were the very richest of the population, whose wealth afforded them a longer life expectancy. Such individuals comprised less than one per cent of the living population during this period, however, making average wealth for these ages unnaturally high.

The increase in women's average wealth is much slower, and there is a distinct increase in wealth between the 45 to 50 and 50 to 55 years old groups, possibly attributable to women inheriting wealth

[48] McAloon, J. (1999) 'Family, Wealth and Inheritance in a Settler Society: The South Island of New Zealand, c.1865 to 1930', *Journal of Historical Geography*. 25(2), pp.201-215.

from deceased parents or becoming widowed at a young age. Either is likely, but it is interesting that such a significant proportion of women retained that wealth as their own, rather than it becoming part of joint marital wealth, and what they did with that wealth during the rest of their lives is important since their average wealth continues to increase in old age.

Female wealth is only greater than men's wealth for the ages 20 to 25 and 25 to 30 years old, which may represent a financial dowry or a gift of money by parents to daughters at a young age in anticipation of marriage. For women that remained unmarried, this is a significant financial boost early in adult life that could see them making major financial decisions such as buying a house or investment in stocks and bonds at a young age.

Concluding thoughts

This paper set out to discover the wealth of urban women at death as an indication of their degree of economic opportunity during life, suggesting that cities are sites of opportunity and liberation for women, not just constraint, and that New Zealand cities in particular are a good example of this.

The data justifies the interest in women who lived in major urban centres like Wellington and Dunedin. Major urban centres consistently had the highest female average wealth, the greatest share of female probated wealth and the greatest share of female probated estates between 1891 and 1951. Furthermore, while probated estates as a proportion of adult deaths was higher in New Zealand than in the UK, females in Wellington and Dunedin have a particularly high rate of testacy.

Age at death tells us important things about the lives of men and women. While men's wealth increases throughout life, especially quickly during their working age years, women's wealth is more settled and only increases significantly at around 50 years old. It also appears that both men and women have significant wealth holdings at death, not eroded to any great degree by supporting themselves after retirement. Women's wealth appears to be affected most by two life-stage events – the first being the years before and around marriage, and secondly, around middle-age when she is most likely to inherit from parents or other older family members. Having established this, it now becomes important for this research to understand the sources of wealth for women, and what they did with it when they received it, something that may be understood from careful analysis of wills and estate inventories.

In terms of implications for understanding how gender, wealth and urban settings are inter-connected, this data has also raised questions about the differences in wealth and will making in major cities based on factors other than age, such as marital status; and questions about the social structure and cultural characteristics in Wellington and Dunedin that affect wealth and will making. In addressing these questions, we will better understand whether differences in wealth holding by different groups of women can be attributed to wider economic opportunities, different cultural expectations, diverse legal requirements or a combination of all of these things.

Scottish overseas trade and economic growth, 1707-83[49]

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The eighteenth century is usually held in high regard amongst Scottish historians. By generously dispensing labels such as "Empire", "Enlightenment", and "modern", they seem to agree that progress was a generally observable phenomenon, and that Scotland took her fair share in all its benefits. Accordingly, Scotland's economic performance has normally been assessed in positive terms, too. After a turning point, suggestions for which have ranged from 1740 to 1780,[50] a transformation of the economy towards a modern and industrial framework is thought to have occurred, within which trade has occasionally been attributed a crucial role. Yet a meaningful answer to the question of whether, when and to what extent there was *intensive economic growth*[51] depends upon the chronological and conceptual framework chosen. In this context, overseas trade renders itself most useful for an economic analysis: it is the only component of national income for which detailed statistics have survived. More crucial, therefore, than establishing the mere commercial long-term fluctuations, is the correct assessment of trade's share in economic activity (GNP). The present paper thus contributes to an, as yet, largely inconclusive debate regarding the time framework of Scotland's eighteenth century economic development.

The paper is divided into two parts. First, the quantitative framework of Scottish overseas trade fluctuations 1700-83 will be established (with a focus on 1700-60). This discussion will be supplemented by a static and dynamic analysis. Its "static" components will analyze the composition of the Scottish trade volume (mainly exports). The "dynamic" analysis will examine the closeness of movement between overseas trade fluctuations and available index figures for domestic economic activity over time. The conclusions will be:

(a) Prior to at least 1760, overseas trade fluctuations and fluctuations in domestic economic activity were only weakly correlated. Therefore,
(b) trade could not have a large impact on per capita income growth, partly because
(c) the sustained increase in the Scottish volume of trade, driven by the colonial trades, between 1736 and 1776 coincided with times of macro-economic stagnation and depression.
(d) The considerable commercial dynamics would not alter this situation, as the exports-to-GNP relation was too tiny in order for it to act as a stimulus to the economy.

I

Between 1700 and 1770, the Scottish overseas trade volume increased by c.600 per cent. Commercial expansion was marked by the characteristic eighteenth century cycle (1736-76), only interrupted by a short, yet considerable slump 1753-55 (Figure 1).[52] Although following a largely identical cyclical movement, Scotland's and England's overseas trades developed on a radically different scale (Figure 2). The Scottish trade volume did not normally exceed five per cent of the corresponding English

[49] I should like to thank Prof Ian Blanchard, Dr Alex Murdoch and Dr Nuala Zahedieh (University of Edinburgh) for their helpful comments on preliminary versions of the present paper, a detailed version of which can be made available on request (also accessible from www.ianblanchard.com).

[50] On which the textbooks disagree. R.H. Campbell, Scotland since 1707. The Rise of an Industrial Society (Oxford, 1965), 29. H. Hamilton, An Economic History of Scotland in the Eighteenth Century (Oxford, 1963), 1; C.A. Whatley, The industrial revolution in Scotland (Cambridge, 1997), 20-24; I.D. Whyte, Scotland before the Industrial Revolution. An Economic and Social History c.1050-c.1750 (London / New York 1995), 328-333; S.G.E. Lythe and J. Butt, An Economic History of Scotland, 1100-1939 (Glasgow / London, 1975), 102f., 162; T.M. Devine, 'The Modern Economy: Scotland and the Act of Union', in: Id. and C.L. Lee and G.C. Peden, eds., The Transformation of Scotland. The Economy Since 1700 (Edinburgh, 2005), 13-33. The latter sees a transformation of economy and society having gained momentum since c.1740. The present analysis will demonstrate why such a view cannot be maintained.

[51] Per capita GNP growth.

[52] For a detailed discussion of methods and conclusions see the present author's forthcoming thesis.

figure. The resulting per capita trade differentials were considerable. In 1755, for instance, the average English(wo)man handled four times as much trade as his (her) Scots counterpart. This raises certain questions as to the degree of Scotland's economic backwardness up to c.1760, and the significance of overseas trade as a contributing factor to economic growth. Furthermore, without going into detail, Scottish commerce was biased in three important ways: (i) commodities (tobacco); (ii) ports (Glasgow); (iii) the distribution of the trade volume by countries. Two distinct economic areas emerge from the database compiled by the present author on the basis of a full set of Scottish customs accounts (1755): the "east" and the "west" of Scotland. Glasgow dominated, with a total of 52 per cent of gross total trade handled (Figure 3). Glasgow's commerce however, was based on the importation and re-exportation of unprocessed tobacco and sugar. According to this skewed distribution of gross total trade, America accounted for c.40 per cent of Scotland's gross total overseas trade (c.1760). Since the American trades have sometimes been named as a stimulus for eighteenth century Scottish economic development, the examination will now focus on possible links between fluctuations in the overseas trades – dominated by the colonial trades – and Scottish economic growth.

II

Possible mechanisms of trade being an "engine of growth" have been discussed elsewhere.[53] The bottom line of these discussions is: (a) an increase in the numbers and incomes of the colonial population stimulated export demand for British goods; (b) trade fuelled domestic economic growth by way of re-invested profits (in the vicinity of a dynamic port). The following sections will demonstrate that neither scenario obtained for Scotland in the period under consideration. The discussion will commence with *structural* aspects, i.e. the size and composition of the Scottish trade volume.

(1) In 1755, Scotland's per capita trade volume was small. It amounted to £0.79 Sterling, or one-fourth of the English figure (£3.23 Sterling).[54] Figure 2 suggests that this coefficient is representative for the long run. But what are the implications of this in terms of trade's share in total economic activity?

(2) The share of total exports in hypothetical Scottish GNP was far too small to have had a significant macro-economic impact. If it is accepted that Scottish per capita GNP could by no means have exceeded the figures imputed for England, the Scottish exports-to-GNP ratio obtains at five to six per cent (1755-59).[55] Trade was, so to speak, a marginal economic activity.

(3) Moreover, the structure of the Scottish volume of *exports overseas* (and by the same token imports) was biased in terms of a limited range of commodities traded and an extraordinarily high re-exports-to-total-exports quota of >50 per cent.

[53] K. Morgan, 'Atlantic trade and British economic growth in the eighteenth century', in: P. Mathias and J. Davis, eds., *International Trade and British Economic Growth from the Eighteenth Century to the Present Day* (Oxford / Cambridge, Mass., 1996), 14-33.

[54] This figure might be revised downwards to 3:1 without altering any of the implications and subsequent conclusions. Source and discussion: see working paper (n. 1).

[55] England: Deane and Cole, *Growth*, 64, 72, 156, 279, 282. Crafts' estimates quoted in C.L. Lee, *The British Economy Since 1700. A macroeconomic perspective* (Cambridge, 1986), 109. See extended paper (n. 1).

Table 1: *The Composition of the Scottish Volume of Exports in 1755-59*
NA, Custom 14. Averages for 1755-59. Figures for England calculated from R. Davis, 'English Foreign Trade, 1700-74'.

		% of domestic exports	% of re-exports	% of total exports	% of total exports, England (1752-4)
Grocery,					
Beverages	Tobacco	0%	79%	42%	8%
	Sugar	1%	5%	3%	1%
Total Grocery		*1%*	*85%*	*46%*	
Textile Inputs		1%	0%	1%	
Textile	Narrow				
Manufact.	German		5%	2%	
	Plain Scotch	19%		9%	
	Plain Irish		5%	3%	
	Handkerchiefs	7%		3%	
	Sailcloth	1%		1%	
total Linen		34%	11%	21%	2%
	Woollens	16%		7%	33%
	Haberdashery	3%		1%	
Total textiles		*56%*	*11%*	*32%*	*46%*
Grain		2%	3%	2%	8%
Base Metals	Lead	12%		6%	1%
	Iron Manufact.	3%	0%	1%	
Minerals: Coal		2%		1%	1%
Fish	Herring	8%		4%	
	Salmon	6%		3%	
	Cod & Ling	2%		1%	
Total Fish		16%		8%	1%
Leather Manufact.		4%		2%	
Other		4%	1%	2%	
Total		100%	100%	100%	

In 1755-60, re-exports (80 per cent of which was tobacco) accounted for 54 per cent of Scotland's total exports overseas. Both the patterns of supply of, as well as demand for, these were determined on *foreign* markets. These goods entered and left Scotland without (much) further processing; the links to domestic production were accordingly weak. England was different: tobacco and sugar accounted for only nine per cent of total English exports (Scotland: 42 per cent). This was only partly due to a generally lower English re-exports-to-total-exports ratio (30 per cent, Scotland: 54 per cent). It is also clear that English overseas trade was more firmly based on domestic output than Scottish commerce at that time, with textiles accounting for 46 per cent (Scotland: 32 per cent), and manufactures for 63 per cent (Scotland: 35 per cent) of total exports. Iron and leather manufactures, which have often been named as important within the "colonial trades⇨domestic economic growth argument", only accounted for three per cent of total Scottish exports. These industries did not yet benefit from a large exports-to-output ratio that would allow formulating a scenario of trade-led economic growth.

(4) And finally, a word of caution: *Scottish overseas trade*, as captured in the available statistics, falls short of the overland trade to England. It probably captures only c.75-80 per cent of *total Scottish "foreign" trade* in 1760. As exports to England had obtained at c.50 per cent of total Scottish exports in 1707 and thereafter were subject to dynamic expansion similar to the one observable in the *overseas* trades, it is clear that they must have retained a weight similar to the colonial trades 1707-60.

(5) As late as 1760, therefore, three-fourths of total Scottish exports still went either to England, the rest of the British Isles or to Continental Europe – and not to America.

Thus, the static view seems to suggest that the expansion in the overseas and overland trades from tiny initial figures was super-imposed on a traditional, largely self-sufficient pre-industrial economy. The dynamic analysis, by comparing output and trade fluctuations over time, will demonstrate that trade did in fact have a negligible impact on Scottish economic performance.

III

In the absence of suitable national income accounting material, *excise* yields can provide a tentative proxy for fluctuations in domestic output provided the socio-economic and institutional framework is formulated correctly. The Scottish economy remained a predominantly agrarian one 1700-60, with more than 80 per cent of the population employed in and earning the main components of their income from agricultural activity. Prior to the 1760s, change in farming methods and organization was slow and erratic; productivity levels for the staple crops remained low.[56] If there was no or only little per capita output growth in agriculture, the "index number problem" rules out the possibility of significant increases in per capita national income. Thus, the output of select branches of agricultural activity can be expected to have moved in unison with total agrarian output, which in turn is likely to have moved in unison with national income.[57]

(1) Between the 1720s and 1750s, the main branches of *total agricultural activity* (approximated by the output of beer, ale, malt, candles and hides) appear to have declined or stagnated (Figure 4). As population increased slightly, there was also a decline in per capita agrarian output. Under the framework suggested above, this works out at a stagnation ("optimistic scenario") or decline ("realistic scenario") of Scottish per capita national income c. 1728-58.[58]

(2) A long-term decline or stagnation in per capita agricultural output would also have caused *export margins for cereals* to decline over time. This is exactly what can be observed (Figure 6). This decline in net-exports became particularly pronounced after 1740. The same applies to real wages.

(3) The basic assumption is that in the long run per capita national income and *real wages* moved in a similar direction and that both stagnated or declined c. 1730-60, the time in which the characteristic eighteenth century trade cycle ran its growth course. Real wages can be approximated by the purchasing power of documented wages with regard to oats (based on the assumption that oats was the main source of calorific intake for the "average Scot").[59] In Scotland, "real wages" were on the decline between 1700 and 1760 (Figures 7-8), even bearing in mind all kinds of unquantifiable socio-economic parameters that could have partly offset the observable tendency in the graphs.[60] The decline was, however, least visible during the first three decades of the eighteenth century, at the end of which (1740) the parameters would be set for an *increasingly unfavourable* development.[61] If there was a transformation of the economy commencing at that time, it was a negative one towards an impoverishment of the masses.

IV

Certain economic parameters changed in Scotland in and around 1740. These changes are not yet fully understood, but they point towards declining per capita incomes and living standards. In this way Scotland fits the continental European evidence.[62] Presumably, the 1738-41 harvest crisis and the Rebellion 1745-6 had their part in halting Scottish economic development between c.1740-60. Macro-

[56] See n. 2.

[57] The methodology is developed and discussed at length in the present author's forthcoming article on the 1738-41 macro-economic supply shock in Scotland.

[58] *Pastoral* farming might have expanded, but the assumption is that arable farming needs to be assigned a higher weight in total agrarian output.

[59] Abel, W., *Agrarkrisen und Agrarkonjunktur in Mitteleuropa vom 13. bis zum 19. Jahrhundert* (3rd ed. Berlin / Hamburg, 1978); P.K. O'Brien and C. Keyder, Economic Growth in Britain and France 1780-1914. *Two Paths to the Twentieth Century* (London, 1978), 68-76.

[60] Such as a certain degree of flexibility in the negotiable, non-monetary component of wages which could be manipulated in order to circumvent labour statutes.

[61] Linear trend (price level) 1707-1739: $y = 0.3173x + 98.627$; 1740-1780: $y = 1.1551x + 69.076$.

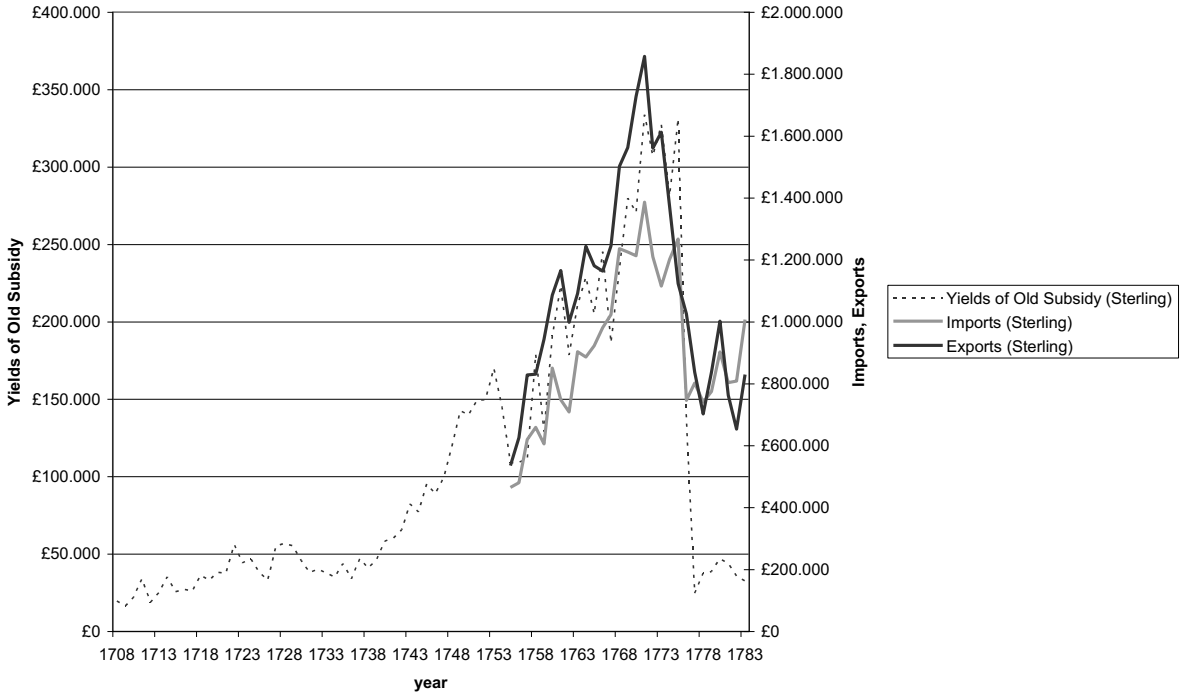
[62] Abel, *Agrarkrisen*.

economic stagnation, perhaps kicked off initially by the adverse supply shock of 1724-25 and lasting for ~30 years, prevailed, only to be interrupted by phases of acute depression (1738-41,[63] 1745-46). It is the more striking that this development coincided with rapid growth in the overseas trades.

But trade was a marginal economic activity. It was dominated by the colonial link and biased towards the importation and re-exportation of primary, unprocessed products. It was confined to a limited range of economic actors and products whose markets were located abroad. These trades in a sense bypassed the Scottish economy. They were neither dependent upon trends in the domestic business cycle, nor did they in any way influence its movements. Commercial expansion failed to offset the negative trends in aggregate supply. In the absence of a large and growing industrial sector and markets for manufactures, the framework of aggregate supply and demand was determined by fluctuations in the harvest cycle. The latter was subject to the dictatorship of a Malthusian framework well beyond the 1760s. Thus for the period under consideration trade can be ruled out as an "engine of growth".

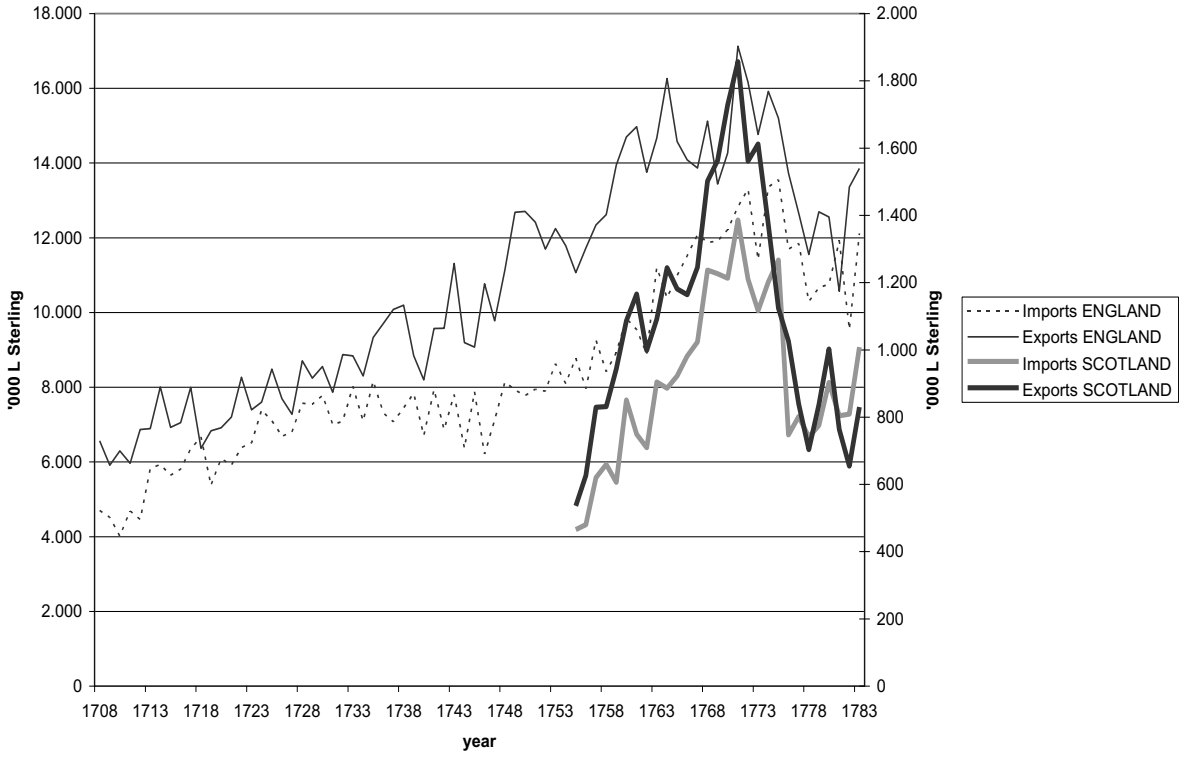
[63] Discussed at length in a forthcoming article by the present author.

Figure 1: *Scottish Overseas Trade, 1708-83*



Source: Imports, exports, Scotland: National Archives (henceforth NA), Custom 14, missing totals for 1763, 1769: National Library of Scotland (henceforth NLS), Ms 60. Customs yields Scotland: National Archives of Scotland (henceforth NAS), E501/1-76, money and bonds.

Figure 2: *Scotland's and England's Overseas Trade Compared, 1708/1755-83 (£Sterling)*



Sources: as Figure 1. Left axis: England; right axis: Scotland.

Figure 3: *Rank Distribution of the Scottish Outports by Gross Total Trade, 1755 (£Sterling)*
Scottish Customs accounts, NAS, E504. Commodities valued at 1755 prices in NA, Custom 14.

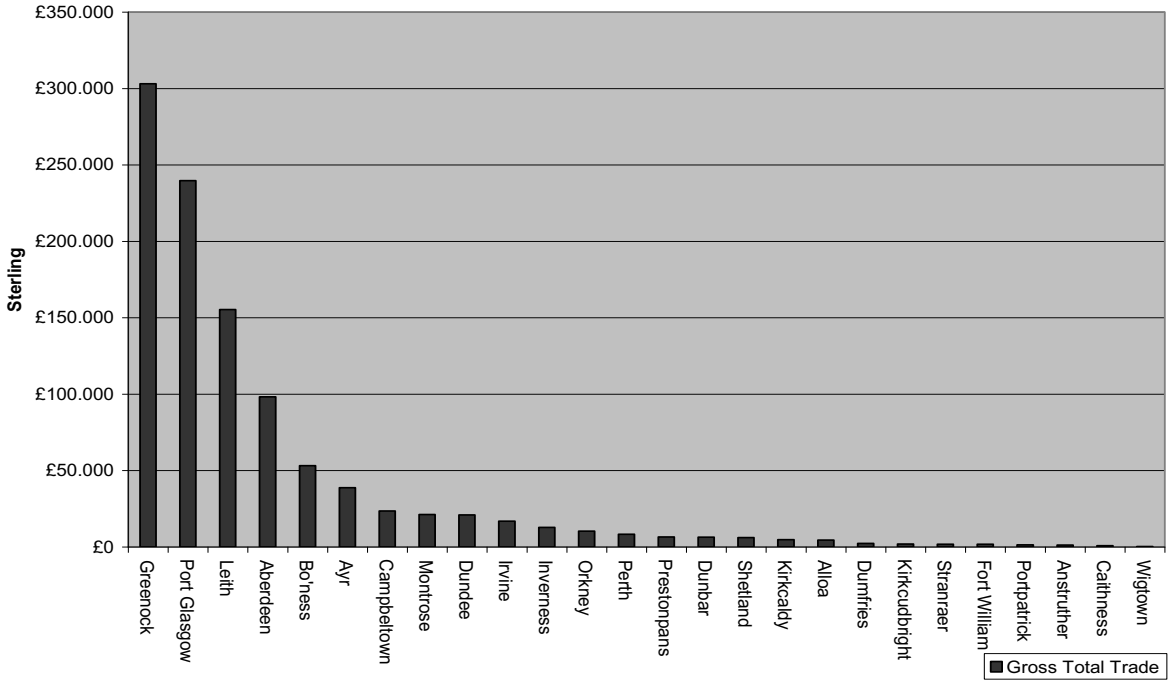
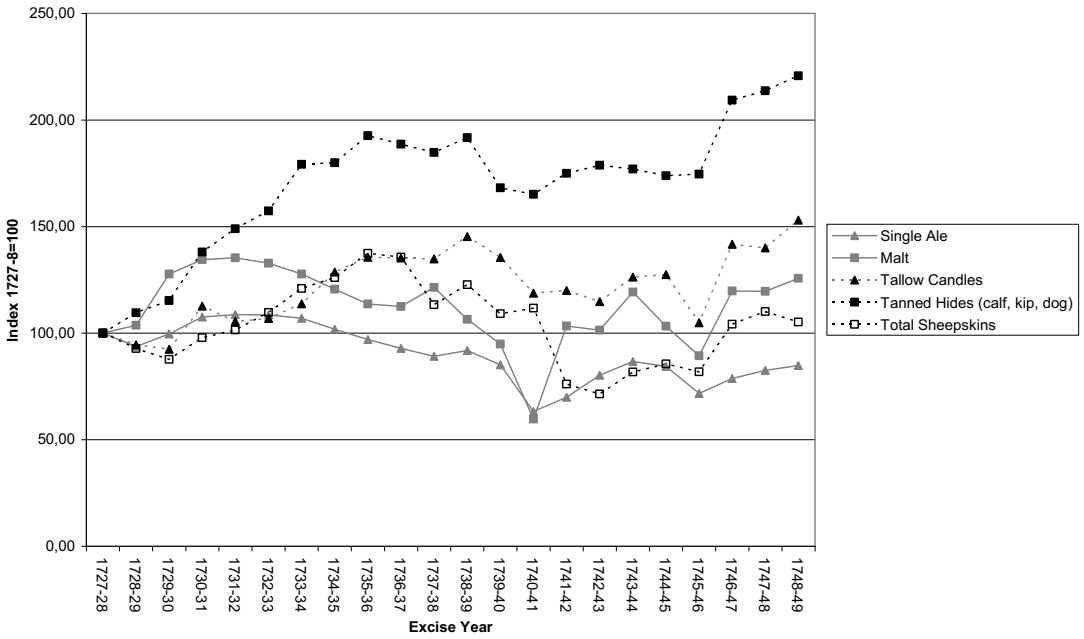


Figure 4: *The Development of Select Branches of Agrarian and Industrial Output, Scotland 1728-46*



Source: NAS, E551/3-4

Figure 5: *Yields of Old Subsidy and Excise (totals), 1708-83*
Old Subsidy: as in Fig. 1. Excise Yields: NAS, CE6/15.

Figure 6: *Scottish Net-exports of all Cereals (excl. rice), 1708-76*
Bald, A. *The Farmer and Corn-Dealer's Assistant* (Edinburgh, 1780).

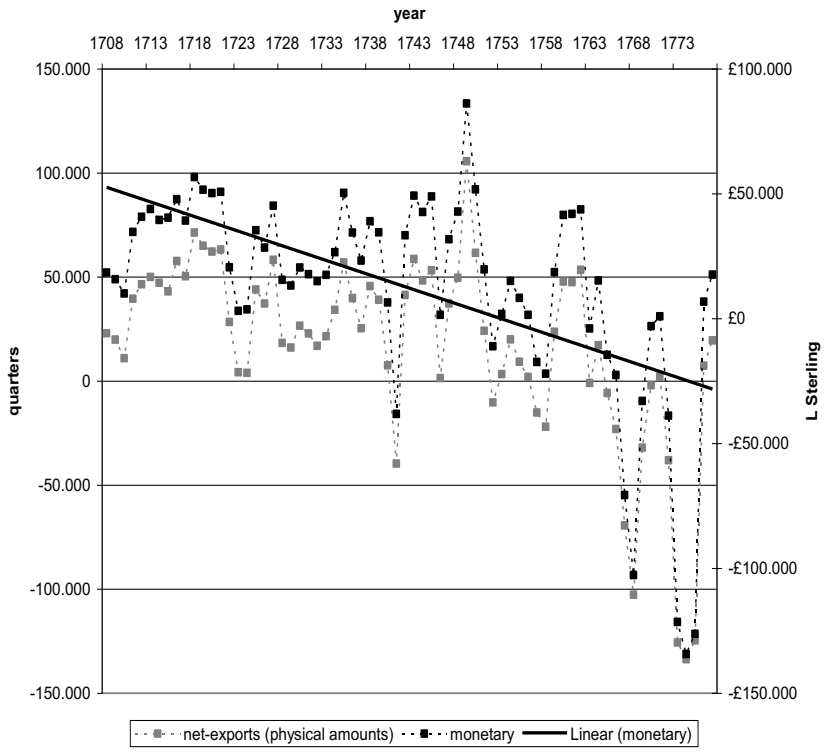
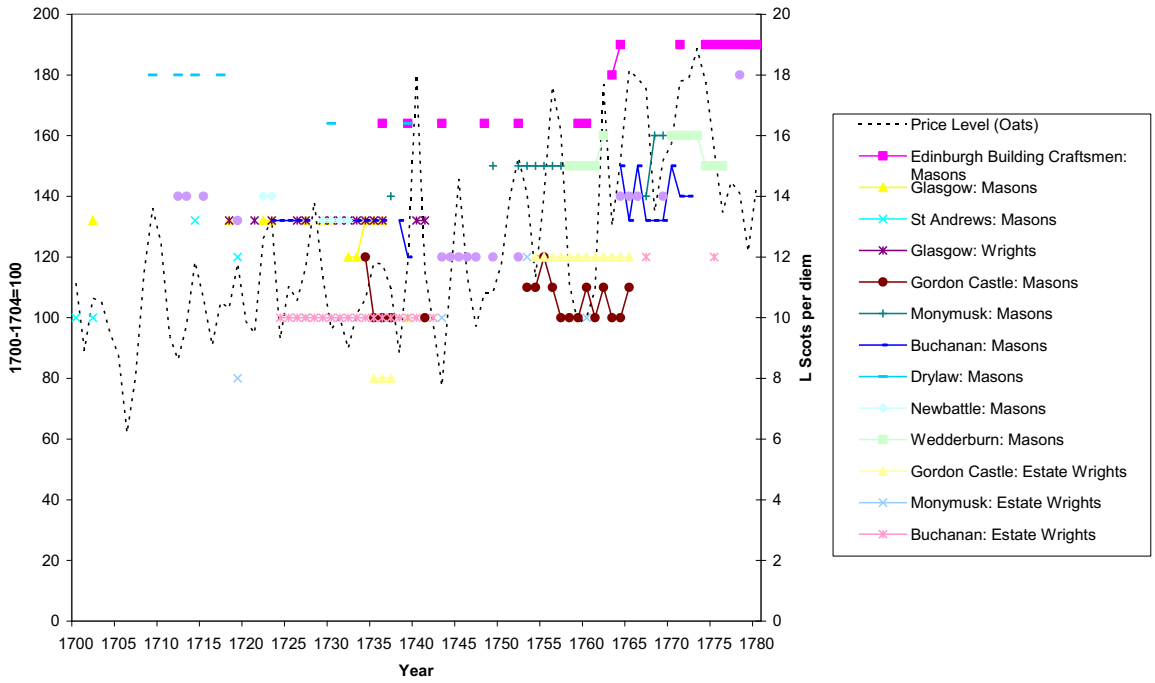


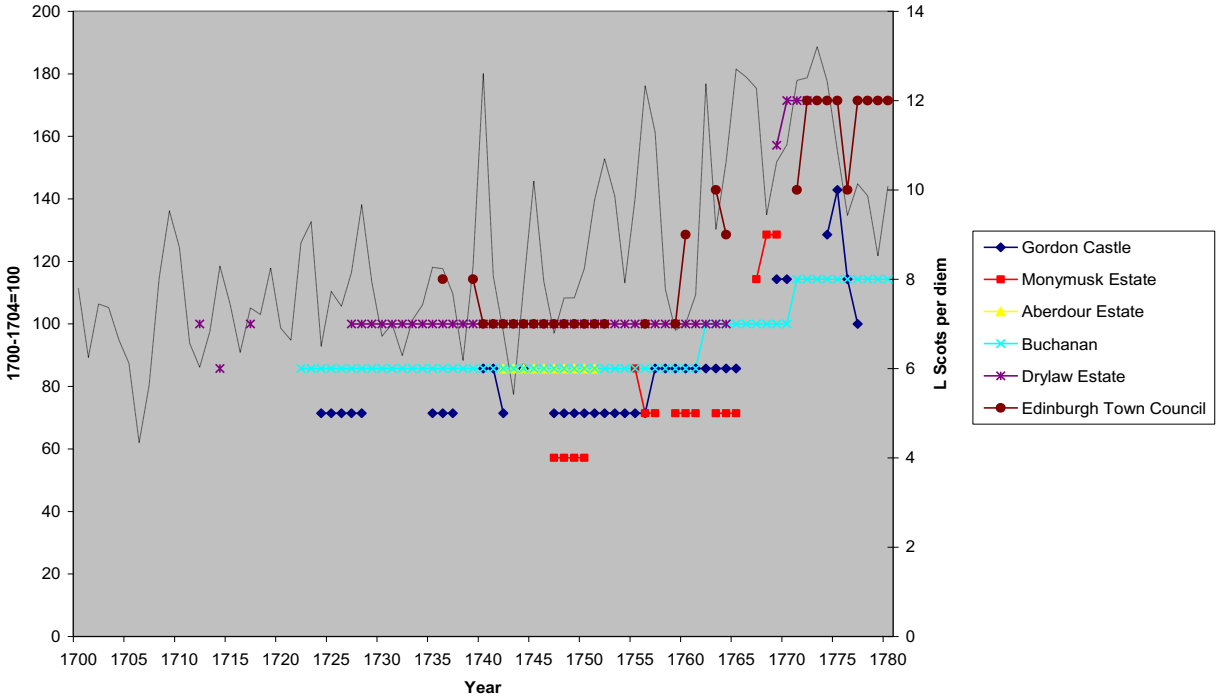
Figure 7: *Real Wages: Skilled Labour, 1700-80*

Left axis: Price level (oats purchasing power), un-weighted average of fifteen price series incorporating oats of different qualities quoted at nine different locations; average 1700-04 = 100; Right axis: Daily wage for skilled labour, £Scots per diem.



Source: A.J.S. Gibson and T.C. Smout, *Prices, Food and Wages in Scotland 1550-1780* (Cambridge, 1995), pp.305-319

Figure 8: *Unskilled Labour*



Old habits die hard (sometimes): what can *département* heterogeneity tell us about the French fertility decline?

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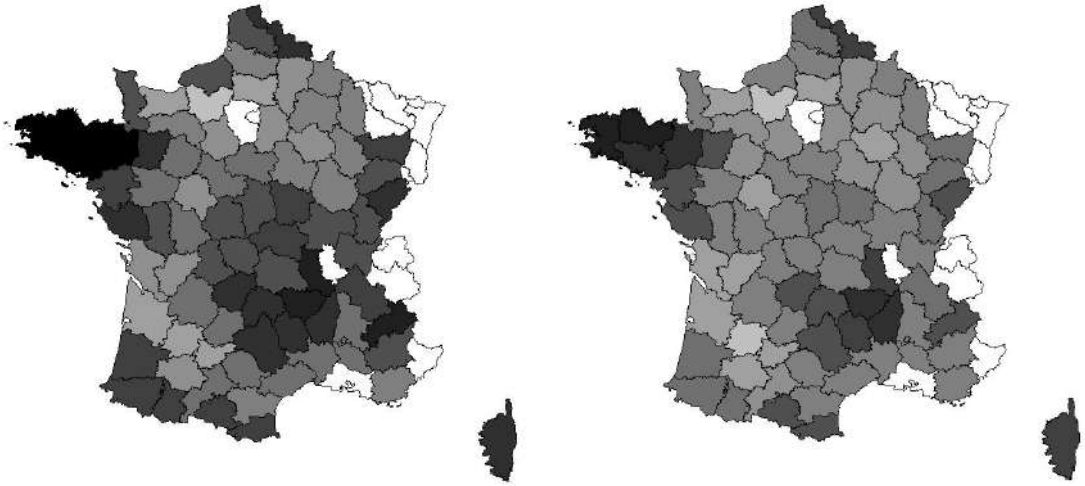
Introduction

Despite the interest devoted to the study of the nineteenth century's European fertility decline, little consensus has been reached on the actual causes of the fall, and even less consensus on the peculiarities of some specific cases within the region. Among those cases, perhaps the French remains particularly puzzling. There are some doubts about the actual timing of the 'beginning of the fall' but France, not the most modern society at the time (at least, in economic terms), was undoubtedly the first to experience it. And not only did it play the role of first mover: it was the first mover by many years, suggesting that – whatever happened there – did not spread easily elsewhere. The heterogeneity within the country is also intriguing. In contrast with other European experiences, fertility levels within France were – as Figure 1 illustrates – far from homogeneous.[1] Throughout the nineteenth century it is easy to see at least two zones of low fertility (the Seine valley and the Aquitaine region) spreading while two 'islands' of high fertility (Bretagne and the Massif Central) keep shrinking. In this brief essay I want to assess quantitatively the relevance of some variables in explaining these differences.

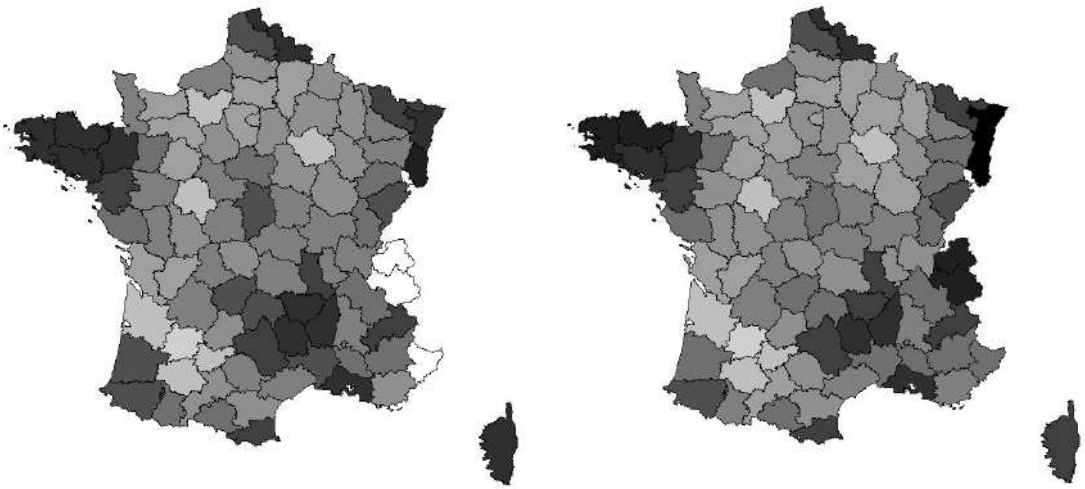
[1] Throughout this work I use the Princeton index of marital fertility (Ig) (Coale and Watkins, 1986: 153-162) as a measure of fertility. This represents the proportion of births with respect to the maximum biologically attainable given the age structure of married women. Justification for the use of this index can be found in my full-length paper at: http://www.nuff.ox.ac.uk/users/murphy/research.htm

Figure 1: *Marital fertility index in France by* département*, 1831-1921*

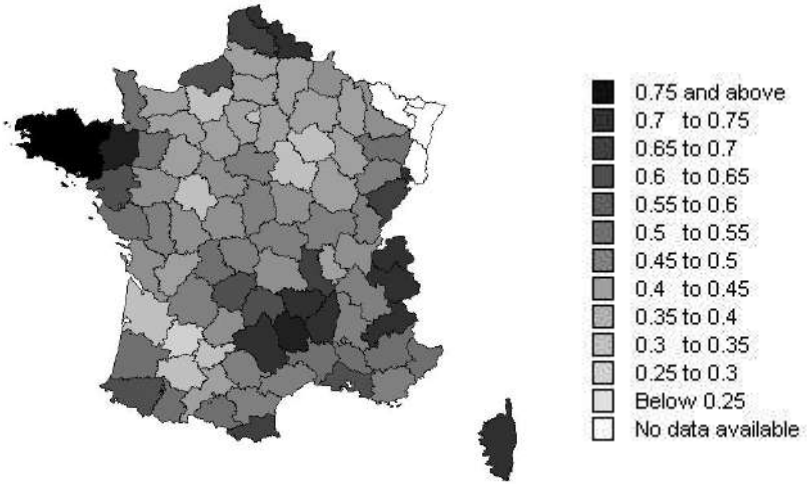
1831 **1841**



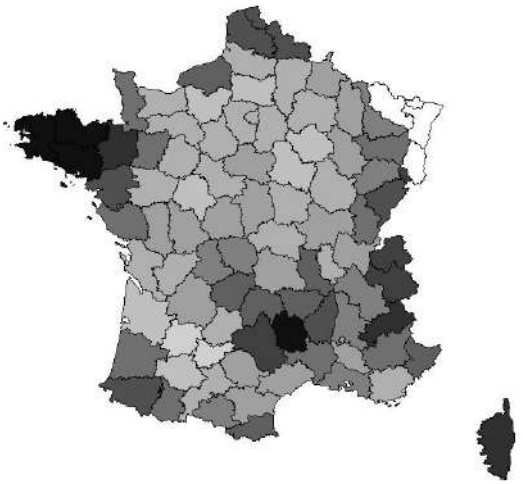
1851 **1861**



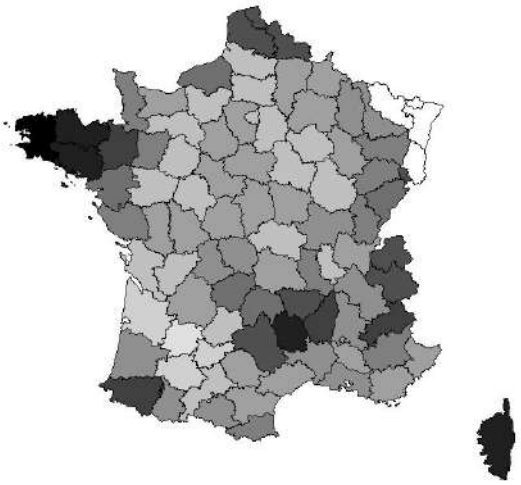
1871



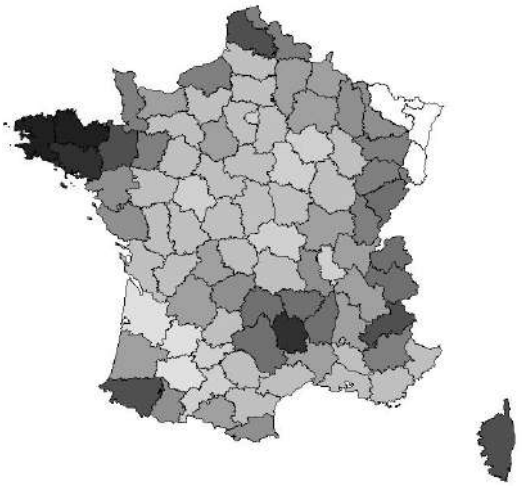
1881



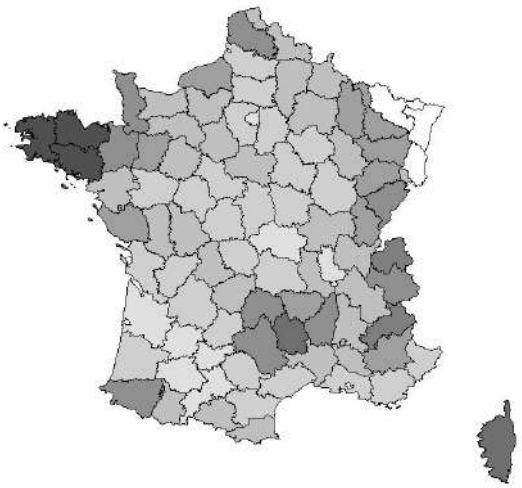
1891



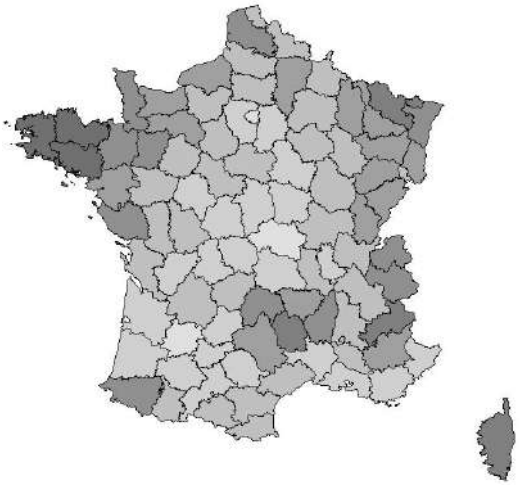
1901

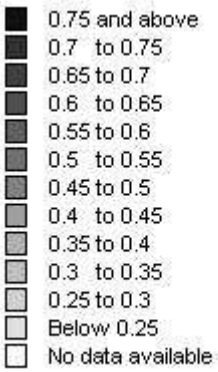


1911



1921



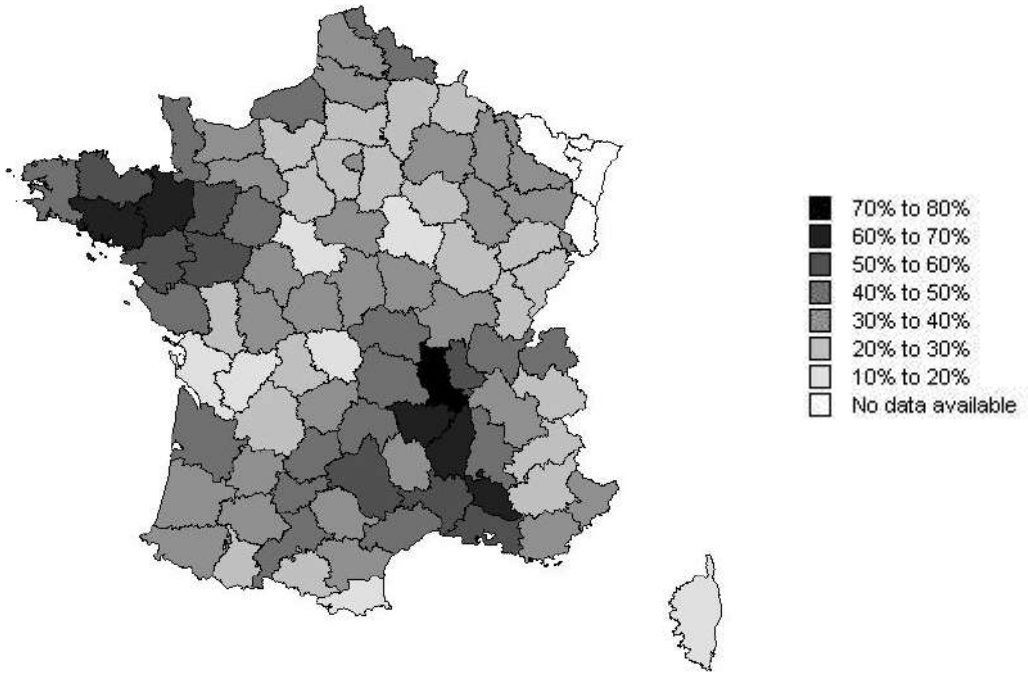


Sources: Maps are mine, from data in Coale and Watkins (1986: 94-107).

A modern Western family

Even if effective contraceptive devices are known and available,[2] two other conditions are needed for family planning to happen: fertility must be within the calculus of conscious choice, and reduced fertility must be perceived as advantageous (Coale, 1973: 65). Early modern France was still dominated by the general traditional belief that man had only few ways of influencing nature, and procreation did not escape this principle (Flandrin, 1979: 178). But a shift must have come where couples began *deciding* the number of children they would have. In this the French Revolution probably had an influence. By breaking with the Catholic Church, the Revolution shattered the legitimating institution of a body of traditions that sustained the passive role in family planning *before* economic factors stimulated the break. The country remained Catholic, but the church now faced more limitations. If lay education can be taken as a tentative indicator of secularization, figure 2 provides an idea of how – by the second half of the nineteenth century – regions had been affected in an uneven way by it. The match with the two 'islands' of high fertility is, of course, striking.

Figure 2: *Religious Education (percentage primary school students in religious institutions) in France by* département*, 1876*



Sources: Maps are mine, from data in Service de la Statistique Général de France [1878: 240-243].

The Revolution might also have affected in other way the costs of making decisions, as by stimulating individual self-determination (stemming from political self-determination) it fomented thinking of fertility as a choice. This new attitude towards family takes then the form of 'numeracy' about children (Van de Walle, 1992: 490) and, once it is effective, economic factors can (and will) play a role in the level of fertility *directly*.

When these decisions are (or become) economically rational, they can be incorporated in the traditional neoclassical framework where fertility is seen as depending on a number of factors affecting the cost and benefits of having children.[3] These are some of them:

Child mortality. When the number of children one can have is uncertain because of high risk of death at early age, couples increase their fertility to make up for the expected loss. Still, in some cases the

[2] This seems to be the case in early modern Europe (McLaren, 1990).

[3] See Schultz [1997: 355-376] for an overview and general references.

survival of children depends on the attitude of parents, so fertility might also be affecting child mortality.

Urbanization. In rural, self-sufficient communities children can begin earlier to contribute to family income (much agricultural labour requires few skills) and the direct access to food supplies decreases the costs of having additional children.

Industrialization and labour markets. Industrial labour markets require skills that take time to be learnt. Formal labour markets, on the other hand, impose a rigid time demand that increases the opportunity costs of parents and stimulates the male 'breadwinner' role in the family (more direct association between work, payment and support of the family fomenting more conscious fathers).

Income. For low levels of income, increases in earnings are expected to act positively on fertility, but after a certain threshold the opportunity cost of the parents might become too high and/or it could start paying-off switching to invest in quality rather than quantity of children, so the net effect is ambiguous.

Financial institutions. If we consider investment a good approach to the demand for children, the introduction of alternative ways of investment (such as financial institutions) could reduce the demand for children.

Education. This plays a dual reinforcing negative role on fertility. On the one hand, more educated parents are likely to have higher wages and, hence, higher opportunity cost of time. On the other, access to education – and social mobility – could encourage parents to move away from children quantity towards children quality.

Institutions. Another set of variables refer to legal or cultural frameworks:

Inheritance systems. There seems to be two basic 'model' inheritance systems (legal and customary norms): one partible (property distributed among all children) and one impartible (one – normally the eldest son – would take it all). But depending on whether any of these systems is assumed to influence nuptiality or marital fertility, it will give a different answer.

Farm size. There are many arguments relating farm size to fertility. One, for example, suggests that the demand for female workers is more sensitive where we have smaller farms (see Brown and Guinnane, 2002: 43).

Assessing the French experience

Having this motivation in mind, in the rest of this essay I want to explore to what extent these factors are capable of explaining fertility variations between *départements*. With that aim, I put together (basically – but not exclusively – from the *Annuaire Statistique de la France*) a data set containing information from 86 *départements* for five years (1876, 1881, 1886, 1891 and 1896).[4] For some variables only one value was obtained for the five years that, far from being ideal, is still used to perceive regional differences. Table 1 lists all the variables, their definitions, and some descriptive statistics.[5]

[4] For a full detail of variables, their construction and their sources, see the appendix of the full-length paper at http://www.nuff.ox.ac.uk/users/murphy/research.htm.

[5] The definitions of the variables are in general self-explanatory. It is probably worth clarifying, however, that due to the lack of data I had to rely on direct taxes as a proxy of income. Also, I use religious education as a proxy for religiousness (or lack of secularization).

Table 1: *Variables used in this study*

Variable	Definition	Means				
		All *départements*			Selected *départements*	
		1876-96	1876	1896	High fert.	Low Fert.
Marital fertility	Ig Princeton index	0.455	0.491	0.415	0.706	0.295
Child mortality	Deaths of children younger than 5 years old for every 1,000 population	6.040	6.334	5.711	8.197	4.410
Net immigration (1866-86)	Net immigration to the *département* between 1866 and 1886	-1.109			-2.250	1.006
Urban population	People living in urban areas as % of total population	0.282	0.260	0.300	0.193	0.260
Population in agriculture	People working in agriculture as % of total population	0.538	0.575	0.510	0.636	0.549
% men in labour market	Men officially working as % of total men in 1896	0.632			0.580	0.682
% women in industry	Women officially working in industry as % of total women in 1896	0.080			0.054	0.080
Real wage in agriculture (log)	Log of annual wage in francs (male agricultural worker fed and lodged) in 1882 over price of wheat	2.686			2.289	2.896
Real wage in industry (log)	Log of annual wage (daily wage * 200) in francs (industrial worker) in 1882 over the price of wheat	3.422			3.363	3.405
Direct taxes per capita	Yearly direct taxes per capita, divided by the price of wheat	12.396	9.044	17.165	8.485	15.780
Saving books	Number of saving books per capita	0.121	0.065	0.163	0.065	0.144
Literacy (female)	% of women that sign the marriage certificate (as opposed to drawing a cross)	0.808	0.701	0.901	0.701	0.838
Literacy (male)	1 minus % of conscripts that do not know how to write or read	0.899	0.844	0.951	0.825	0.919
Literacy (female/male)	Female literacy over male literacy	0.913	0.856	0.962	0.874	0.936
Religious education	Primary school students attending religious institutions as % of total primary school students	0.317	0.375	0.284	0.434	0.276
Republican vote	% of votes received by republican parties (as opposed to monarchist parties)	0.681	0.543	0.681	0.599	0.630
Turnout at the polls	People turning out at the polls as a % of voters inscribed	0.750	0.808	0.762	0.749	0.781
Partible inheritance	Index describing whether the dominant system is impartible (=0), mixed (=.5) or partible (=1)	0.686			0.250	0.688
Land concentration	Ratio of surface areas (farms of 40 hectares or more / farms of 10 hectares or less)	9.407			12.65	5.968

Notes: First column gives means for all *départements* across all periods. The last two columns provide all periods averages for the top and bottom seven *départements* in terms of fertility.

The last two columns provide some interesting hints on explaining the variation. *Départements* with high fertility have twice the child mortality, less urban areas, are poorer and less educated, and the proportion of students going to religious schools is twice as large. Also, they tend to be slightly less

'republican' and politically participative. Notably, the inheritance index tells us they are more likely to have impartible systems and land appears to be more concentrated in them.

However interesting these results might be, a more rigorous analysis is needed. The dynamic nature of the phenomenon studied here demands a dynamic model, and panel regression seems the ideal tool to apply. Since some of the variables do not change through time (i.e., those for which I obtained just one value for the five periods), the random-effects specification will be preferred. I noted above that the inclusion of child mortality, due to simultaneity, might bring a problem of endogeneity. Accounting for that problem, I apply instrumental variables estimation, using temperature as an instrument.[6] By its very nature, climate is indeed exogenous, and temperature is likely to affect child mortality, but not fertility, making it a potentially good instrument. I found that the deviation of winter temperature from the 1850-1900 average fulfilled these characteristics, so that instrument was chosen.[7] Table 2 reports three different models I constructed to explain marital fertility (Princeton index), including and excluding urban population and population in agriculture to account for the fact that these are highly correlated with each other and could be affecting estimation.

The first thing to note is that, despite the different specifications, all models provide similar outcomes. As expected, fixed-effects models reject more coefficients than the random-effects models, but the Hausman test suggests coefficients are not substantially different. Since random-effects give more efficient estimators, these are not to be rejected.

[6] I calculated temperature values for each *département* using data from Luterbacher et al. (2004).

[7] Post-regression analysis suggested that the instrument was good, as in the instrumental equation F-test showed significance of coefficients.

Table 2: *Modelling marital fertility in France (1876-1896) using* département *data*

	I		II		III	
	Fixed	Random	Fixed	Random	Fixed	Random
Child mortality	0.020 ***	0.019 ***	0.018 ***	0.018 ***	0.015 **	0.015 ***
Net immigration (1866-86)		0.004		-0.002		-0.002
Urban population	-0.422 ***	-0.323 ***				
Population in agriculture			0.161 ***	0.159 ***		
% men in labour market		-1.261 ***		-1.286 *		-1.277 *
% women in industry		0.348		0.287		0.048
Real wage in agriculture (log)		-0.179 ***		-0.176		-0.178
Real wage in industry (log)		0.109		0.100		0.065
Direct taxes per capita	-0.005 ***	-0.005 ***	-0.006 ***	-0.006 ***	-0.006 ***	-0.006 ***
Direct taxes per capita ^2	0.0001 ***	0.0001 ***	0.0001 ***	0.0001 ***	0.0001 ***	0.0001 ***
Saving books	0.021	-0.002	-0.001	-0.003	-0.045	-0.046
Literacy (female)	-0.115 ***	-0.110 ***	-0.104 ***	-0.103 ***	-0.109 ***	-0.108 ***
Literacy (male)	-0.026	-0.025	-0.023	-0.023	-0.029	-0.029
Literacy (female/male)	0.031	0.026	0.031	0.031	0.025	0.024
Religious education	0.059	0.078 **	0.067	0.069 *	0.100 **	0.101 ***
Republican vote	-0.015	-0.018 *	-0.020 *	-0.021 **	-0.023 **	-0.023 **
Turnout at the polls	-0.060 **	-0.064 ***	-0.053 **	-0.054 **	-0.055 **	-0.055 **
Partible inheritance		0.029		0.037		0.030
Land concentration		0.001		0.001		0.001
R^2: within	0.717	0.725	0.717	0.720	0.719	0.720
Between	0.318	0.742	0.493	0.785	0.542	0.786
Hausman test	4.07	[0.9441] *	0.02	[0.000] ***	0.02	[0.000] ***

Notes: Asterisks indicate significance levels: * 10%, ** 5%, and *** 1%.

All significant coefficients have the expected sign and some results follow our expectations. Quite interestingly, male participation in the labour market seems to be more relevant than female participation, giving some ground to the breadwinner hypothesis. Agricultural wages appear to be more significant that industrial wages, which probably has to do with the fact that France remains pretty much rural throughout the period and it is the agricultural sector driving changes in that economy. Income, in accordance to what one would expect nowadays, decreases the level of fertility. Financial institutions do not seem to matter and neither do the institutional variables, which looked quite promising when studying the means of the extreme cases. The same happens with inheritance systems and land concentration. As the theory suggests, female literacy is the dominant variable regarding education. Notably, all three (religious and political) variables that could be associated with the changes brought by the French Revolution are also significant, giving some ground to the argument in favour of the role played by this radical event in the history of France on individuals' self-determination.

Conclusions

A different mind-set is hard to build and takes time to spread, so it is not surprising that in some regions of France the tradition of maintaining large families took some time to die. The evidence this essay has presented is not really capable of proving that the break with religious and political authority helped to trigger the fertility decline, but it is indeed consistent with that theory. In particular, the fact that political behaviour and religious education are capable of explaining part of the divergence is indicative. Further, once this factor is taken into account, the results insinuate that France was not such a strange place after all, as the variables one normally associates with 'modern' fertility choice seem to have played a relevant role in the population dynamics of the country.

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Measuring infant health in late-Georgian Northumberland and Co. Durham

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"The 'dark age' of Britain's modern historical demography"

This is how Szreter and Mooney refer to the period 1780-1850.[8] Others, particularly Krause and Razzell, suggest that the paucity and poor quality of parish register data renders demographic analysis of the period based upon parish registers unfeasible.[9] However, between 1770 and 1812 parts of northern England *were* covered by detailed systems of parochial registration termed 'Barrington' and 'Dade' registers in the dioceses of Durham and York respectively. This paper will concentrate on registers from Durham Diocese which, from 1798 to 1812, recorded, amongst other data, birth-date, baptism-date, occupation of father, mother's maiden name, abode and age at death.

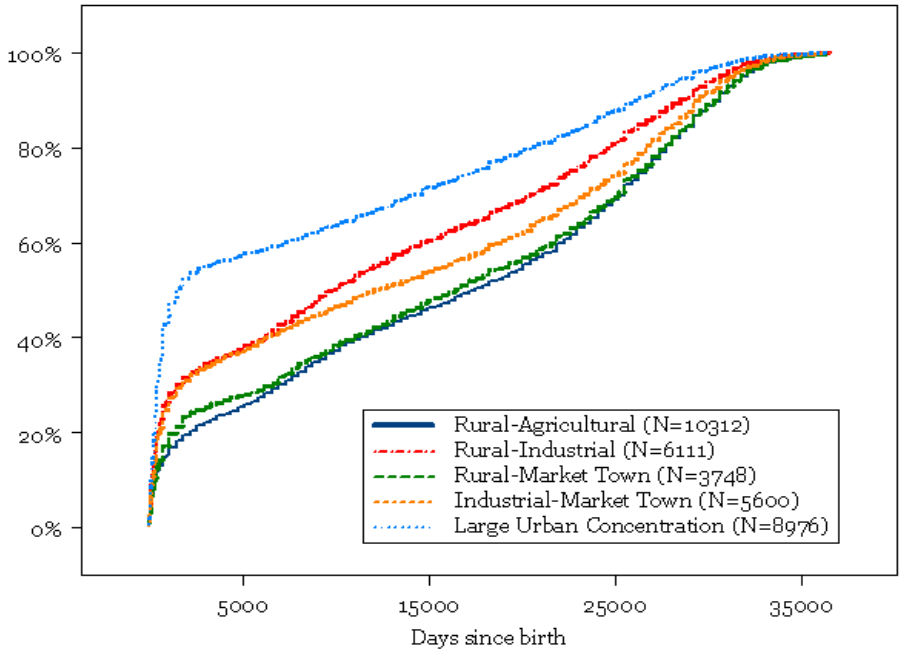
The age of death data alone allows important aggregate data to be gleaned. Figure 1 shows that from the 88 registers inputted so far, three distinct 'mortality regimes' prevailed. Agricultural areas and their small market towns fared best, while larger towns with more significant industrial bases appear to share many characteristics with the rural areas of West Durham and Tyneside where mining for lead and coal respectively formed significant occupational categories in the parishes. Finally, the registers which appear to return the most deaths at younger ages are those with high urban population densities. Indeed, when a similar demographic analysis is performed using data from the Registrar-General's reports from the 1840s, the shape of the curves produced is very similar.

However, rather than an aggregate analysis of the entire Barrington data set, this paper will focus on one particular area – Newcastle-upon-Tyne – and discuss in depth the processes and strategies by which the data can be analyzed. In doing so, I hope to show the potentials and pit-falls of the demographic 'gold-mine' which Barrington registers appear at first sight to be, particularly for the measurement of infant health

[8] Simon Szreter and Graham Mooney, 'Urbanization, mortality, and the standard of living debate' *Economic History Review* 51,1 (1998) 84-112. p.84.

[9] J.T.Krause, 'The Changing Adequacy of English Registration, 1690-1837' in Glass and Eversley, eds. *Population in History* (London, 1965), ch.15 and Peter Razzell, 'The evaluation of baptism as a form of birth registration through cross-matching census and parish register data', *Population Studies* 26,1 (1972) pp.121-146.

Figure 1: *Three north-eastern 'mortality regimes'*



Source: 88 Parish, cemetery and non-conformist registers.

Newcastle was a significant industrial, mercantile and transportation centre. Estimates suggest that the coal trade employed 6,700 men and boys on Tyneside, and supported a further 75,000 jobs on Tyne- and Wear-side by the end of the eighteenth century. Middlebrook describes the banks of the Tyne as 'lined not only with collieries but with factories, foundries and forges; with glass-houses, breweries and refineries; with chemical works and shipbuilding yards'.[10] Shipping was a crucial and growing aspect of the Tyne economy – so much so that Mackenzie claimed in 1825 that Newcastle was 'the third port in the kingdom'.[11] Newcastle was also an important centre of commerce, insurance, entertainment and artisan labour.

These factors, as well as the town being one of the centres of 'Large Urban Concentration' shown in Figure 1 to have a high rate of mortality, suggest that Newcastle would prove to be an excellent place to test the veracity of late-Georgian registration in the urban North East on both a micro- and macro-level.

The surviving registers of the four Anglican parishes of Newcastle, the 15 non-conformist and Catholic churches and the Ballast Hills unconsecrated burial ground were entered into a database which, as a result, contained every registered birth and death in Newcastle for the period 1798-1812.[12]

A nominative linkage exercise was then performed on the data to link parents to their respective children using the Double Metaphone sound-matching algorithm to create name dictionaries which were manually checked before, during and after linkage.[13] A 'still-observed community' was then calculated, by removing all terminal births, and their associated deaths, occurring in each family to ensure that the family did not move away during the first year of life of all remaining offspring. Infant mortality rates (IMR) were then calculated upon the aggregate 'raw data', the linked data and the 'still-observed' data.

[10] Sydney Middlebrook, *Newcastle-upon-Tyne: its Growth and Achievement* (Wakefield, 1950) p.140.
[11] Eneas Mackenzie, *An Historical ... view of ... Northumberland ...* (Newcastle-Upon-Tyne, 1825) p.173.
[12] Thanks to NDFHS for help collecting some of the non-conformist data.
[13] Double Metaphone is an algorithm to code English words phonetically by reducing them to 12 consonant sounds. Many thanks to Gill Newton for her assistance in implementing this feature.

Given that authors such as Krause and Razzell have argued that linkage-methodology is flawed – particularly when applied either after the mid-eighteenth century, or in a large town – it came as no surprise that the IMRs derived from the nominative linkage exercise were disappointingly, indeed unfeasibly, low. Indeed, the IMR of the population which remained 'under observation' in this period – that is to say those deaths occurring to families who, by their having a recorded demographic event following, can be shown to be non-outmigrants – was less than 15 per cent of the figure calculated from the 6th Registrar-General's report of 1841. The low numbers of successful links are given in Figure 2 below. Indeed, low rates calculated from these links bear a striking resemblance to Krause's self-proclaimed 'obviously absurd infant burial rates' which he calculates from nine early-nineteenth century registers and Razzell's observations on mid-eighteenth century Hackney.[14] Krause's explanations for his results are relatively simple – 'postponement of infant baptism', a growth in private baptisms and 'the growing imbalance between churches and population and the increase of pluralism and non-residence.[15]

Figure 2: *Linked infant deaths by age group*

Age of death	N burials	% burials linked to births
<1 Month	463	***3.67***
1-2 Months	236	***2.96***
2-3 Months	162	***2.46***
3-4 Months	143	***9.79***
4-5 Months	113	***28.31***
5-6 Months	111	***32.43***
6-7 Months	134	***33.58***
7-8 Months	110	***39.09***
8-9 Months	95	***36.84***
9-10 Months	131	***40.45***
10-11 Months	132	***33.33***
11-12 Months	128	***35.15***
1-2 Years	861	***35.65***
2-3 Years	519	***34.40***
3-4 Years	336	***33.03***
4-5 Years	287	***28.22***

Source: Newcastle registers

To analyze the raw Newcastle data further, *all* recorded infant deaths were plotted using the Bourgeois-Pichat method.[16] This allows a demonstration of the extent to which early-infant deaths were under-recorded. In this case, an endogenous mortality rate of just 13 per thousand was returned. As Tony Wrigley's 'benchmark' figure for this time is 25, and the 6th Registrar-General's Report in 1842 suggests a still higher figure of nearly 50, this suggested significant under-registration of early infant burials. This is one area which helps to explain the low levels of linked data – as Louis Henry highlighted in 1968, 'When deaths of children are not registered there is a systematic lack of births of unbaptized children'.[17]

It was possible to detect some relationship between the age at death and the likelihood of that same child being baptized. Figure 2 above, calculated on the whole population, shows those who died within the first months of life were significantly more likely to die unbaptized.

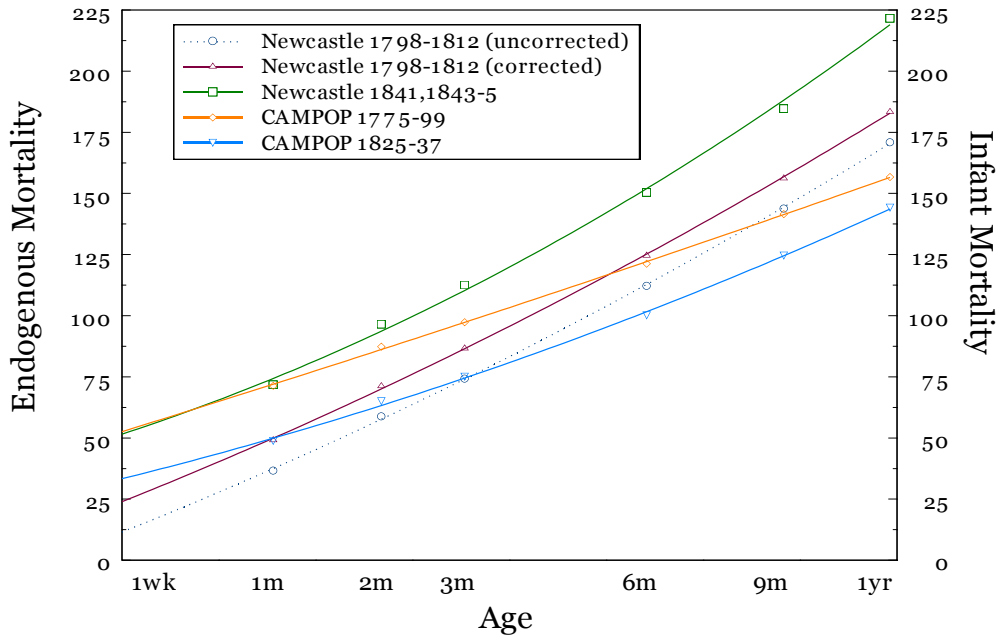
[14] Krause 'Changing adequacy' p.391, Razzell 'Evaluation' p.131.
[15] *ibid.* p.386.
[16] Bourgeois-Pichat, J., 'La mesure de la mortalite infantile', *Population* 6,2 (1951) pp.233-248 *and* 6,3 (1951) pp.459-480. Results in Figure 6 of this paper.
[17] Louis Henry, 'The Verification of Data in Historical Demography', *Population Studies* 22,1 (1968) p.66.

An exercise based upon back-projection from the burial register was then undertaken in an attempt to trace 'missing' baptisms, thus getting a better idea of the levels of, and the nature of, under-registration. Initially, all children whose ages at death were given as 14 or below, and whose calculated age of birth was after 01/01/1798 were selected. These were then linked on father's Christian name and surname using Double Metaphone guided name dictionaries to 'potential' families in the baptism register. After 'families' were grouped together in the enlarged 'baptism' register, a 12.5 per cent sample of potential matches were checked using intergenesic analysis based upon the Cambridge Group reconstitution rules.[18] These were then cross-checked with other data such as occupation, mother's names, abode and so on.

Two hundred and seventy-nine 'potential missing baptisms' were identified and placed in the group of 1526 'potential' familial events. While 147 of these back-projections were found to be erroneous, 105 passed both tests for both intergenesis and other supporting data. This is clear evidence that infant deaths were occurring within local, non-migrating families at this period, but that their parents elected not to baptize.

However, while these extra 'synthetic' or 'dummy' links are helpful – indeed, by this method, the projected linked IMR based upon this sample would be more than double the IMR calculated based solely on 'real' birth-burial links – a corrected IMR projection of 78.52 per thousand would still be unfeasibly low. So how do we proceed? Can we simply consider the raw data as a basis for calculation? Below is presented a biometric-plot showing the infant mortality rates calculated for Newcastle both from the 1798-1812 data and from an aggregation of the four Registrar-General's reports. The corrected rate is based upon the measure proposed by Huck, whereupon IMRs are inflated to reach a 'benchmark' endogenous mortality rate of 25 per thousand.[19]

Figure 3: *Biometric plot of cumulative infant mortality (per 1000 live births)*



Source: Cambridge Group reconstitutions, Newcastle registers and Registrar-General's reports

Clearly, the rates presented for the period under observation are significantly lower than those returned in the Registrar-General's reports of the 1840s, lending support to those who suggest that the intervening period saw a relative *fall* in the health of much of the population – particularly in urban/industrial areas.

[18] E.A.Wrigley *et al.*, *English population history from family reconstitution: 1570-1837* (Cambridge, 1997) pp.574-577.

[19] The results have also been corrected *downwards* by adding the missing baptisms generated by back-projection.

Huck's observed populations of Sedgeley, Wigan, Armley, West Bromwich and Great Harwood, for example, 'experienced substantial and steady increases in mortality', as well as demonstrated in Armstrong's discussion of rising child mortality in early nineteenth century Carlisle.[20] Likewise, Szreter and Mooney's analysis of life expectancy in the first half of the nineteenth century shows, for example, a fall in e_o between 1821 and 1841 from 35.0 to 27.3 years.

Indeed, Newcastle's prodigious population growth during this 'missing' period between 1812 and the 1840s is highlighted in Figure 4 below. Likewise, while Middlebrook admits that 'it is clear that by 1815 the 'Industrial Revolution' had already begun … but … as yet, the tempo was slow, slower even on Tyneside than elsewhere north of the Trent, and the breach with the past barely perceptible'.[21] He concludes, however, that 'half a century later it was to be a different story'.[22]

Figure 4: *Population of Newcastle-upon-Tyne*

Year	***Estimated Population***	**Year**	***Census Population***
1700	18 000	**1801**	28 294
1740	21 000	**1811**	*27 587*
1770	24 000	**1821**	*35 181*
		1831	*53 613*
		1841	*70 504*
		1851	*87 784*
		1861	*109 108*

Source: Middlebrook, p.321

However, while this argument is certainly enticing, the poor results of the linkage exercise force caution. If either the baptism or burial data are fundamentally flawed, relational analysis – such as the calculation of IMRs – will simply exaggerate their inaccuracies. However, the extra data present in the Newcastle registers allow a deeper level of analysis which distinguish some causal factors in the deficiencies in the registration data.

Returning to the back-projection exercise, it was initially supposed that, based on the probability of high rates of early infant death and theories of 'secularization', only healthier children were baptized, particularly by poorer families. If this were the case, one would expect that these 'synthetic' links would be disproportionately skewed towards those children who died youngest – particularly within the first three months of life as suggested by Figure 2 above. However, only a quarter of these links were found to belong to children who died at, or below, the age of three months. Indeed, just under half of the links belonged to children dying above age one. The high standard deviation of the distribution also suggests a highly scattered distribution of ages at death for these 'synthetic' linkages – certainly no clear evidence for a consistent strategy of only baptizing the healthy.

Work in anthropological demography, however, suggests that close observation of the *micro-familial* context of each given demographic event can go some way toward explaining some of the *macro*-level issues. Indeed, as William Skinner notes, 'family system norms … impinge directly on every term of the population equation'.[23] As such, an intensive analysis at the *micro-familial* level was performed upon the sample population. By looking at the newly created baptism register, which included the 'synthetic' linked births from the death 'register', certain patterns emerged. It quickly appeared that explicit 'catch-all' explanations, as favoured by Krause, were inadequate for rationalizing the data.

[20] Paul Huck, 'Infant Mortality and Living Standards of English Workers During the Industrial Revolution', *The Journal of Economic History*, 55, 3 (1995), pp. 528-550. p.534.

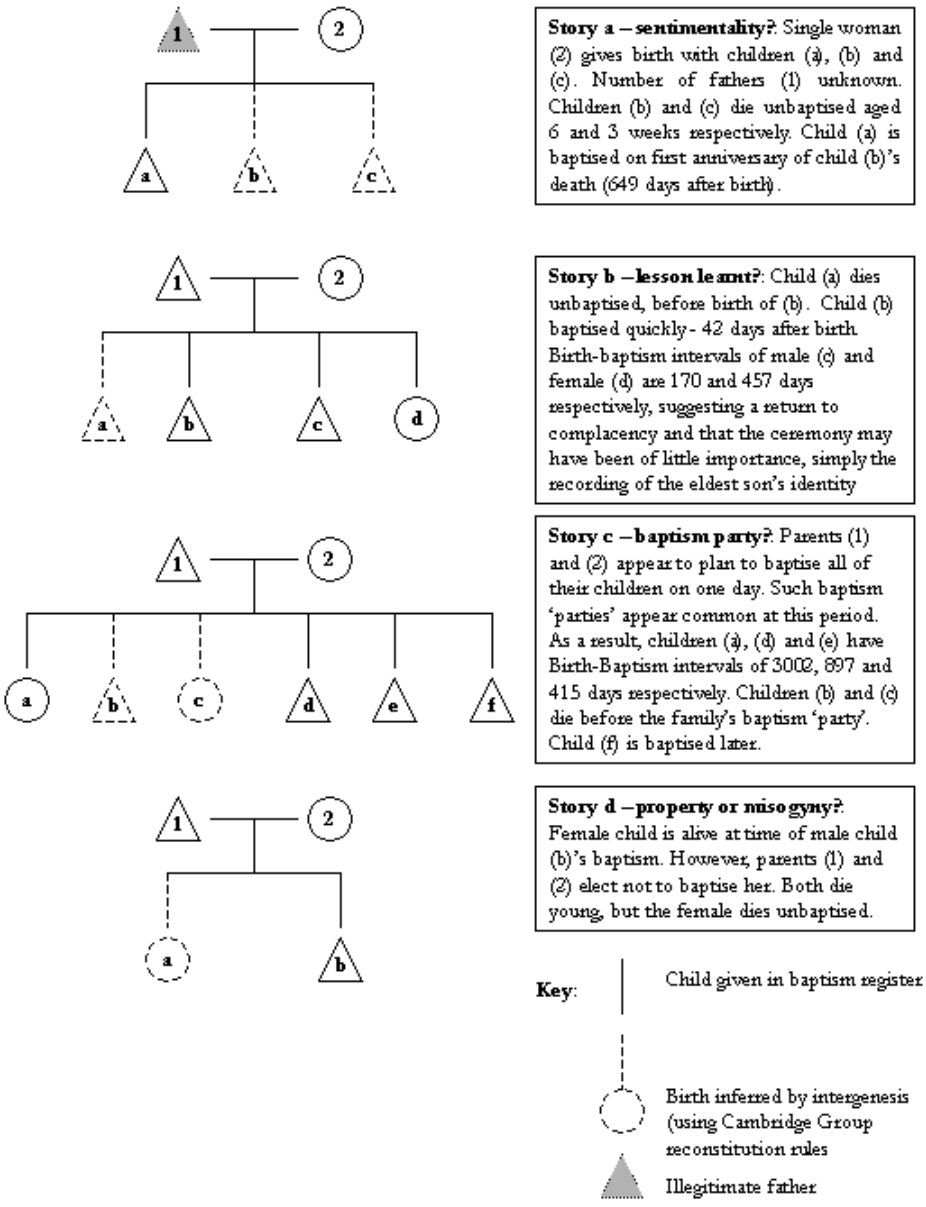
[21] Middlebrook, *Newcastle* p.143.

[22] *Ibid*.

[23] William Skinner, 'Family Systems and Demographic Processes' *in* David I. Kertzer and Tom Fricke, *Anthropological Demography: Toward a New Synthesis* (Chicago, 1997) pp.85.

In Figure 5, four 'stories' 'found' in the Newcastle data have been reproduced. These are not isolated, extreme examples, but representative of many such cases which appear in the data. They demonstrate the myriad strategies which parents on Tyneside exercised relating to how they chose to, or *not to*, register the births of their children.

Figure 5: *Micro-familial 'stories' from the Newcastle registers*



Source: Newcastle registers

While the first two 'stories' are relatively self-explanatory, a little more could be said about the third. Qualitative evidence from maternity care charities suggest that such 'parties' may have been commonplace at this time. Indeed, over nine per cent of the total number of children in the 1798-1812 Newcastle registers appear to have been baptized on the same day as one of their siblings. For example, brothers and sisters often baptized their own respective children in joint ceremonies.

Figure 6: gives two clear examples of *possible 'baptismal parties'*:

Father	**Child**	**Born**	**Baptized**	**Birth-Baptism Interval**
Taylor Gibson, Druggist	George	28/08/1801	*24/08/1810*	3283
	Benjamin	01/05/1803		2672
	Joseph	23/05/1804		2284
	John	15/05/1805		1927
	Frances	02/09/1806		1452
	William	02/02/1808		934
	Isobel	12/08/1809		377
John Gilley, Master Mariner				
	Ann	03/11/1790	*26/02/1802*	4132
	Margaret	22/09/1793		3078
	William	09/06/1795		2453
	John	21/02/1797		1830
	James	02/06/1799		999
	Andrew	24/12/1800		429

Source: Newcastle registers

However, as many children may die before the 'party' – as they do in story (c) – this 'bunching' of baptisms could be a significant factor in explaining the low number of links between registers. If parents have a stratagem of waiting to baptize all of their children at once, it is probable that some *will* die in the intervening period.

The final story, (d), describes the case of an older daughter who, while being alive at the time of her brother's christening, was excluded from the ceremony and, hence, died unbaptized. Although the motivation behind this strategy can only be surmised, inheritance of property or simple misogyny cannot be ruled out.

As these stories show, it would appear that each family in the Newcastle registers may have adopted their own 'baptismal strategy', whether planned, spontaneous or pragmatic – thus suggesting a more postmodern approach to the data may yield dividends.

To conclude, Krause and Razzell effectively write off parish-register based demographic analysis of urban areas of England during the 60 years before civil registration – indeed, the results from the linkage exercise appear to support their claim. These inadequacies have led to the very cautious nature of the claims made in this paper regarding deteriorating living standards in the first half of the nineteenth century. Until the data for the 'missing-period' of 1812-37 are analyzed, we cannot know the extent to which worsening health or improving registration was responsible for the change in IMR.

However, the detailed nature of the 1798-1812 data *does* allow us to fundamentally rethink our perceptions of the perceived inadequacies of the demographic data relating to this period. By focusing more upon the life-histories of the families who are at the heart of the data, we can think more deeply about the mechanics *behind* the data which we analyze. In this way, perhaps, it is possible to throw some light upon demographic dynamics in this 'dark age'.

Have gun, give food: nutrition, agriculture and the onset of civil wars in sub-Saharan Africa

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Why do civil wars erupt in some sub-Sahara African states while others are free of rebels? Explanations like regime type, ethnic fractionalization, poverty in terms of GDP/c, and resource dependency tend to treat Africa as a relatively homogeneous entity. If, however, African countries did hardly differ from each other, it is a puzzle, why we observed civil wars in some African countries while in others, though very similar, we did not.

In this paper, we present evidence for agriculture and nutrition as a cause of civil war. A substantial part of the African population depended on agriculture for their livelihood. African governments discriminated against agriculture and chose policies which undermined food security in the long-run. Moreover, Africa is so poor that nutrition might be a likely motivation for poor people to join the rank-and-file of a rebel group. The results of a panel-analysis support our hypothesis; nutritional crises significantly preceded civil wars. In contrast, we do not find a significant impact of conventional explanations.

I. Introduction

Civil wars cause an immense humanitarian burden and impair a country's development prospects. When civil wars erupt, they are rarely a short-term affair and a final resolution is difficult to achieve. Much scientific effort has been spent on analyzing the causes of civil wars. The political literature emphasized the regime type's role arguing that semi-democracies are more prone to civil wars, because they are neither autocratic enough to suppress rebellion nor democratic enough to resolve conflicts peacefully (Hegre et al., 2001). Others hypothesized that ethnic heterogeneity influences the risk of civil war. With social polarization along ethnic lines ethnicity can be easily instrumentalized by rebels (Gurr, 1994). Collier and Hoeffler (1998) argued instead that ethnic fractionalization reduces the ability of organizations to function and that rebel groups are no exception to this rule; if recruitment is limited to a single ethnic group, it is more difficult to reach the critical mass of rebels. Explanatory models also included poverty in terms of GDP/c as it reflects low opportunity costs (Collier and Hoeffler, 1998) and a low state capacity (Gurr, 1994), both of which increase the probability of civil war. Last but not least, scholars identified looting of mineral resources as a major motivation of rebels. Collier and Hoeffler (1998) approximated the abundance of natural resources with the share of primary commodity exports in GDP and found a positive impact on the likelihood of civil war for most values.

The hypotheses were tested using a global sample of countries. How does sub-Saharan Africa (SSA) fit into these explanations? According to the POLITY-index, which describes the regime type in a single measure ranging from -10 (strongly autocratic) to +10 (strongly democratic), the political system of most African countries did not vary much (Marshall and Jaggers, 2002). Almost 40 per cent of observations of the African sample have a POLITY-score of -7 and about 70 per cent are clustered between -6 and -9. The colonial era left ethnically highly fractionalized states in SSA. Thus, even though rebels instrumentalize nationalist sentiments, ethnic antagonisms are common and do not necessarily distinguish the cases where civil war broke out. In poverty and economic growth, SSA holds an exceptionally poor record and differs significantly from other regions of the world (Easterly and Levine, 1997). Negative per capita growth rates are clustered in SSA including countries, in which no civil war occurred. The share of primary commodity exports in GDP also does not describe distinct differences between the countries as the sample of African countries has a significant 46 per cent lower standard deviation than the remaining sample.

The prominent explanations of civil wars draw a rather homogeneous picture of SSA. If, however, African countries did hardly differ from each other, it is a puzzle why we observed civil wars in some African countries while in others, though very similar, we did not. In this paper, we argue,

that for explaining civil wars *within* SSA, agriculture and nutrition must be taken into account. The remainder of the paper is organized as follows. In section 2, we briefly give our motivation of extending the explanatory model by nutritional and agricultural factors. In section 3, we describe the data and regression model and in section 4, we present the results of a panel-analysis. Section 5 concludes.

II. The case for nutrition and agriculture

In SSA the hungriest 25 per cent of countries live from a daily food supply per capita of less than 2000 calories (FAOSTAT).[24] Food is vital and gains from a marginal improvement from poor nutritional conditions are high indeed. Hence, nutrition could be a major motivation for poor people to join the rank-and-file of a rebel group. In fact, there is evidence of food as a crucial recruitment incentive; British military officers doing their service in colonial Africa reported that 'good food' was pulling African men into the British colonial army (Killingray, 1985). There need not necessarily be a political motivation. If hunger is present, the possibility to get food by force could be sufficient motivation.

African governments were well aware of the threat hunger creates. They frequently fixed food prices below market levels subsidizing and appeasing the politically more active urban population (Bates, 1981). However, producers facing low prices respond with reducing supply. Consequently, such a policy undermines food security in the long-run. Moreover, in their struggle for industrialization many African countries followed an import substitution policy, under which overvalued exchange rates and the monopsony parastatal marketing boards held further discriminated agricultural producers. The effect on nutrition was negative as Moradi and Baten (2005) found that monoculture cash-cropping increased nutritional inequality and lowered net nutritional status. The significance of these aspects is obvious. Most people in SSA depended on agriculture for their livelihood, about 85 per cent of the population in 1960 and still 70 per cent in 1990 (FAOSTAT).

Although agriculture was discriminated against in general, heterogeneity in agricultural activities increased discriminatory practices and the potential for conflict over scarce resources, like land or water. Pastoralists, in particular, were treated as a backward element. In Chad, for example, excessive taxes on cattle triggered a *rural* based insurrection in 1965 and the conflict resulted in a long-lasting civil war (Azam and Morrisson, 1999).

III. Data and regression model

The civil war database we use here is the third version of the Correlates of War Project (Sarkees, 2000). Accordingly, a civil war is defined as any internal conflict, in which at least 1000 battle related deaths occurred per year.[25] In our test strategy, we follow Collier and Hoeffler (1998) and apply Grangerian strategies to reduce problems of endogeneity. Levels are measured at the beginning of each sub-period; growth rates are calculated by averaging the annual growth rates of the *preceding* sub-period. Ongoing civil wars are coded as missing values and therefore are excluded from the regression. The panel data set consists of 40 countries and eight five-year sub-periods (1960-64, 1965-69, ..., 1995-99). Since the onset of civil wars is a dichotomous dependent variable, we apply a maximum-likelihood probit model for estimating the probabilities of civil war starts.

The established explanations of civil wars should not be rejected in advance. We test the hypothesis that semi-democracies are more prone to civil wars by including the POLITY-score and its square. Moreover, we control for ethnic heterogeneity by using the population share of the largest ethnic group and we consider poverty in terms of GDP/c. For testing the case of looting we include the share of primary commodity exports in GDP.

Our set of variables consists of the rate of urbanization. On the one hand, urbanization could indicate an excess food supply in rural areas, as the increased number of urban consumers must be sustained. Urban areas also offer better access to public goods, like schooling and health, and imply better income prospects, which increase opportunity costs of starting a rebellion. On the other hand, factors pushing people into cities, like lower wages or unemployment in rural areas, reduce opportunity costs of the rural population. Because migration offers an opportunity to escape from rural poverty, we would

[24] Since individual availability of calories and energy needs vary, many people in these countries are undernourished.

[25] We also included wars of decolonization.

expect a negative relationship between urbanization and the onset of civil war. A good proxy of agricultural heterogeneity is the coefficient of variation in cattle per capita of a country's administrative regions. Specialization in livestock occurred as an adaptation to environmental constraints and hence, variations within a country indicate antagonisms in agriculture.

Given the prominence of rain-fed agriculture in SSA, rainfall affects agricultural output (Miguel et al., 2004) and food supply positively. We therefore include (lagged) growth in rainfall. Firstly, when droughts occur, governments are either not responsible or they can credibly blame exogenous factors for food shortages. Moreover, food might then be generally short in supply, so that potential rebel groups find it difficult to acquire food for starting their activities. Additionally, rainfall is stationary for most African countries and thus, growth in rainfall is negatively autocorrelated (p-value: 0.000). Therefore, a shortfall in precipitation partly predicts growth in agricultural output in the period, for which we code the onset of civil wars. For these reasons, we would expect a positive regression coefficient for our rainfall variable.

We consider nutrition with calorie supply available for human consumption from the FAO Food Balance Sheets (FAOSTAT). By expressing food supply in calories, the vast differences in the kind of staple food between the countries are standardized by their nutritional value. Though FAO is confident that their figures provide an approximate picture of the countries' *overall* food situation, their data was criticized, because 'primitive' methods of surveying agricultural production were applied. Furthermore, aggregate food supply does not display nutritional stress of certain groups and a population's nutritional status is not only determined by food *availability* but also by nutritional needs. However, the FAO calorie figures were used in anthropometric studies and turned out to be a significant (though weak) predictor of net nutritional status. Moreover, similar caveats apply to the GDP/c variable.

IV. Regression results

Our regression analysis demonstrates that the prominent hypotheses fail to explain the conflict history within SSA. Most determinants do not have an impact as in a global sample (first model, Table 1). Economic growth is insignificant and the level of GDP/c is only significant at the 10 per cent level. The dependence on primary commodity exports does not have any explanatory power. This is an important result insofar, as the variable is the main pillar of the hypothesis that the rebels' motivation is greed seeking the easy lootable rents generated by mineral resources. Moreover, the regression results point to an effect of ethnicity and regime type opposite to what was hypothesized. The risk of civil war is increasing with the size of the largest ethnic group (significant at the 10 per cent level); the more democratic an African country the more probable is a civil war.[26] The polity variables, however, are jointly insignificant (p-value: 0.38). Because they restrict the sample size, we exclude them in the following. Only the peace duration since the end of the previous conflict (starting point is the end of WWII) and the population size have an effect on civil wars similar to the one when using a global sample of countries. The peace duration approximates conflict history and indicates that the risk of civil war is gradually decreasing over time with civil wars likely to recur. The positive effect of the population size is assumed to reflect a larger recruitment pool, from which only a small absolute number of rebels need to be drawn for posing an effective threat to the government.

In the next regression we include the agricultural and nutritional variables from our list (second model, Table 1). The coefficients have the expected sign. A growing urban population makes countries safer. Agricultural heterogeneity measured by variations in cattle holdings increases the probability of civil war. Rainfall has a positive effect, which reflects the paralyzing role of droughts and the impact on future agricultural output. The calorie supply indicates that a sufficient food supply reduces the risk of a civil war.[27] In the subsequent regression, we add lagged growth in food supply (third model, Table 1). The regression coefficient is significantly negative indicating that nutritional crises preceded civil wars. When reducing the regression model our nutritional and agricultural variables are still highly

[26] Coding the regime type with dummy variables (POLITY-scores lower than -5 as autocracies/ higher than +5 as democracies) does not alter this result.

[27] Missing values in cattle per capita reduce the sample size and make the level of calories insignificant.

significant (fourth model, Table 1). The goodness of fit is excellent and demonstrates that our variables are powerful in explaining the war experience in SSA.

V. Conclusions

The prominent hypotheses of civil wars treat SSA as a very homogenous entity and they cannot explain civil wars *within* SSA. In this paper, we argued that poor nutrition is motivating people to join the rank-and-file of a rebel group. The results of our panel-analysis support this view. The effects of food supply, rainfall and agricultural heterogeneity on civil wars, start to point to nutritional and agricultural crises triggering civil wars in SSA. Overall, however, the real curse is the failure of African governments to implement effective, non-discriminatory policies in favour of a secure and sufficient food supply for their people.

Our results are good news in that measures for preventing civil wars do not compete with broader development goals. Economic policies, which raise the availability of vital goods, are simultaneously a promising strategy for preventing civil wars. Because civil wars aggravate nutritional problems and nutritional crises in turn increase the risk of civil war, a vicious circle could follow. To prevent countries from becoming locked in a war trap, the international community should temporarily give every assistance to ensure that the people's most basic needs are met.

Table 1: *Probit estimates of civil war starts 1960-97*

	(1)	(2)	(3)	(4)
LN(GDP/c)	-0.489* (-1.78)	0.127 (0.34)	-0.218 (-0.54)	
ΔGDP/c $_{t-1}$	-0.032 (-0.86)	-0.024 (-0.66)	-0.019 (-0.51)	
Primary commodity exports/GDP	1.612 (0.44)	1.888 (0.53)	1.898 (0.52)	
(Primary commodity exports/GDP)²	1.252 (0.19)	-2.317 (-0.36)	-2.286 (-0.34)	
Percentage of largest ethnic group	0.011* (1.85)	0.021*** (2.64)	0.020** (2.31)	0.020** (2.39)
POLITY-score	0.033 (1.37)			
(POLITY-score)²	0.004 (0.77)			
Peace duration (in months)	-0.002*** (-2.55)	-0.002** (-2.50)	-0.002** (-2.54)	-0.002*** (-2.67)
LN(population in 1000)	0.363*** (2.90)	0.452*** (3.33)	0.365** (2.44)	0.396*** (2.87)
ΔUrbanization (in %)		-0.199** (-2.31)	-0.157* (-1.85)	-0.161** (-2.10)
Regional heterogeneity in cattle per capita 1960		1.307*** (3.27)	1.524*** (3.41)	1.535*** (3.99)
ΔRainfall $_{t-1}$		0.063** (2.06)	0.072** (2.11)	0.068** (1.98)
Calorie supply/ cap/ day (in 100)		-0.929 (-1.42)	-0.005 (-0.07)	
ΔCalories $_{t-1}$			-0.179** (-2.07)	-0.188*** (-2.56)
Pseudo R²	0.170	0.232	0.254	0.254
N	252	256	226	233
N civil wars	25	29	24	24

Notes: All regressions include a constant. Standard errors were estimated using the Huber/White/sandwich estimator of variance; z-values in parentheses. *, **, *** indicates significance at the 10, 5, and 1 per cent level.

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Economic planning and regeneration projects in the Scottish Highlands, 1945-82

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In the voluminous literature that is available on post-1945 economic planning in Britain, there has been little discussion of its impact in the Scottish Highlands. Government spent billions of pounds on several large-scale industrial developments in the Highlands in the post-war period. My work details these government-sponsored attempts at industrializing the Highlands through the creation of the nuclear power facility at Dounreay, a paper-pulp mill at Corpach, the tourist development at Aviemore and an aluminium smelter at Invergordon.

Sir Douglas Haddow, Permanent Secretary to the Scottish Secretary of State, 1965-73 saw the Highlands as a problem area that had to be kept quiet by 'chucking buns across the fence' if necessary. Haddow's attitude was not replicated in other parts of the Scottish Office however. Willie Ross, Secretary of State for Scotland under Labour governments in 1964-70 and 1974-76, was an ardent public supporter of Highland development, famously introducing the bill with the words: "For two hundred years the Highlander has been the man on Scotland's conscience". Privately, Ross viewed it as a way of strengthening the Union and diluting support for the growing nationalist movement, finding support for this view in the Civil Service. The split between the public face of government and development (Ross) and the behind the scenes machinations of policy development (Haddow and the Civil Service) is where my work is focused. The questions it seeks to answer then are why did the government see fit to locate these enormous and hugely expensive industrial ventures into an area hitherto untouched by heavy industry and why did they fail? Further, it seeks to answer the question of whether or not they could have succeeded. Each development was purported to be and presented as an attempt at remedying the long-standing problems in the Highlands of depopulation, high unemployment and low wages. However, a combination of poor planning, unfavourable markets and a preoccupation on the part of government with UK national concerns, saw the developments fail to achieve their stated aims of acting as growth centres, attracting further industry to the area and bringing long-term self-sufficiency and prosperity to the Highlands. This failure marked the end of attempts by government at industrializing the Highlands and, coupled with the failures of similarly created ventures further south in the country (the car plants at Bathgate and Linwood and the steel mill at Ravenscraig specifically), the planning of the Scottish economy.

In relation to the wider issue of industrial change and the development of the Scottish economy, the history and failure of these developments is instructive in understanding the retreat on the part of government from taking an active role in the planning and management of the Scottish economy and its subsequent development from a heavily-industrialized, manufacturing-based economy to the service-sector based one currently in operation. My work follows on from recent authors who have focused on the role of government in the management of the Scottish economy and the Highlands.[1] Whereas their work has been focused on institutional analysis of the mechanisms of government, my work focuses more specifically on the impact of the application of regional policy based on an institutional framework with particular reference to the four case studies providing evidence for my assertions. It is then an evolution of the current literature and a development of the themes present in it contributing to a more considered understanding of the Scottish economy in the post-1945 period.

[1] Peden, GC, "The Managed Economy: Scotland, 1919-2000" in Devine, TM, Lee, CH & Peden, GC, (eds.), *The Transformation of Scotland: The Economy Since 1700*; Levitt, I, "Taking a Gamble": the Scottish Office, Whitehall and the Highlands and Islands Development Board, 1965-67', *Northern Scotland*, Vol.20, 2000, pp.87-111 & 'Too deeply committed': Aviemore, the Scottish Office and George Pottinger, 1959-72", *Scottish Affairs*, Issue No. 51, Spring 2005; Cameron, E, 'Congested District to Objective One: the Scottish Highlands in the twentieth century', in TM Devine and RJ Finlay (eds.), *Scotland in the Twentieth Century* (Edinburgh, 1996) & The Scottish Highlands as a Special Policy Area, 1886 to 1965, *Rural History,* 8, (1997), pp.195-216.

Background to the developments

The commissioning and publication of the Toothill Report by the Scottish Council (Development and Industry) in 1961 marks a significant event in the discussion of the development of policy towards the Scottish economy. The Toothill Report encouraged the idea of the 'region' and called for more governmental intervention into the economy to rectify the problems experienced by the country. The report took the view that simply alleviating unemployment was not a sufficient criterion for the application of regional policy in Scotland. The report argued instead that regional characteristics such as "geographical location, communication facilities, development potential or established industrial base, offered the best prospects for generating economic growth",[2] encouraging the government to move away from its previous focus on rectifying unemployment as the major aim of regional policy. It was this idea of growth centres that was to characterize regional economic policy in subsequent years in Scotland, informing directly the creation of the pulp mill at Corpach, the tourist facility at Aviemore, the location of the second fast reactor at Dounreay and the construction of the aluminium smelter at Invergordon, all of which were intended to act as growth centres and all of which largely failed to do so. My work thus charts the creation, operation and impact of these developments and puts them in the context of national economic planning and its implementation through regional policy in the post-war period.

The Highlands of Scotland during the twentieth century experienced widespread population decline. Between 1921 and 1961 the population of the area declined from 371,372 to 304,161[3] – a percentage loss of 28.1 per cent in only 40 years.

Table 1: *Population Change in the Highlands of Scotland*

Year	1921	1931	1951	1961
Highland Population	371, 372	323, 277	316, 471	304, 161

Source: Highlands & Islands Development Board Annual Report, 1981. Appendix 4.

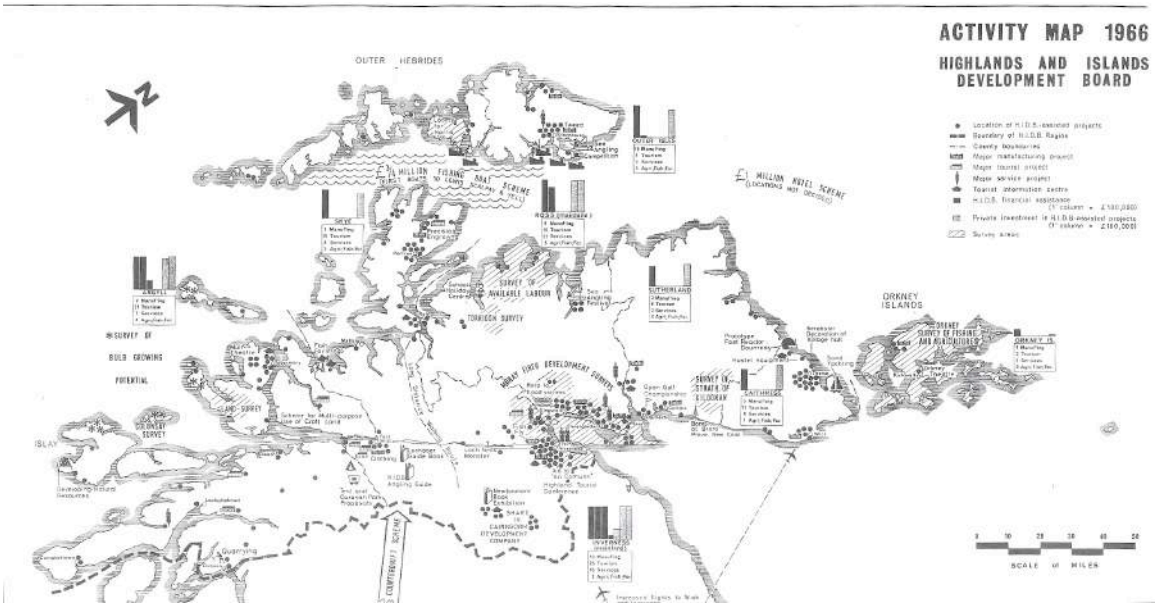
This gave cause for concern amongst many in government at both Scottish and British level resulting in the development of policy aimed at halting the migration flow south. From this, the Labour government created the Highlands and Islands Development Board in 1965, the most important development in government policy aimed at changing the Highlands alongside the creation of the Hydro. The HIDB was charged with the task of attracting industry to the Highlands and bringing prosperity to the area. It was instrumental in attracting the second reactor to Dounreay, continued support for the Aviemore development and the creation of the aluminium smelter at Invergordon. Whilst it did not have any input into the creation of the Corpach paper mill, which predated its construction, it was proactive in attempting to encourage other industries to locate in the area and was a supporter of the mill's operations and importance to the area.

Within a year of its creation, the HIDB's activities had stretched far and wide in the area and can be seen from the following map:

[2] Johnston et al, *Structure and Growth of the Scottish Economy,* (Collins, London & Glasgow, 1971), p.321.

[3] Industry Department for Scotland, *Review of the Highlands and Islands Development Board Economic and Social Change in the Highlands and Islands,* (Industry Department for Scotland, Edinburgh, 1987), Appendix III.

Map 1: *Activity Map of HIDB Activities, 1966*



Source: HIDB Annual Report, Appendix, 1966.

The HIDB's new chairman, Professor Sir Bob Grieve, former chief planning officer for Scotland, was intent on taking a proactive approach to planning in the Highlands, in part as a response to warnings that the board should not be little more than an "exercise in theoretical socialism".[4] Whilst there was certainly a socialist element in its creation, the board was intent that it would not simply be a theoretical entity. As a result, when the opportunity arose for the location of the second prototype fast reactor (PFR) in 1966 the board fought long and hard for Dounreay to receive it over Winfrith on the Dorset coast, arguing persuasively that this was the first real test of the government's stated commitment to the Highlands and an opportunity for the board to establish itself as a real and present force for change in the area.[5] The PFR was to be a shop window for fast reactor technology for exporting abroad, helping the government's balance of payments problems. In spite of Winfrith's obvious advantages over Dounreay, not least its more desirable geographical location on the south coast and near large centres of population (emphasizing the 'safeness' of fast reactor technology) and better communication facilities,[6] Dounreay received the second reactor for the publicly stated reason that it would act as a pull for other industries locating in the Caithness area – it was to be a 'growth centre'. In reality, a combination of reasons persuaded the government to locate the new reactor in Caithness – the Caithness seat would be winnable at the next election (a point made clear by the Caithness Labour Party to the government who were sitting on a very slim majority at this point); the government had campaigned in Scotland on the platform of commitment to the development of Scotland but had yet to locate any industry in the country and put simply, it had no other plan for the area.[7] It was then, the government's first legitimacy test for its policy of development of the regions in Scotland.

The Developments – planning, operation and closure

During the planning phase for each development, with the exception of the Corpach pulp mill, the government was dogged by its balance of payments problems.[8] As a result, each representation made to the government on the part of Scottish agencies for development in the Highlands had to cater towards providing an immediate, or almost immediate, benefit to the UK national economy in order to

[4] Hetherington, A, *Highlands and Islands: A Generation of Progress,* (AUP, Aberdeen, 1990), p.3.
[5] Letter from Robert Grieve to Willie Ross, 08/11/1965. National Archives Scotland folder NAS SEP14/1619.
[6] Minutes of Meeting between Prof Robert Grieve and Frank Cousins, Minister of Technology 20/12/65. National Archives Scotland folder NAS SEP14/1619.
[7] Cabinet discussion, 08/02/1966, TNA PRO CAB128/41.
[8] This applies only to the second reactor at Dounreay.

have any chance of success. The Corpach mill was to provide an element of protection against Scandinavian paper pulp price increases. Further, the application for government support for the Aviemore project was framed in the context of attracting more 'dollar tourists', the second 'shop window' reactor at Dounreay was intended to show off the commercial aspects of fast reactor technology for export abroad and the aluminium smelter at Invergordon was constructed to boost domestic production of aluminium ingots to reduce reliance on foreign imports of aluminium.[9] That all four developments are linked by the desire to protect British domestic production from foreign competition whilst being presented as the bespoke solution to the issue of Highland development is no accident. The developments were constructed primarily to serve the immediate needs of the UK national economy rather than as the long-term answer to the long-standing problems in the Highlands, evidenced in part by the lack of development of an integrated infrastructural framework of transport and communication facilities in the wider Highland area. Instead, infrastructural development was focused on the immediate areas in which the developments were located and specifically on housing the influx of new workers and providing amenities for them. Whilst this was undoubtedly important, for the developments to have any chance of succeeding as growth centres a more considered approach to Highland-wide infrastructure was needed. That the developments were located in the Highlands was a combination of good fortune, considerable political skill on the part of the HIDB and the Scottish Office and attractive terms offered to companies to locate there.

Operationally, each development experienced significant problems. Invergordon was crippled by high power-prices due to the delays in the construction of Hunterston B AGR nuclear power station in which it had a tranche of supply, eventually caving in to the enormous deficits that it built up in its smelter account with the North of Scotland Hydro Electricity Board and closing down. Aviemore has been the recipient of considerable criticism by many for scarring the landscape and failing to successfully compete as the 'Scottish St Moritz' – the publicly declared vision held by its chief supporter in the 1960s, Sir Hugh Fraser and supported by numerous government handouts. Dounreay experienced considerable problems in attempting to make fast reactor technology a workable energy provider resulting in almost continuous revisions to the likelihood of a fully working commercial fast reactor coming on stream in 1959, 1970 and 2000 respectively. In reality, a commercial fast reactor was never built in Britain at all. Coupled with this is the litany of accidents at the plant that has seen Dounreay become as infamous for safety as it is for its distinctive white dome. The Corpach pulp mill closed after heavy initial losses, a shortage in supply of locally available timber, high transport costs and tough market conditions as a result of larger and more technologically advanced Scandinavian and American competitors operating in the same market. All of the developments experienced problems that were particular to the area in which they were located – all were criticized for scarring the landscape, they all experienced problems with their relative remoteness and all experienced difficulty in attracting high quality workers to their new location resulting in them paying a premium for doing so.

Wiggins Teape closed its pulping operations in Corpach in 1981 closely followed by Invergordon closing its doors at the end of the same year. The decision to abort the fast reactor project resulting in the decommissioning of the Dounreay PFR was taken in 1994, although a run-down of operations had already been in effect since the early 1980s. Of the three developments only Aviemore is still in full operation, albeit after a very chequered past. The government's social experiment, predicated on economic performance, had failed to provide the long-term prosperity promised for the Highlands. The closure of these plants saw unemployment jump from 10.0 per cent in 1971 to 14.1 per cent in 1982 in the Highlands with some areas posting unemployment figures as high as 26.8 per cent in 1982.[10]

Table 2: *Percentage of Unemployed by area and year*

	1971	1982

[9] Final Report of the Official Group on Capenhurst November 1966, TNA PRO CAB 164/157, p.18.
[10] HIDB Annual Report, 1983, Appendix 4.

Thurso	6.6	13.4
Invergordon and Dingwall	10.0	19.7
Fort William (Corpach)	5.3	17.2
Total HIDB area	7.9	14.1

Source: HIDB Annual Report, 1983, Appendix 4.

It is quite clear that the closure (or run down) of these plants had a considerable effect on the areas in which they were situated. Far from acting as growth centres, the failure of the developments and their closure further exacerbated the existing problems in the area. They were successful in the sense that they helped attract people back to the area, but the intention was also to provide them with jobs. Thus, when the developments found themselves closing or running down, the areas had larger populations, and subsequently, increased unemployment levels.

Conclusion

The election of the Conservatives in 1979 saw the refusal on the part of government to continue subsidizing Invergordon and Corpach, resulting in their closure. The reorganization of the nuclear industry in 1987 saw it move towards operating more along the lines of private enterprise with the decision taken that Dounreay should be entirely self-funded from 1994. Indeed the only development that has flourished in any sense from the Conservatives' reversal of policy is Aviemore, although it has still been the subject of numerous government bailouts. The retreat from planning in the Highlands was based on stark evidence that it had failed. The failures in the Highlands sit alongside the failure of the attempts at establishing a motor car industry in Scotland as well as the large steel plant constructed to service it further south in the country. The failure of the planning process in the Highlands was a direct result of the desire for a quick fix to national economic problems and the failure to pay more attention to the need for wider infrastructural development in the area. The overall question addressed in my work then is how appropriate was economic planning for the Highlands? It is unlikely that the Highlands will receive the kind of attention and money it did during the period 1945-82 any time again soon.

Institutions or factor endowments? – Income taxation in Argentina and Australia

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> In sum, it is the LACK OF SOLIDARITY between the taxpayer and the treasury that is the cause of evasion. Without that indispensable bond, without an acceptance, not formal but REAL of joint responsibility, it will not be possible to tackle those actions needed to achieve the common good. (Peire 1959), p.41

Why compare Income Taxation in Argentina and Australia?

The comparison of income taxation in Argentina and Australia is part of a larger thesis interested in the big question of what determines development. The comparison of Argentina and Australia is well suited to this. Both were settler economies with similar prospects for development, but after rapid convergence in the late nineteenth and early twentieth centuries, there was clear divergence from the mid-twentieth century. This paradox of similar environments for development and starkly different outcomes once attracted much attention from economic historians. It holds the promise of getting beyond deterministic explanations of development such as factor endowments and geography, as Argentina was far better positioned in these terms than Australia. Yet it was Australia that continued to prosper as a developed country, and Argentina that regressed to developing country status.[11] Argentine institutions ultimately failed to generate the compromises required for development, entering a 'latent civil war'[12] from the 1930s onwards, one that hopefully exhausted itself in the early 1980s. In the Argentine-Australian comparison, the construction of the state and its credibility explains much of their divergence. Fiscal institutions are a promising means of investigating state credibility, as they clearly reflect it. The particular example of income taxation should be in theory, and was in practice, important. The divergence in fiscal institutions, especially in income taxation, was behind divergent development. Argentina and Australia took different development paths due to their differing institutional environments. Their example could clarify the more fundamental reasons for development elsewhere.

Argentina and Australia shared the external environment of developing on the periphery of the world market, with similar opportunities determined by their underlying wealth in land. These commodity export opportunities were the main development paths taken by each in the nineteenth and early twentieth centuries, and were highly successful. Argentina was a late starter, but by the turn of the twentieth century it caught up with the wealthiest 12 European countries in terms of GDP per capita, and was nearing the leading 'western offshoots' of Australia, New Zealand, the USA, and Canada.[13] It reached its peak in the late 1920s, by which time it exceeded or rivalled European GDPs per capita, and was almost at a par with Australia. Relative failure set in some time thereafter, but this was not clear until the post-war period. During the inter-war period Argentina and Australia turned away from the world market, beginning largely unsuccessful attempts at internally led development.

[11] Argentina is a particularly challenging example to the factor endowments argument most recently exemplified in Engerman, S.L. and K.L. Sokoloff (2002). "Factor Endowments, Inequality, and Paths of Development among New World Economies." *National Bureau of Economic Research* **Working Paper 9259**. They argue that factor endowments are the fundamental causation of development, as they determine institutions through their production function, e.g. slave plantations lead to dictatorial institutions whereas small farms lead to democracy. Engerman & Sokoloff propose that North American development was more successful due to factor endowments that encouraged small farms. Yet Argentina had similar factor endowments that did not result in small farms. Their fix is to argue that Argentina's unique response of inequitable land tenure encouraged the wrong kinds of institutions. Besides the inherent self-contradiction, it also contradicts the Australian experience. Australia had highly inequitable land tenure with successful democratic institutions.

[12] Díaz Alejandro, C.F. (1970). *Essays on the economic history of the Argentine Republic*. New Haven, Yale University Press.

[13] Maddison, A. (2003). The World Economy: Historical Statistics. Paris, OECD Development Centre. **2005**.

After World War II (WWII) the world market re-emerged as a powerful option for development. Australia managed to continue its former export led development path alongside a newer protectionist path, whereas Argentina could not maintain such a balance, abandoning export led development in spite of renewed opportunities. Both pursued similar paths to development, but Argentina proved unable to revive its export sector in the post-war period.

Considering factor endowments, Argentina was able to diversify into a wide range of staple exports whereas Australia had a much lower rate of diversification due to more limited factor endowments. Excluding Antarctica, Australia is the world's driest continent with some of its oldest and poorest soils.[14] Argentina in contrast is richly blessed in soil, climate, and geography. Yet many obvious opportunities stemming from rich factor endowments were left untaken in Argentina. It shares the same Andean cordillera with Chile, but its mining sector is insignificant. Why do Chile and Australia, but not Argentina, export so many minerals? Australia was less blessed, having little to sell aside from wool for much of its history. This required significant collective action (enabled by institutions of compromise) to overcome limited factor endowments. The best placed actor to provide such collective action was the state. It emerged early on as the leading investor in public goods such as railways, but also in scientific research to overcome problems related to low soil fertility, persistent drought, and plagues. It was able to play such a role due to its high credibility, backed by solid, if basic, fiscal institutions. Considering the similarity in models adopted for development and factor endowments, Argentina was better placed to develop than Australia. Australia's greater success was largely due to the greater abilities of its state. Institutions are more important than factor endowments in explaining divergence.

In order for the state and its institutions to play a positive economic role, it requires credibility to tax and borrow sustainably (i.e. fiscal institutions). State credibility goes to the core of the state's institutional capacity, and thus institutional explanations for development. Fiscal institutions are an important physical representation of state credibility. Less credible states are limited by weak fiscal institutions, and compulsion is highly ineffective in collecting revenue. Strong fiscal institutions must ultimately rely upon cooperation, which is only widely possible in a credible state. Income taxation is a fiscal institution that is highly dependent upon cooperation, and that has proven to be the most lucrative of all. In the first half of the twentieth century, it became the most important fiscal institution in Argentina and Australia. Yet it failed in the post-war period in Argentina. The comparative history of income taxation is important in order to determine the role that state credibility, and thereby institutions, played in the story of divergence.

The Crux of Divergence

The key experience in the post-war history of Argentine and Australian fiscal institutions was the respective failure and success of income taxation. Argentina successfully, if belatedly, introduced income taxation in 1932. Yet it clearly began to fail from the 1950s, quickly degenerating into a relatively insignificant fiscal institution. Australia successfully introduced federal income taxation in 1915 during World War I (WWI), which became its most important fiscal institution by the mid-twentieth century.

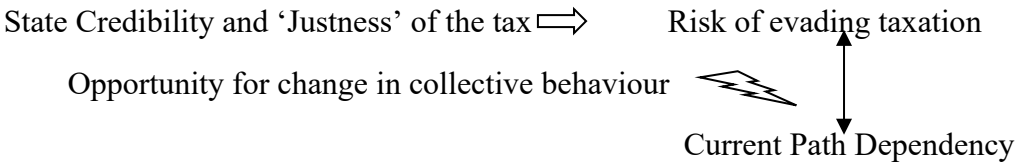
Income taxation is a strong indicator of state credibility as it is a direct tax that requires much cooperation from individuals. For instance, even when the state is capable of measuring incomes at their source, workers can still choose to opt out of the legal labour market. Individuals calculate how much they are willing to pay, measuring the cost and benefits of paying against those of not paying. The balance is largely determined by state credibility. One study finds that the majority of Australian taxpayers pay income taxation despite the very low chance of being caught, and the practice of self-assessment and voluntary compliance.[15] In the long run, the state's credibility determines both the justness of taxation and the risk of being caught. Yet in the short run, the prevailing proportion of

[14] Flannery, T.F. (1995). *The future eaters: an ecological history of the Australasian lands and people*. New York, G. Braziller.

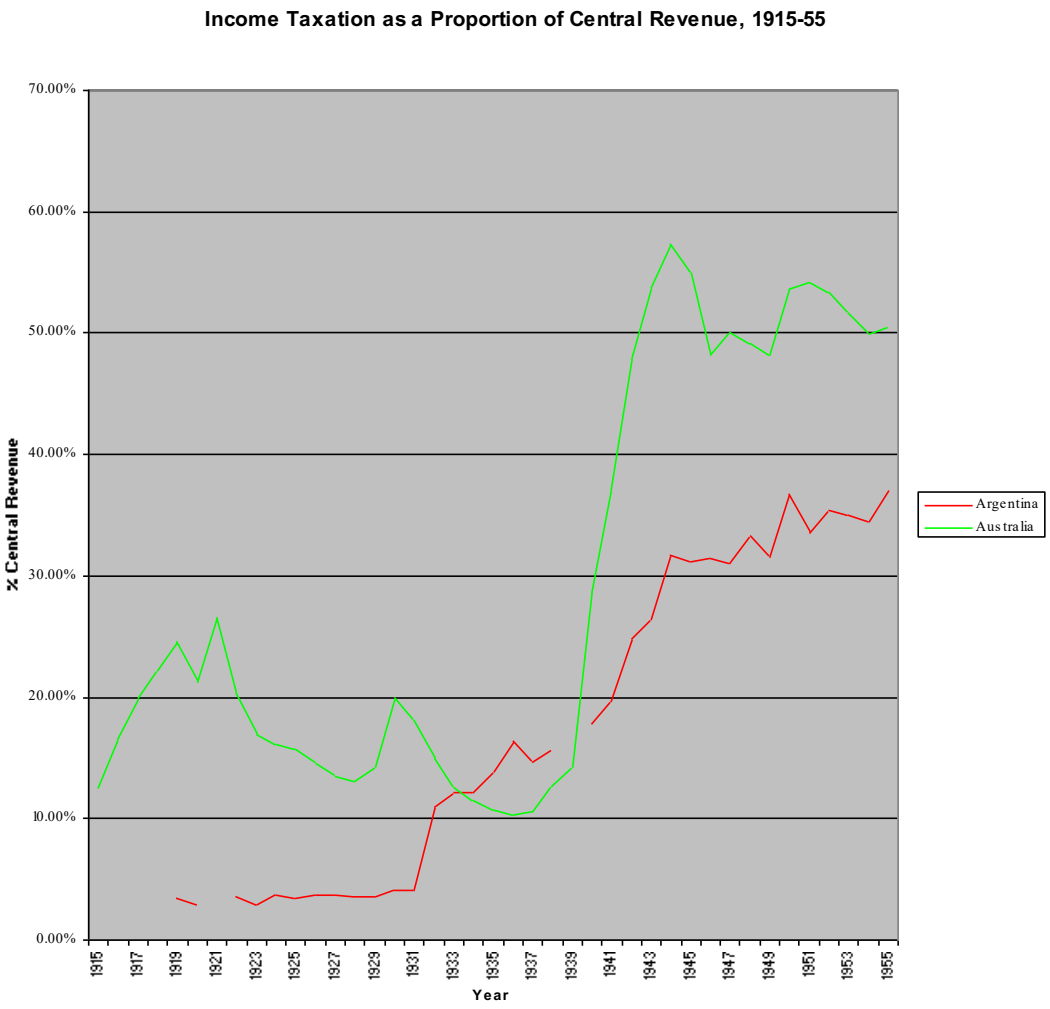
[15] Torgler, B. and K. Murphy (2004). "Tax Morale in Australia: What Factors Shape it and has it Changed over Time?" *Manuscript re-submitted to Journal of Australian Taxation*., pp.2-4.

taxpayers paying determines the risk of being caught. If many people pay income tax, it is easier to discover those who do not, and vice versa. The prevailing proportion of taxpayers is akin to path dependency in the short run. Even if many feel income taxation is unjust, the risk of not paying will remain high as long as most people pay. This path dependency relies upon the difficulty of coordinating individuals' collective behaviour, and will work to maintain the status quo until an opportunity arises for change.[16] State credibility ultimately determines tax cooperation in the long run, but has to await opportunities for collective expression in the short run. Path dependency can give previously credible states plenty of rope, and may make it more difficult for newly credible states to increase their fiscal resources.

An ideogram of the process above:



[16] For instance war, depression, and extensive inflation.


Income Taxation as a Proportion of Central Revenue, 1915-55
70.00%
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
% Central Revenue
1915
1917
1919
1921
1923
1925
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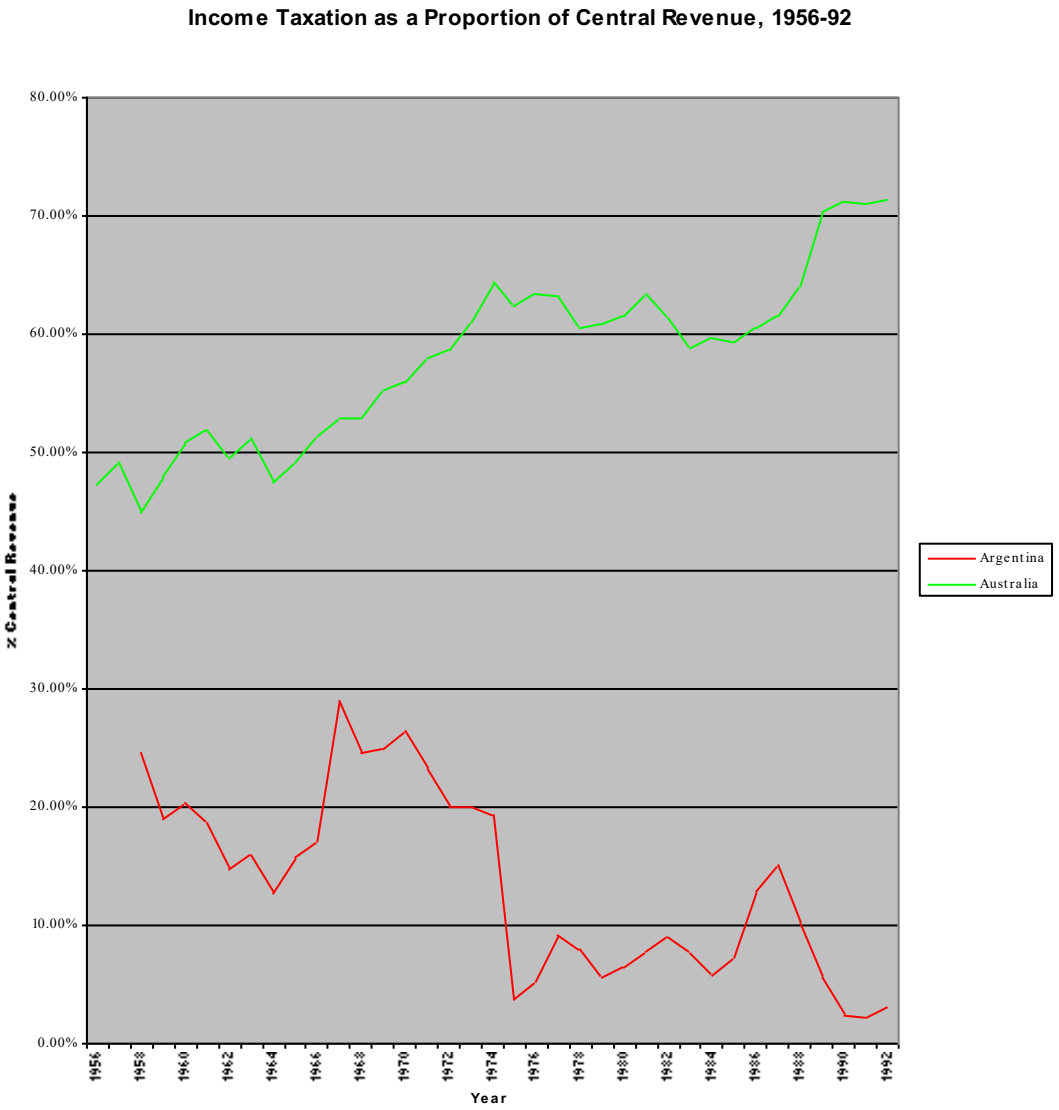
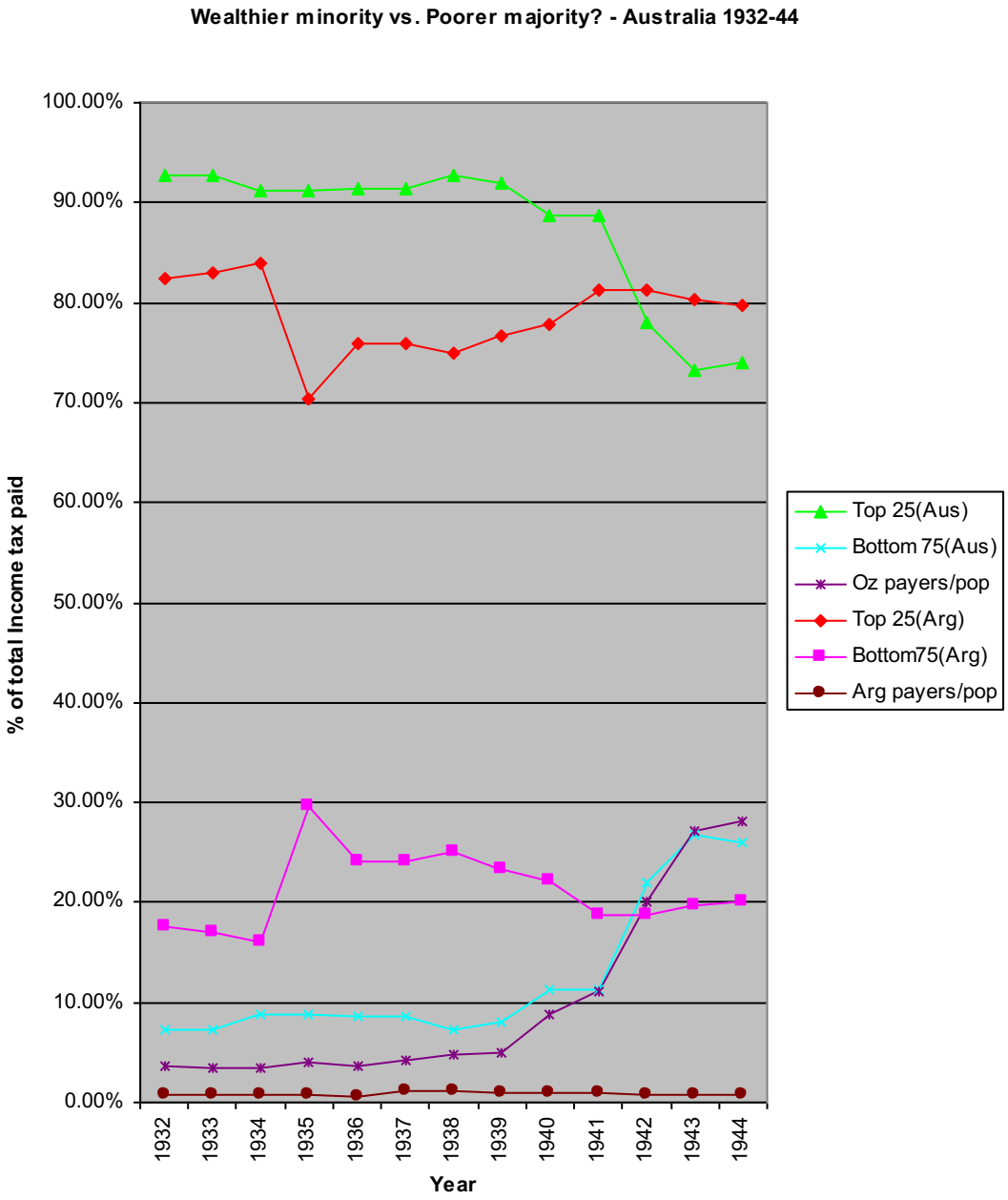
Argentina
Australia



Argentina: (Mitchell 2003); Australia: (Mitchell 2003); (Vamplew 1987)

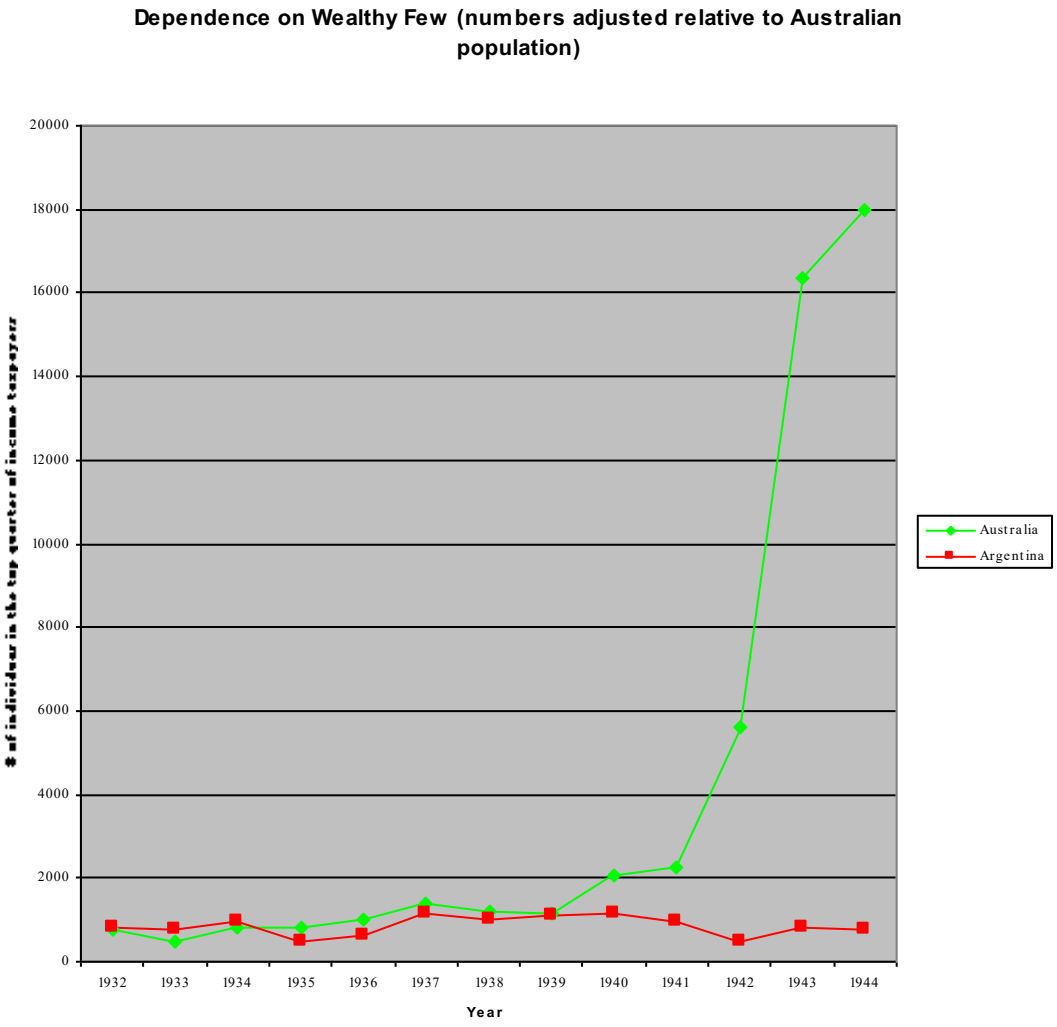
There was remarkable convergence in income taxation until 1955, and striking divergence thereafter. The year 1955, when the military broke Argentine democratic institutions for a second time in the twentieth century, marked a watershed in the decline of Argentine state credibility by this measure. In contrast Australian state credibility grew roughly continuously from WWI onwards. The open failure of Argentine income taxation began in the mid-1950s, accelerating in the 1970s. It should have been preceded by a failure in state credibility. The opportunity for change in both instances was inflation, which greatly increased the opportunities for income tax evasion.



Argentina: (Nacion 1935-45), (Maddison 2003); Australia: (Taxation 1915-60), (Maddison 2003)

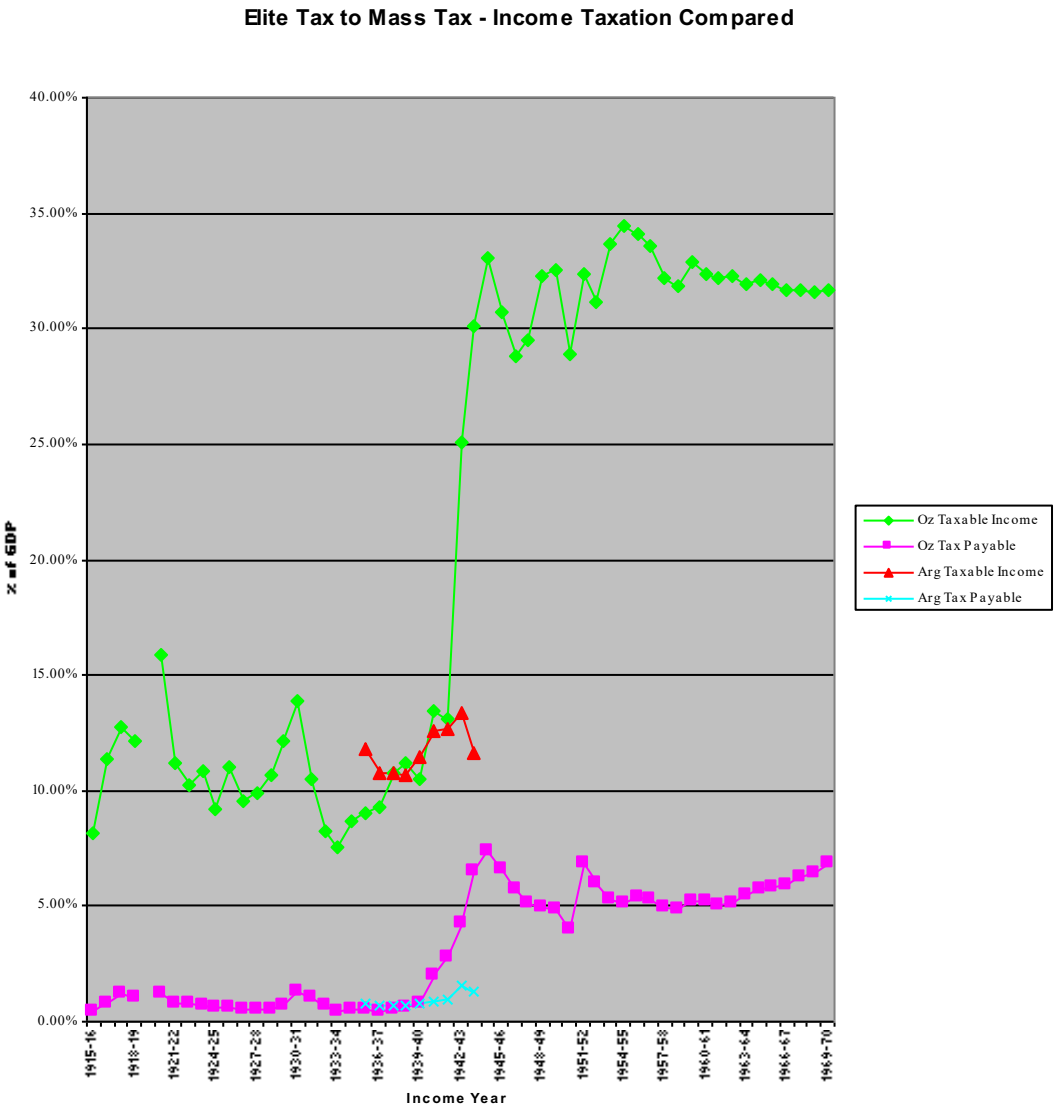
The chart above compares the Argentine and Australian experiences of income taxation in 1932-44, roughly dividing the population of income taxpayers between the highest earning 25 per cent from the remaining 75 per cent. It also shows the proportion of income taxpayers to the entire population. The period was when Argentine income taxation became most successful in terms of revenue. Initially the main differences were: the greater dependence of Australian income taxation upon a wealthy minority, and the slightly larger proportion of Australian income taxpayers to population. Few people paid income taxation in both countries prior to WWII, and of those few the vast majority was paid by the highest earning quarter. Income taxation was a fragile tax upon a wealthy minority.

In Australia this changes with WWII, when income taxation became entrenched as a mass tax. The proportion of income taxpayers to population leaped from less than five per cent to almost a third of the population, mirrored in an increasing burden upon the bottom 75 per cent of income taxpayers (presumably because the wealthy were already paying much of what they would bear). In contrast Argentine income taxation remained a fragile tax paid by a wealthy minority.



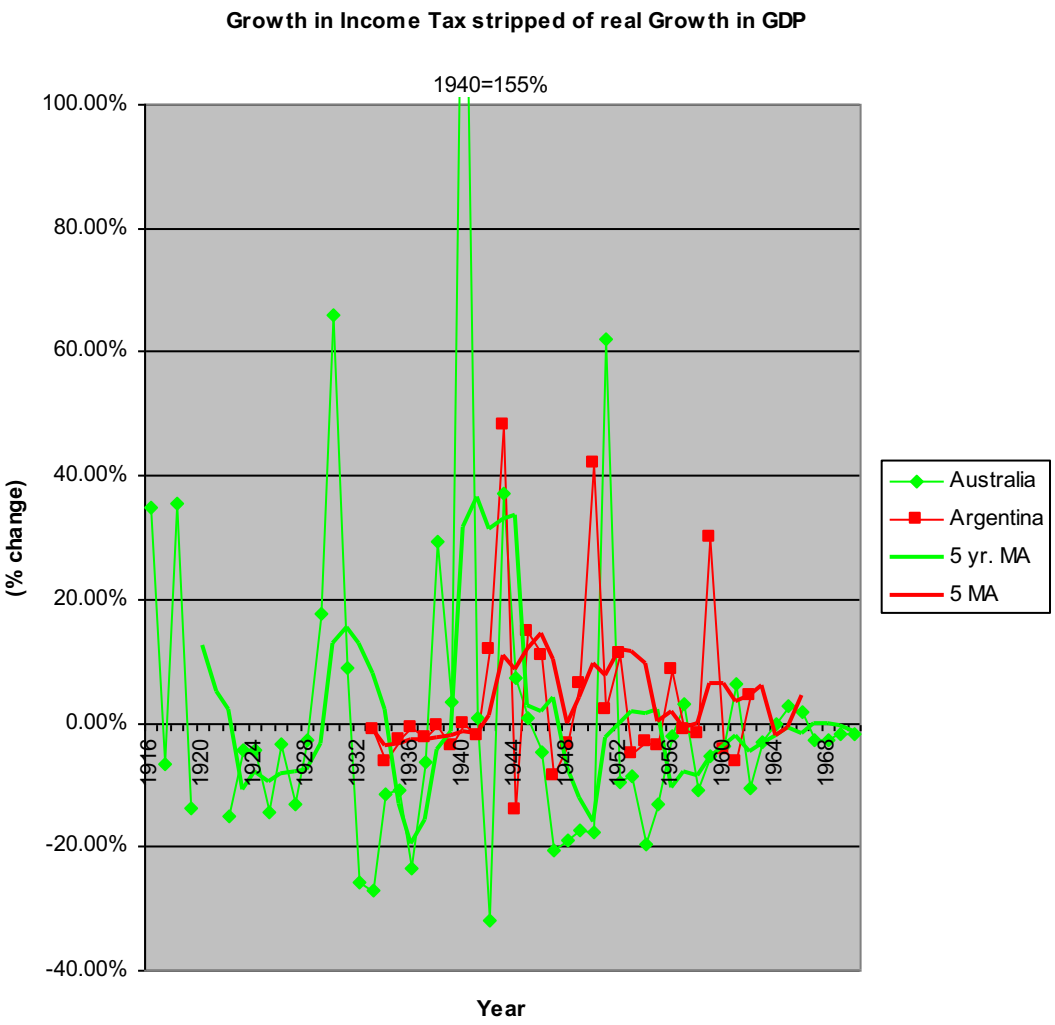
Argentina: (Nacion 1935-45), (Maddison 2003); Australia: (Taxation 1915-60), (Maddison 2003)

This chart above reinforces this by comparing the number of individuals within the top quarter of the income taxpayer population (adjusting for relative population size). It shows how fragile income taxation was in Argentina and Australia prior to WWII, when it was dependent upon the cooperation of surprisingly few individuals. Argentine income taxation depended upon a wealthy few, an average of only 1694 individuals from 1932-44, most of whom lived in the city of Buenos Aires. The boundaries to their collective action, for example, to pay or not to pay, were not likely very high. An event that threatened the wealthy minority, such as the highly socially conflictive populist democracy of Peron in 1945-55, could have greatly reduced their cooperation. It is not hard to imagine a silent rebellion of increasing non-compliance emanating from the country clubs of Buenos Aires. Such a rebellion became much more difficult in Australia as income taxation was transformed into a mass tax.



Argentina: (Nacion 1935-45), (OXLAD); Australia: (Taxation 1915-60), (Statistics 1960-71), (Mitchell 2003)

The chart above gives yet another view on the move to mass taxation, comparing Argentine and Australian income taxation relative to GDP. Prior to WWII, Australia and Argentina were remarkably similar in both the amount of income subject to taxation relative to GDP, and the amount of income taxation that was taken relative to GDP.



Argentina: (OXLAD; 1963); Australia: (Taxation 1915-60; Statistics 1960-71; Maddison 2003)

The transition to mass tax would have been made easier by development. For instance, if the state used the increased resources provided by income taxation to promote development via the greater provision of public goods, development would increase the overall wealth of society and a greater proportion of people could afford to pay it. The chart above compares real income growth (change in real GDP) with growth in the average rate of income taxation. A state that is successfully encouraging development should be able to partly offset increases in taxation with growth in real incomes due to development. The gains may even be such that income taxation growth is negative when balanced by real income growth. This was largely the case in Argentina and Australia prior to WWII. This changed in the post-war period when Argentine income taxation grew persistently faster than economic growth, likely increasing its perceived unjustness. This contrasts strongly with Australia. It also suggests that the fall in Argentine state credibility may have begun as early as the mid-1940s, which fits with its later decline in the mid-1950s.

Conclusion

What does the experience of income taxation tell us of divergent development? It indicates the different experiences of state credibility and thereby institutional capacity to positively influence development. A great disparity emerged by the late 1950s in Argentina between those that allocated state expenditure and those that paid taxation. This disparity was largely due to a failure of state credibility. As the Argentine state increased its economic role and expenditure, it found its taxpayers were unwilling to fund it. Having not formerly transformed income taxation into a mass tax, it was far easier for it to fail

in Argentina. The Australian state was able to continue to foster development and/or not obstruct it much. The Argentine state became a major liability to development, scrambling for resources. As its fiscal institutions eroded, it was unable to avoid undermining economic development via seigniorage and insufficient public goods provision (as it monopolized their provision). Ultimately the Argentine state's increasing impediment of development was driven by an inability to legitimately fund itself, by a 'lack of solidarity' between the state and society. The comparison of income taxation clearly demonstrates the differing experiences of state credibility, and the importance that this had upon the ability of institutions to positively influence development.

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OXLAD Oxford Latin American Economic History Database, Latin American Centre of Oxford University.

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Economic policymaking in the early Reagan administration: how the double experiment almost failed

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If one were asked to sum up the impact of Reagan's first administration, it would not be suprising to hear that "the economy [was] the best measure of the Reagan Revolution".[17] What would be suprising and rather perplexing to most would be the confession of Treasury Secretary Donald T Regan, who wrote: "from the first day to the last day at the Treasury, I was flying by the seat of my pants. The President never told me what he wanted to accomplish in the field of economics".[18] With the help of previously unreleased archives and little-known evidence, this article will demonstrate the highly complex debate that took place during the first years of the Reagan administration.

The "recovery programme" adopted on 31 July 1981 was the most significant tax reduction scheme, both in terms of absolute value and relative value,[19] in the economic history of the United States. However, the months that followed the vote in favour of the programme were a crucial time when key decisions were about to be made. Indeed, "Reaganomics" would threaten to explode into a full-fledged battle among members of the Reagan administration. In April 1981, the initial forecasts were substantially revised. The revision of the macro-economic figures found itself at the heart of the "Rosy Scenario" scandal, uncovered by *The Washington Post*. The basis of the falsification was the following: in order to reconcile budgetary prospects with cost cutting variables, would it not be enough to inject a healthy dose of optimism into the economic forecasts?[20] In fact, a close analysis of working documents and the testimony of economic teams attests that this interpretation is no reflection of the reality.

New Supply-Siders and Monetarists: The Dangers of Cohabitation

The economic policy of the Reagan Administration was the first real-time association of two movements (the New Supply-Siders and Monetarists) who were almost completely divided in the field of economic analysis. It should be remembered that most economists contested the assertions of the New Supply-Siders. Only 12 members of the powerful Association of American Economists, of a total of more than 18,000 economists, acknowledged their affiliation with New Supply-Siders in 1980.[21] The influence of New Supply-Siders in the American academic world was therefore marginal.

How did New Supply-Siders make their breakthrough? Marginalized in the scientific community, the New Supply-Siders nevertheless had particularly effective communication channels, since the leaders of the New Supply-Sider troops were journalists before they were economists.[22] As regards the economists who claimed affiliation with the New Supply-Side economy, such as Arthur Laffer and Robert Mundell, they were an eclectic group and not powerful within the academic community. They were to find themselves on the Presidential Advisory Economic Board (PREPAB), a new economic consultative committee that was to assess the application of new economic solutions throughout Ronald Reagan's first mandate. What were candidate Reagan's reasons for embracing the approach of this marginal movement?

[17] Larry Speakes, *Speaking out: Inside the Reagan White House*, New York, Scribners, 1988, p.301.
[18] Donald T Regan, *For the record: from Wall Street to Washington*, San Diego, Hartcourt, 1988, p.142.
[19] Congress adopted the Kemp-Roth recovery tax bill by a large majority, thanks to the support of 60 Democrats.
[20] The "recovery programme" included a forecast of two per cent growth in 1982.
[21] Paul Krugman, *Peddling Prosperity: Economic Sense and Nonsense in the Age of Diminished Expectations* (New York: Norton, 1994).
[22] Real heralds of this crusade: Robert Bartley editor in chief of the Wall Street Journal, Jude Wanniski of the Washington Post, and Irvin Kristol founder of National Interest.

From an economic standpoint, New Supply-Siders painted an extremely optimistic picture of the possibilities of their economic solutions.[23] The synergy between monetarist policy and new supply-side economics would bring about an end to stagflation. Ronald Reagan openly stated to Congress on 28 April 1981 that: "Our choice is not between a balanced budget and a tax cut". In the spirit of the creators of the "recovery programme", the two policies had to work in concert. On this point, a statement made by Craig Roberts, one of the architects of Reaganomics, speaks volumes: "The most controversial feature of Reaganomics is its belief that we can get off the "Philips curve".[24]

This retrospective analysis of the Assistant Treasury for Economic Policy raises several points. First, it draws a distinction between the New Supply-Siders and the Monetarists, whose campaign against budgetary deficit is well documented. On a fundamental level, all that is important is the level of deficit compared to gross domestic product and national savings. In short, although the "supply-side economy" aims to reduce the deficit, it accepts it, at least for a temporary period, as a possibility. Furthermore, the New Supply-Siders also noted that the undesirable effects of the deficit, such as the crowding out effect, could be counter-balanced by raising savings levels. This was one of the factors anticipated in the tax cut. Secondly, the impetus of the "recovery programme" relied on perfect synchronization between monetary policy and tax policy. It is therefore logical that the tax cut would have to precede the tightening of credit, owing to the slowness of the spread of tax policy to final demand.

The Rosy Scenario: Excessive Growth Rate Projections or Premature Policy Shift?

Contrary to the statements of David Stockman and observations made at the time, the origins of the "Rosy Scenario" did not result from overestimating growth, but from underestimating disinflation. When the time came to implement the "recovery programme" in April 1981, the Administration revised the programme's parameters. The Treasury Department (Sprinkel and Regan) thought that the reduction of inflation would happen rapidly. This assumption was severely criticized at the time by Keynesian monetarists (Greenspan and Weidenbaum). These critics were to win out and the "recovery programme" was amended accordingly. The programme was now based on a forecast of much stronger inflation. Beryl Sprinkel later confirmed this war of figures: "We lost completely on the argument on declining inflation, i.e., we believed inflation would come down more quickly".[25] There were two fundamental advantages inherent to forecasting more rapid inflation: the GDP base was increased accordingly, reducing the deficit level by the same amount. This arbitrage was also just what David Stockman wanted, since the OMB director was concerned about registering a public deficit greater than that posted by the Carter Administration.[26]

Against all expectations, the price index began to drop more quickly. Paradoxically, this favourable development in the price index destabilized the progress of the "recovery programme" as its most obvious effect, the swelling of the budgetary deficit, was at the centre of a dispute between the economic teams. Let's look at the backdrop to this dichotomy. Not sharing the Administration's predictions, the Federal Reserve further tightened its monetary policy. Stockman put the wheels in motion to amend the wording of the "recovery programme". Eventually, the Administration maintained the tax cuts but deferred them. Out of synch with the policy of tightening credit, the effectiveness of the tax cuts was compromised. Ultimately, the disruption of the policy mix was to generate the most severe recession since World War II.

The accumulation of poor performances fuelled recriminations. Concerned about the deterioration of budgetary prospects, the OMB director was the first within the Administration to share his gloomy predictions. At the beginning of July 1981, the OMB calculated the annual standard increase of the deficit to be USD 60 billion. Was it appropriate to turn around the tax reduction policy and slow down defence spending? Although Stockman was short of a solution at that time, he stressed that: "We are facing potential deficits so big that they could wreck the President's entire economic

[23] Martin Feldstein, NBER Working Paper, WP 1792, January 1986.
[24] Roberts to Weidenbaum, 10 December 1981, Regan Collection, SF, Box 56, LC.
[25] Sprinkel to Regan, 30 November 1982, Regan Collection, SF, Box 56, LC.
[26] Ibidem.

programme".[27] Stockman's activism allowed him to win a first victory as the President's advisers and the Secretary General of the White House, James Baker, were of the opinion that the "recovery programme" needed to be amended. The first stage of the tax cut, which had been set to take place in July 1981 was postponed. The first manifestation of this internal debate was the launch on 24 September 1981 of "September's budgetary offensive", a tax revision plan providing for a USD 6 billion reduction for the 1981 tax year and a reduction of USD 80 billion staggered up to 1984. OMB director David Stockman continued to bombard the President with memoranda predicting "Legislative and political impotence in the face of swelling estimates of FY 82 and out-year deficits".[28] Stockman was pushing for preventive action, in order to avoid what the OMB director described, not without a sense of provocation, as a "Carterization of his Presidency".[29] The minutes of the Legislative Strategy Group meetings reveal the extent of the conflicts the Administration was trying to tackle: "Can/should we muddle through till January (and beyond?).[30]

The confusion was clearly apparent within the Administration. In private, Donald Regan believed that the economic strategy was heading for failure. The Treasury Secretary's belief was confronted with the panic and, as we will see, the atmosphere of "point scoring" gripping the economic teams. Beyond the Administration's economic decisions, there were, at the same time, political issues that threatened to upset the coherence of the economic situation. Congress, which had a Democratic majority, resisted. At the same time, in the face of proponents of a limitation on defence spending, Ronald Reagan kept his electoral campaign on course: "When I was asked during the campaign about what I would do if it came down to a choice between defence and deficits … I always said national security had to come first, and the people applauded every time".[31] The President finally chose to slightly alter the "recovery programme" by postponing one of the phases of tax cuts by a few months.

New Supply Side Economics vs. Monetarism: The Credibility Costs

At the beginning of September 1981, the Treasury redoubled its efforts to avoid the two scenarios forecast by Stockman (and reiterated to a lesser extent by James Baker and Richard Darman): the postponement of tax cuts and/or tax hikes. Treasury's information campaign aimed to play down the impact of the deficit and demonstrate the vacuity of the alternative options. Regan led the charge through his Assistant Secretary for Economic Policy, with Craig Roberts taking on the role as the lookout for "Reaganomics".[32] The Treasury's second offensive related to the implications of the deficit. It was on this second point that the fault line between the New Supply-Siders and the Monetarists became abundantly clear. Craig Roberts, Regan and Sprinkel did their utmost to knock the budgetary equilibrium objective from its pedestal. Their favoured point of attack was the connection between interest rates and the budgetary deficit. Roberts stated: "Any linkage between budget deficits and interest rates appears to be remote and uncertain".[33]

Roberts' analysis does not seem to be entirely without foundation. At less than 1.8 per cent of GDP in 1980, compared to 3.5 per cent for the FRG, the deficit level was still modest. The surge in interest rates was a result of monetary policy. Once again, the question of the policy's credibility was paramount. The Treasury was assisted in its mobilization against the deficit by monetarist Allan Meltzer. Indeed, the obsession with the deficit was not universal among monetarists. Allan Meltzer, the highly influential President of the Shadow Open Market Committee, argued that the level of public

[27] Stockman, p.271.
[28] White House Staff/Office Files of Craig Fuller, September 20, 1981, Box 1, Ronald Reagan Library.
[29] Ibidem.
[30] Darman, "Legislative Strategy Agenda: 'Fall Offensive,' pp.1-2.
[31] David Stockman, "The Triumph of politics", New York: Harper and Row, 1986, p.274.
[32] Roberts to Regan, September 11, 1981, Regan Collection, SF, Box 42, LC.
[33] Roberts to Regan, September 11, 1981, Regan Collection, SF, Box 42, LC.

deficit, corrected for inflation, was not alarming.[34] Disenchanted by the difficulties of implementing economic policy, Sprinkel and Regan affiliated themselves with this argument.[35]

There was a delicate line between the prospect of towering deficits, and backtracking on promises of a tax revolution, the effects of which had not been measured. For the "Reaganomics way of thinking", spearheaded by Regan and Sprinkel, the decisive battle was that of fiscal responsibility, the celebrated "sound policies" opposed during the Carter team's campaign of disastrous choices. Neither Regan nor Sprinkel took Stockman's diagnosis lightly, but in October 1981 they nonetheless decided to let the deficit slide. Among the potential sacrifices, this choice was considered to be the least damaging. A memorandum from Beryl Sprinkel allows the reasoning of the Treasury heads to be pinpointed. He set forth four options.[36] Amending the tax reduction plan would be seen as "a serious revision in plan". As for the option of reducing spending, it was "impractible". A more accommodating monetary policy could be banked on through "an increase in the monetary and nominal growth trend", but this would mean going against the disinflation strategy and gambling on the flexibility of Volcker, when, by all accounts, he "would overreact to deficit perspective".[37]

The Treasury's position prevailed. At the end of December, the President decided in favour of a higher deficit than that forecast in the spring of 1981. Ultimately, the OMB only managed to push back the retroactive tax cut of July 1981. However, although the OMB and its director lost the deficit battle, they undisputedly won that of communication. At the beginning of December 1981, the editor in chief of the *Atlantic Monthly* review, William Greider, published a scathing report on the prevarications of the economic teams. The article, *The education of David Stockman*, had an explosive impact. Treason, point scoring, honest admission in the face of the announced deterioration of budgetary perspectives and Stockman's behaviour are still a topic of debate. Greider also clearly expressed what Baker, Darman and Weidenbaum had been unable to get the President to hear. For its part, the Treasury did not accept the postponement of the tax cut of July 1981. Stockman attacked the way in which economic policy was developed: "None of us really understand what is going on with all these numbers". It is helpful to look at the driving forces behind the New Supply-Siders. The die was cast on November 1981, before the President had given his ultimate decision on the continuation of the tax revolution: "The pointless and destructive 'internal debate' engineered by the OMB during the past three months may have the effect of lengthening the recession".[38]

Conclusion

How could such a large section of the Administration let such a rift go on? The first answer is to be found in the composite nature of the economic teams. This unlikely grouping did not manage to navigate the ups and downs of economic forecasting. Exchanges within the Administration clearly demonstrate this atmosphere of trial and error. The Administration only had very slight control over monetary policy. By the winter of 1981, the announced economic revolution was no more than a semi-revolution and the Administration was on the way to accepting long-term deficits. It seemed that the Administration had clearly underestimated the coupling of tax and monetary policy. Independent players since the development of the "recovery programme", Monetarists seemed to have lost the battle, at least within the Administration, as the Federal Reserve's strike force was still intact. The year 1982 was decisive in this regard. Would the Administration manage to resist the temptation to place one of its cronies at the head of the Federal Reserve?

[34] Allan Meltzer, "Interest rates and inflation", *The New York Times*, 5 August 1981.

[35] Regan, intrigued by this argument, demanded an econometric evaluation of Meltzer's work: "Does Allan have any evidence to back it up". Sprinkel confirmed Meltzer's analysis: "Studies I did at the Harris Bank indicate that in the United States real rates of interest tend to be at their maximum near the peak of a business cycle", Sprinkel to Regan, "The Economic scene, NYT, 5 August 1981, Regan collection, SF, Box 56, LC.

[36] Sprinkel to Reagan, 13 October 1981, Regan Collection, SF, Box 56, and Roberts to Reagan, 13 October 1981, Regan Collections, SF, Box 44, LC.

[37] Sprinkel to Reagan, 27 October 1981, Regan Collection, SF, Box 44, LC.

[38] Roberts to Regan, 10 November 1981, Regan Collection, SF, Box 44, LC.

Behind the façade of Soviet industrialization: the GULAG economy

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This paper, devoted to the issue of the "GULAG economy", pursues the following aims: first of all, to discuss the most widespread stereotypes that occur in recent studies of the GULAG economy. Secondly, to broaden the scope of future studies of the subject through emphasizing the importance of the factors that have so far been ignored in the scholarly analyses in Russia and abroad. The paper uses the GULAG archival materials from the GARF (State Archive of the Russian Federation, Moscow) as well as the memoirs of its ex-prisoners.

The GULAG (Chief Administration of Labour Camps of the Soviet Interior ministry, NKVD, later MVD) was created in 1930 as a penitentiary system with an economic function. It functioned until the early 1950s, housing penal labourers, who were engaged in forestry, mining, and construction.

Recent studies of the GULAG economy or, as it is often called, "slave labour" economy tend to focus on the origins of the GULAG as a state economic agency, its functioning, the efficacy of forced labour, and the question of the interconnection between political repressions and the intensification of the five-year economic plans in the Soviet Union. The GULAG is often conceived of in terms of a "reservation of slave labour", and as such is often juxtaposed to "normal" economic development of Western European states. (Gregory, 2003).

The first widespread stereotype refers to the explanation of the genesis of the system. Often this is done through looking at the GULAG as a product of the "tyrant's paranoia" or the "totalitarian dictatorship."(Gregory, 2003: p.191). This interpretation results in simplified explanations of the logic of its development. Another typical stereotype is that the GULAG was created in 1930 to handle the sudden inflow of peasants, "dekulakized" in the course of the peasant collectivization". (Harrison, 2004).

In reality, the creation of the GULAG took place under a much more complex set of circumstances. One of the main factors influencing its development was the necessity to transform the existing punitive system from a self-sustaining penitentiary institution into a powerful economic mechanism of colonization and industrialization of a semi-agrarian country.

The second popular stereotype refers to a popular issue of the interconnection between political repressions (arrests and persecutions) in the country at the end of the 1930s and the increase of its economic plans. Some historians of the GULAG have claimed that a constant need for workers became especially acute in the second half of the thirties and this factor was one of the main motives behind the purges of the "Great Terror". The necessity to fill the camps with the labour force in order to fulfil the NKVD output production plans encouraged local NKVD offices to issue *quotas* of arrests of certain categories of people and to send them to the labour camps as the basic form of punishment. (Bacon, 1994: p.50).

Indeed, there was a certain interconnection between the positive results of the camp labour and the repressive state policy. The "achievements" of the camp construction in the eyes of the government took away the limitations on the overall number of convicts in the country that functioned in the 1920s. This led to indirect strengthening of the repressive course: the increase of the camp system in 1933-34 was connected with the notorious "seven grains order" from 7 August 1932, that preconceived confinement in the camps for the "theft of state property". But it does not mean that, if it had not been for the camps system, certain economic projects either would not have been carried out or would have necessitated the hiring of workers for their fulfillment. There were more than one million forced settlers at the disposal of the NKVD. Their participation in the camps' activities was preconceived in all basic orders on the organization of camp economic activity in the first half of the 1930s. That their role in the production process happened to be one of a small degree was most probably caused by a more or less sufficient number of prisoners in the camps. Had the latter been insufficient, there would have

been nothing to hinder the development of centralized economic structures based on the forced settlers' labour analogous to the camp ones. Thus, it is reasonable to discuss the complex set of interdependent circumstances that influenced the decisions of the authorities.

The most recent studies of the GULAG economy confirm that it was not possible to trace a direct connection between the political terror (from the point of view of the numbers and professional qualifications of those arrested and sent to the camps) and the economic demands of the system. (Bezborodov, 2004: p.47). However, in these studies other mythologies triumphed, such as the explanation of the high number of executions during the "Great Terror" of 1937-38 through "the Gulag's inability to accommodate the enormous influx of new inmates". (Gregory, 2003: p.192). Indeed, the massive inflow of convicts into the Gulag camps during "the Great Purges" was not a desirable outcome, but caused a crisis in the system, which was ill-prepared to host such a number of prisoners (as the haphazard attempts of the NKVD to organize new forestry complex camps lacking elementary conditions of survival show). But this fact in itself cannot constitute sufficient grounds for claiming the main reason for the persecutions. The number of those persecuted during 1937-39 was insignificant in comparison with the overall GULAG population. In the years 1937-38 2.5 million people were arrested (2.5 per cent of the population.) From this number, political cases accounted for 1,344,923 arrests, and from this number 581,692, or 50.7 per cent were sentenced to capital punishment. (Zemskov, 1997: p.60). The overall number of prisoners in the GULAG by 1 January 1937 amounted to 1,196,369 people – and the motives for these persecutions were purely political.

The next widespread fallacy in the study of the GULAG economy appears in attempts to calculate the profits and the losses of the GULAG, and to evaluate its overall input into the Soviet economy. Very often this is done regardless of the historical context, applying to it (and accordingly to the Soviet economy in general) the principles governing the market-based economy and the criteria of its profitability, forgetting, that the system's primary aim was not to supply a labour force that is "free, coming at no cost to society", (Gregory, 2003: p.191) but building and running industrial enterprises where the attraction of hired workers was very difficult or impossible due to the remote location and harsh climatic conditions.

The main characteristic feature of all recent studies of the GULAG economy is that they rely exclusively on official sources, (data, decrees, economic reports, memoranda); in other words, the materials, representing the perspective of the NKVD leadership. As a result, the vision of the complexity of the system, and interconnectedness between its social and economic aspects has been lost.

The comprehensive history of the GULAG economy is inseparable from, and cannot be written without, its social history. More inclusive studies of the GULAG economy should be supplemented with sources of private origin: memoirs and diaries of former prisoners. Thus, two perspectives of looking at the problem will appear. The first, "from the centre", represented by the orders and instructions issued by the NKVD and the GULAG, will express the official view on the principles of the camps' economic functioning. The second, represented by the orders of the local camp administrators and the memoirs of ex-prisoners will open the view on the reality of the camps. As a result the camps will be seen as a contradiction of their bureaucratic concept (as seen from the centre: the Gulag as an extension of the reconstruction of social reality, utopia that lay at the heart of Stalinism and informed the thinking behind the Five Year Plans), and the actual reality, influenced by the response of the people and resources involved at regional levels.

I would like to cite one example that demonstrates the importance of the social side of the system (as a penitentiary institution, housing hardened criminals and "political" real and imaginary opponents of the regime) in understanding its economy. It is the problem of its economic stagnation and the decay that took place in the second half of the 1940s. By the beginning of the 1950s the GULAG became a cumbersome, expendable, and economically unprofitable mechanism. Economic historians are right in arguing that: "the end of the Gulag in the early 1950s can be regarded as a declaration of bankruptcy in the strict economic sense". (Gregory, 2003: p.196). However, the investigation of this phenomenon often limits itself by viewing "coerced labour economy" expendable, doomed and ineffective as a whole, and thus creates a static picture of the GULAG. As a result, the important questions such as:

"why the system's economy functioned in the 1930s, and witnessed a slow collapse from the second half of the 1940s", remain unanswered.

The key to grasping the logic of the development of the system's economy lies in the fact of understanding its most essential contradiction: one of a punitive system that has to rely on its prisoners to run it and to fulfil its economic tasks. This contradiction stemmed from the specific conditions into which the Soviet government placed a state security apparatus, the NKVD. The GULAG NKVD was a specific solution to the problem of the urgent pressure of industrialization and colonization of a semi-agrarian country in a short period of time with extremely limited financial resources and a severe lack of qualified personnel. As a penitentiary institution it was entrusted with the task of isolating socially dangerous elements (the criminals) and the political opponents of the regime. The fulfillment of this mission in the first part consisted of the necessity of creating proper isolation and a strict regime for potentially dangerous elements. At the same time, due to constant failures to attract hired staff into the system (Bezborodov, 2004: p.44) the basic precondition to make the system work was to employ "political" prisoners who often were the only ones qualified enough to carry out technical, administrative, and managerial tasks; (since the definition "political" prisoners was rather broad, it is used in the context of the paper mainly to emphasize their opposition to hardened criminals.)

From the beginning of the 1930s the camps' industrial enterprises, managerial camp apparatuses, offices, workshops, and factories were staffed with such prisoners. (GARF, f. 9414, op.1, d.3, p.71; d. 12, p.39.) From the year 1937, (the start of the "Great Terror") repetitive demands were issued to remove the "political" prisoners from their posts and to prevent "anti-Soviet" elements from holding positions of responsibility in the camp administration, technical and industrial apparatuses in accordance with the "political" mission of the GULAG. But the "counter-revolutionairies" were usually the best-qualified prisoners to hold such posts. Thus, during the 1930s and the beginning of the 1940s, the use of such prisoners in the administration and managerial apparatuses was tacitly accepted and encouraged. (TsGARK, f. 865, op. 35, d. 1, p.120.)

Often the industrial enterprises of the GULAG, de facto run by the imprisoned specialists, officially designated as "chief engineers", de jure were headed by the hired party members. In 1940 the programme of education in technical disciplines and medicine was launched in the GULAG in order to staff its enterprises. The teaching staff and the listeners were supposed to be recruited from the ranks of the prisoners, (Petrov, 1999). In the 1930s the prisoners and ex-prisoners worked in conditions of constant fear of being removed from their positions and shot. The memoirs of the imprisoned and newly freed managerial staff of the regional and central GULAG apparatuses disclose the atmosphere within these institutions, laden with suspicion and fear. Still, many of them believed in Soviet values and intended to prove their innocence and patriotism through hard work, (Garf, f. 9414, op.1, d. 325, pp.57; 73-77).

In the 1940s the situation changed. The wide inflow of civilians, sentenced for "political" crimes into the GULAG stopped. On the contrary, it witnessed the arrival of new categories of prisoners: POWs, "Vlasovites," members of the OUN. These prisoners, resolutely hostile to the Soviet regime, possessed rich mobilization and warfare experience. As a rule, upon their arrival they launched a war against the criminal informal organizations within the camps or instigated anti-state revolts and attempts at armed escape. From the second half of the 1940s, when the power of the criminal organizations within the camps increased, the GULAG was shaken by the revolts and the criminals' internal wars, the most notorious of which was the so-called "bitches" war. The MVD authorities, out of fear of a complete loss of control over the camps, started to support criminal groups in the hope of their mutual extermination, destroying the camps' infrastructure. In such conditions the continuation of the productive process was impossible, and all the efforts of the MVD were redirected from the fulfillment of economic tasks to keeping the system from falling apart in revolts, internal wars, and rebellions. Another factor that contributed to the decay of the GULAG economy was the devaluation of Soviet values and propaganda within and outside of the system.

One of the manifestations of the slow but irrevocable decline in the GULAG economy was its corruption. In the 1940s the system of capital punishment for "state crimes" such as embezzlement and the failure to fulfil plans that existed in the 1930s and contributed to the economic effectiveness no

longer functioned. There were no factors that could restrain or limit embezzlements and swindling to conceal the economic losses within the system. The camps became an arena for vast illegal organizations that committed horrific embezzlement. The NKVD reports disclose the so-called "predators' organizations," that often comprised hired employees, administration and the prisoners. (GARF, f. 9401, op.1a, d. 143, pp. 139-143.)

In the camps, the stimulus to labour was based on basic instincts. The human being, driven by the instinct of self-preservation, desires to survive in any conditions. It was this factor that was used in the Gulag "in honour and for the welfare of the country" in the 1930s. But in the 1940s, with the arrival of new contingents, it failed – partly because they possessed resistance capacities which they used to fight against coercion. Thus, from the early 1940s the system was deprived of the "human capital" that could run it and carry out its economic tasks. In other words, the GULAG economy failed when the system became what it was supposed to be from the very beginning (and what it was in the 1920s): a penitentiary institution.

Moreover, the GULAG generated informal patterns of behaviour that later became typical phenomena of the "shadow economy" of the Soviet Union and contributed to the final collapse of the system. The most notorious is the practice of "tufta" (presenting unreal economic reports and at the same time forging the visibility of productive results in different spheres). The term, a derivative of official abbreviation TFT, meaning "Heavy Manual Labour", dates back to the process of construction of the White Sea Canal, when it was first used in camp slang, (Gregory, 2003: p. 420). How exactly this happened should become a subject of future studies of the GULAG economy with a social history approach.

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GARF – State Archive of the Russian Federation, Moscow.

Memorial – a "Memorial" society archive, Moscow.

TsGARK – The Central State Archive of the Republic of Karelia.

Changing rooms: comparing contents and functions in seventeenth century Somerset and Massachusetts houses

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In the spring of 1630 people across England embarked on an epic journey. They were bound for the North American colonies to establish a new life for themselves away from the economic, religious, and political troubles in England. This was the beginning of the Great Migration that lasted for about 10 years and resulted in 20,000 people leaving their home country for the wilderness of New England. Included in this number was a party from the West Country, known as the Dorchester Group. They left primarily from Somerset, Dorset and Devon, and settled the town of Dorchester in the Massachusetts Bay Colony. This paper focuses on those emigrants who originated in the southern part of Somerset.

The late-sixteenth and early-seventeenth century was a time of great change throughout England. Population rose dramatically, causing economic and social problems. Though many people suffered from the effects of increased prices and competition for land and jobs, the fortunate few – yeomen, minor gentry and the like – were able to capitalize on the situation by raising rents and obtaining higher prices for their produce. The 1620s and 1630s were particularly difficult times, which affected all levels of society. Some of those who benefited from rising prices were embroiled in religious and political unrest. Many viewed Archbishop Laud's reforms as an attempt to reintroduce popish practices within the Church of England, while Charles I ruled without a parliament and issued repeated requests for ship money. For those of humbler means, economic depressions, exacerbated by recurring harvest failures, caused considerable hardship. For some, migration across the Atlantic Ocean seemed a way out of their troubles: New England held the promises of religious freedom, political security, and economic advancement.

One way to determine whether the colonists were able to achieve their goals is through their material culture. The objects that people surrounded themselves with (and occupied) reflected the nature of their standing in society. In his book on housing culture, Matthew Johnson encourages this type of investigation, stating that, "the structure and layout of domestic architecture relate not only to functional and economic considerations, but also to the cultural and mental life of its users".[1] The move to New England was a chance for people to express their status through their material possessions and to realize their cultural aspirations. Moving to a new land did not necessarily mean that they gave up their native customs or their cultural heritage: on the whole they maintained their identity as English men and women. But to what extent did the emigrants to New England continue to express the cultural norms to which they were accustomed in the Old World?

The research for this project is based on probate inventories, which in spite of their inherent shortcomings, provide valuable documentary evidence for the transference and possible transformation of material culture which took place in the move. By using two linked data sets from the regions being studied it is possible to make direct comparisons and trace continuity and change over time. Many studies have been carried out using inventories to show change in the domestic environment, including Lorna Weatherhill's groundbreaking study into luxury goods in late-seventeenth and early-eighteenth century England. However, few studies have "employed [inventories] to quantify the characteristics of early modern households" as Mark Overton and his team did in their 2004 study of production and consumption.[2] This project aims to follow his lead. To aid the analysis of the 322 documents used in this research, a relational database has been created. Unlike other projects, which have used

[1] Matthew Johnson, *Housing Culture: Traditional Architecture in an English Landscape*. (London: UCL Press Limited, 1993), p.1.

[2] Mark Overton, Jane Whittle, Darron Dean and Andrew Hann, *Production and Consumption in English Households, 1600-1750* (London and New York: Routledge: 2004), p.88.

inventories to study material culture, this project is interested in all of the items that were found in the home and how they were used to define internal space. The findings from the analysis of the database will be put into context using WG Hoskins' theory of the great rebuilding which took place in England during the late-sixteenth and early-seventeenth centuries.[3]

There is evidence that by the time the emigrants began leaving for New England in 1630 elements of the Great Rebuilding had reached southern Somerset. One of the most evident ways this can be seen through the inventories is the presence of first floor rooms. The flooring over the hall was one of the major changes that took place during the great rebuilding, creating separate living rooms on the ground floor with private bedchambers above. Throughout the seventeenth century, 43 per cent of location descriptors, including outside spaces, refer to rooms that include the world "chamber" or "above". Note, however, that not all chambers were upstairs rooms, as, for example, references to a chamber next to the hall, a chamber within the hall and a chamber over the hall chamber. For this reason, a hall chamber and a chamber over the hall are listed separately. Nonetheless, a minimum of 65 per cent of all the Somerset inventories mention rooms not on the ground floor.

With 76 per cent of the pre-1650 inventories listing a hall, this room was still the heart of the household in southern Somerset and the site for such activities as food preparation and eating, sitting, storage, and work. Cooking and eating were still taking place there, shown by 11 of the 26 halls containing hearths and cooking implements. The hall of husbandman, William Hutchings, in 1640 was certainly used in this way with the presence of a table board and various seating, "one furnis panne, fower brasse panes, two kittles, two brase crockes, one posnet, one skillet" and a variety of iron hearth tools. Halls, which occur in 87 per cent of the post-1660 inventories, fulfilled the same functions as before. Some were still used as a place to prepare and eat food, though others were being transformed into a living room type space where the family could gather. One such example is the comfortable room of the yeoman Bernard Fry. In 1665 his hall contained, "one table board, one form, one chest, three chairs, one carpet and six cushions" as well as, "a pair of andirons, a fire pan, a pair of tongs and a pair of bellows".

Another key element of the great rebuilding was the increase in the number of rooms per house, leading to specialization of function. An example of this trend was the insertion of a kitchen. Between 1628 and 1648, 26 per cent of the inventories contained a kitchen, as compared to 62 per cent from 1660 to 1700. For the earlier period, this specialized role was limited to wealthier households, such as those of the yeomen Clement Caswell and Christopher Dunham in 1633 and 1634 respectively. Their kitchens contained hearths and a full range of iron implements such as spits, andirons and firedogs and cooking vessels of brass, as well as storage space for the household pewter, and apparatus for brewing and making cheese.[4] The two inventories of husbandmen, which list kitchens, indicate their use as a storage area and a place to sit (and possibly work) more than anything else. These rooms were also unheated.[5] By the end of the period it was rare for a kitchen not to contain fire implements as well as cooking vessels. For the majority of inventories, food preparation was becoming more of a kitchen-based task.

In addition to the specialization of the kitchen, upstairs chambers became rooms solely devoted to sleeping. In the whole of the Somerset sample, there are only two references to sleeping in a ground floor room, besides that of the best bed in the parlour. Of the 24 early inventories listing first floor rooms, 21 contain one room or more, which functioned primarily as a bedchamber. These rooms also doubled as storage for foodstuffs, harvested crops, and work supplies. In the post-1660 period, 43 out of 55 inventories, which list upstairs rooms include first floor rooms that are used as bedchambers.

While the hall was having something of an identity crisis in its transformation from the medieval to the early modern, the use and furnishing of the parlour remained the same. This room is sometimes difficult to spot in the inventories because of the variety of names used to describe it, including 'chamber within the hall', 'chamber next to the hall' and 'inner chamber'. Often seen as the best room

[3] WG Hoskins, "The Rebuilding of Rural England, 1570-1640," *Past and Present"* 4 (1953), pp.44-59.
[4] SRO, DD/SP 1634 and D/D/Ct Ca-Cole 16A.
[5] SRO, DD/MR 70 C/1481 and DD/SP 1645/32.

in the house, the parlours of southern Somerset in the seventeenth century continued to serve as the best bedroom. While none of the parlours in this sample are heated, they still contained quality items which made them stand out from other rooms. The value of goods in Robert Grobham's parlour in 1640 came to over £8, including his standing and truckle bedsteads, "two chests, one table board, one box, one chair with the wainscot". If a feather bed or bolster was to be found in a house, its probable location was in the parlour, as in the case of the husbandman William Hutchings in 1640. His parlour contained, "one feather bed, one feather bolster, [and] two feather pillows." The rest of the bedding in the house is made from inferior dust filling.[6] The parlour also maintained its role as a place to sit and entertain guests. All but one of the early parlours contains seating furniture including joined stools, chairs and forms. Chests, coffers and boxes are also present, usually for the storage of precious household linens. These roles had not changed by the end of the period, with sleeping, storage of quality items, and sitting still common activities in parlours.

With an understanding of how rooms and contents were organized in Somerset throughout the seventeenth century, it is now possible to examine how the emigrants to New England organized their domestic surroundings in relation to what they had left behind. The inventories from Dorchester, Massachusetts offer many similarities to, as well as differences from, the Somerset sample. As in England, Massachusetts appraisers listed all of the goods the person owned inside the house. In addition, they recorded all the land and buildings, often including the house itself. Unfortunately, they were less likely to list items by rooms. Of the 87 inventories from 1635 to 1693, 39 per cent contain room names, compared with 51 per cent in the Somerset sample. Even so, it is still possible to discern whether or not the housing culture of the colonists diverged from that they had known in England.

The inventories which list room names provide an indication of the types of housing that the migrants built. With the establishment of any new settlement the first dwellings were simply fashioned out of the materials available: indeed, many lived in wigwams or boarded holes in the ground. Once the initial phrase had passed, the settlers could get on with the job of creating a home for themselves, utilizing the plentiful supply of wood close at hand. Each family was responsible for itself, so many migrants began their new life in just one- or two-room dwellings. This must have cramped the style of yeomen and well-off craftsmen who had left substantial houses back in Somerset. However, from these humble beginnings, we can begin to see the emergence of a distinct housing culture in Dorchester.

From the very beginning of the colony, elements of the great rebuilding were apparent in Dorchester, as revealed in the six pre-1660 inventories with named rooms. Robert Pond's 1637 inventory lists the "chamber or the parlour", taken to mean chamber over the parlour recorded in the document. John Pope, a weaver, possessed a similar room in 1646. In 1658, Richard Hawes's estate included a chamber probably located above the inner room or parlour.[7] So, even from as early as 1637, houses in the seven year old colony possessed first floor rooms. In the post-1660 period, 33 per cent of located rooms, including those outside, refer to upstairs chambers. The most obviously reason for this low number is the fact that it is difficult to ascertain the location of some of the rooms, as a trend developed in Massachusetts for naming rooms by their position: examples include "another room", "east chamber", "west chamber", "low" or "lower room", and "new room". With this in mind, it is still possible to say that the notion of first floor rooms had made its way to the colony.

The hall, however, all but disappeared in the transference to Massachusetts. In the entire Dorchester sample that specific term appears only three times. For George Weekes in 1650 and Joseph Farnworth in 1659, their halls, or 'out fyre rooms' functioned as a social space with tables, seating, and fire implements.[8] The 1684 inventory of Nehemiah Clap shows a humble three-room dwelling in which the hall retained the older function of the place to cook, as well as to sit and read.[9] Possible replacements for the term hall, especially in the post-1660 period, include rooms called the great chamber. Hopestill Foster's 1676 inventory lists such a room which is full of various items including

[6] SRO, DD/SP 1640/99.

[7] Massachusetts State Archives (MSA), Suffolk Country Probate, 1637, 1646, and 1658.

[8] MSA, Suffolk County Probate, 1650 & 1659.

[9] MSA, Suffolk County Probate, 1684.

weapons, the best bed, linen, an assortment of seating including leather chairs, books, fire implements and a clock. This is clearly the most important room in the house, but space is still made for sugar, honey and cheese worth over £1.[10]

For the pre-1660 period, there are only two kitchens listed in the inventories. John Pope's kitchen in 1646 contained the usual cooking implements such as brass kettles, pans and skillets, one great copper kettle, and pewter of all sorts. Also found in this room was a bed, bolster and coverlet.[11] The second belonged to George Weekes in 1650. His kitchen was full of pewter and brass, pots and iron fire tools, as well as two spinning wheels.[12] It seems that while cooking was taking place in the kitchen, other activities were also located there. Of the post-1660 inventories with room names, 52 per cent list a kitchen. On the whole, these later kitchens possessed items that relate solely to the preparation and eating of food, with the exception of a few husbandry tools, and the small bed in Thomas Jones's 1667 inventory.[13]

In the absence of a hall, the parlour rose in importance as a main living space for the family in the colonies. This room maintained its function as the best bedroom but also served as an all-purpose meeting room with seating and tables. In the early period, three inventories list parlours, which contain all of the usual items including the best bed and furniture such as tables and chests. In addition to this is Richard Hawes's "inner roome" in 1650, which is furnished in the same way, and complements his "fire room" or hall.[14] The post-1660 period reveals that 52 per cent of inventories with named rooms list a parlour. The activities in these rooms remains unchanged throughout the period, with common items found there including bed and bedding, storage, such as chests and presses, and furniture including tables, chairs and stools.

The comparison of these two sets of probate inventories allows insight into how the housing culture of southern Somerset was transferred to the New England colonies. The emigrants left behind houses in which the process of the great rebuilding had begun. But how similar were the functions of rooms by the end of the seventeenth century? The residents of Dorchester had clearly continued with some of the traditions they had known in the old world, such as first floor rooms, kitchens as the primary place to cook, and the parlour as the best bedroom. However, the colonists practically eliminated the idea of the hall as the central space for the family. The data presented here clearly show that while the housing culture of southern Somerset provided a starting point for the colonists' first houses, by the end of the seventeenth century they were beginning to reorder and redefine their internal space.

[10] MSA, Suffolk County Probate, 1676.
[11] MSA, Suffolk County Probate, 1646.
[12] MSA, Suffolk County Probate, 1650.
[13] MSA, Suffolk County Probate, 1667.
[14] MSA, Suffolk County Probate, 1658.

The impact of the Great Western Railway on the population and occupational structure of five rural parishes in the Thames Valley, 1830-75

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Perhaps the greatest agent of change in nineteenth century Britain was the coming of the railways. Their influence on almost all aspects of life was, to borrow Gourvish's phraseology, 'truly ubiquitous'.[15] Yet when one reviews the general literature on the nineteenth century one is struck by the paucity of scholarly research on the effect of this technological advance on the countryside.[16] This neglect is apparent even within the realm of specialist academic railway literature. Neglect of the impact of the railway on the countryside is apparent even within the realm of railway history. There are excellent studies of its effect on urbanization, transport, the physical landscape and a wide range of economic issues.[17] John Walton led the way into studies of the role the railway played in the development of rural seaside resorts and the Lake District.[18] However little of this historiography addresses the impact the early English railways had on the socio-economics of the rural communities through which they passed. Some of the few who have examined these matters or part thereof are: the late Jack Simmons, Frank Andrews, Robert Schwartz and David Turnock.[19] Research on the social impact of GWR on the countryside is particularly sparse.

The general consensus within almost all of this literature is that the railway was an agent for dramatic change in rural communities. On the one hand it is assumed that they facilitated the seismic shift in the rural/urban balance of the population; an exodus driven by young single people in search of better wages and brighter opportunities. Another view is that railways stimulated economic activity in rural communities in close proximity to a line, particularly if they enjoyed a favourable geographical location.[20] My research overturns these contentions. Even though the railway brought the parishes within commuting distance of London and the expanding town of Reading, the overarching social landscape remained relatively unchanged in the 35 years after the railway was built.

The research sources include: the official census reports; the census enumerators' books (CEBs); contemporary county directories; local newspapers; records from the Thames Navigation Commission, the local turnpike trusts, and the railway; parliamentary papers; landowning records; and contemporary literature. The census and transport data were entered into Excel spreadsheets from which I built models of changes in the population structure and transport patterns after the style of

[15] T.R. Gourvish, *Railways and the British Economy 1830-1914*, (London, 1980). Ch.3 p.31.

[16] For instance: Chris Williams, (ed). *A Companion to Nineteenth-Century Britain*, (Oxford: 2004); Edward Royle, *Modern Britain: A Social History 1750-1997*, 2nd ed., (London, 1997).

[17] Examples include: S. Broadbridge, *Studies in Railway Expansion and the Capital Market in England 1825-1873*, (London, 1970); W.G. Hoskins, *The Making of the English Landscape*, (London, 1955); Alan Everitt, 'The Railway and Rural Tradition', in *The Impact of the Railway on Society in Britain*, (ed) A.K.B. Evans and J.V. Gough, (Aldershot: 2003); M.J. Freeman, *Railways and the Victorian Imagination*, (New Haven, 1999); Dorian Gerhold, *Road Transport before the Railways: Russell's London Flying Waggons*, (Cambridge, 1993).

[18] John Walton, 'The Windermere Tourist Trade in the Age of the Railway, 1847-1912', in *Windermere in the Nineteenth Century*, (ed) O.M. Westall, (Lancaster: 1976); John Walton, *The English Seaside Resort: A Social History 1750-1914*, (Leicester, 1983).

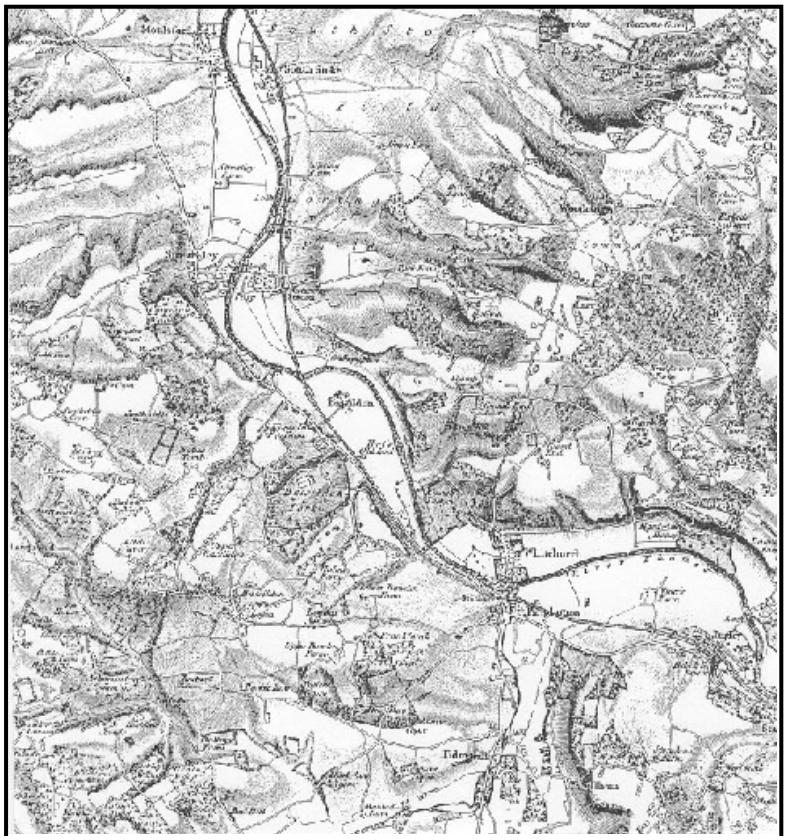
[19] J. Simmons, *The Railway in Town and Country: 1830-1914*, (Newton Abbot, 1986); Frank W. G. Andrews, 'The Effect of the Coming of the Railways on the Towns and Villages of East Kent.' (Unpublished PhD, Kent University, 1993); David Turnock, *An Historical Geography of Railways in Great Britain and Ireland*, (Aldershot, 1998); Robert M. Schwartz, "Visualising Geographic and Historical Change: Digital Elevation Modeling and Other Tools for Studying Railways and Uneven Development in Britain and France, 1840-1914" (paper presented at the International Geographers Union, Glasgow, 2004).

[20] Peter Mathias, *The First Industrial Nation*, 2nd ed., (London, 1983).Ch.9 pp.238-40; Frank. W.G. Andrews, 'Railways and the Community: The Kentish Evidence', *Archaeologica Cantiana* 123, (2003).pp.191-193.

Armstrong and Everitt.[21] The blending of such a wide range of sources has gone some way to ameliorate the paucity of surviving or readily accessible public and private papers.

The parishes of Basildon, Goring, Pangbourne, Streatley and Whitchurch are situated on the banks of the River Thames approximately 50 miles west of London where the river breaches the Chiltern Hills and the Berkshire Downs. Goring and Whitchurch lie on the northern or Oxfordshire bank and the other three parishes on the Berkshire side. The area of the parishes varies from around two thousand acres to slightly more than four thousand acres, most of which lies on the shallow, dry and flinty slopes of the surrounding hills. The river terraces are narrow but relatively fertile. Arable agriculture was the economic mainstay of the district and the few secondary employment sectors which existed were small concerns. With the exception of Basildon (where the main village is up on the Downs), each parish is dominated by a small riverside village of the same name with a varying number of scattered hamlets in the upland hinterland. The bridge across the river between Whitchurch with Pangbourne was built in 1792 but the bridge linking Goring and Streatley was not built until 1837.

Figure 1: *Map of the study area*



Source: Ordnance Survey Map 1877

Prior to the arrival of the railway the main economic advantage provided by the river to the area was cheap access to the London markets for heavy produce such as wheat, flour and timber. Even though this section of the river had long been famous for its exceptional landscape and the quality of its fishing, recreational use of the upper Thames was such a minority activity that the cash desperate Thames River Commissioners did not bother to collect tolls from leisure boats.

However the river was not the only mode of transport to bisect the study area. The main cross country route linking Oxford with Reading and the West Country ran along the Berkshire banks of the river through the parishes of Streatley, Basildon and Pangbourne. At Pangbourne the road divided with one turnpike running directly into Reading and the other going through Tidmarsh to join the London to

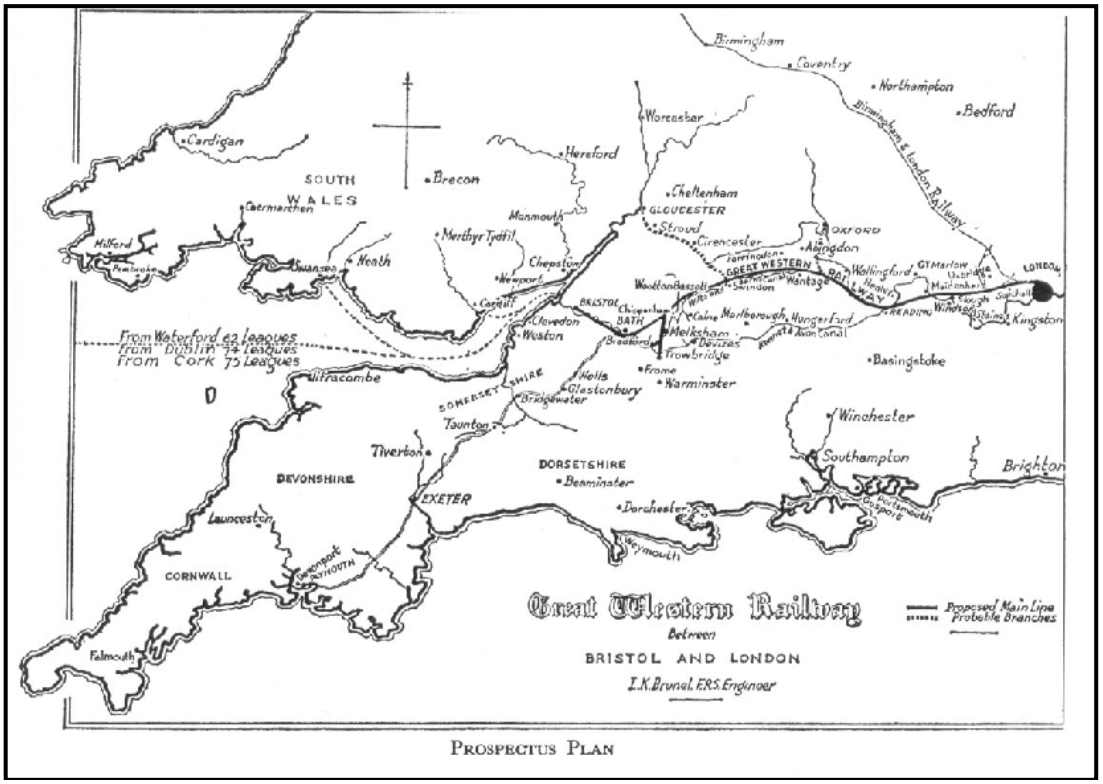
[21] W.A. Armstrong, 'The Use of Information About Occupations', in *Nineteenth-Century Society*, (ed) E.A. Wrigley, (Cambridge: 1972); Alan Everitt, 'Country Carriers in the Nineteenth Century', *Journal of Transport History* 3, (1976).

Bath road at Theale. Pangbourne village was therefore well placed to pick up financial spin-offs from passing traffic, particularly from the high end of the passenger trade. The most obvious beneficiaries were the inns, the food shops, blacksmiths and saddlers.

With the exception of Goring, each of the parishes had a resident landowner. None of the six major families were aristocrats and two had owned their estates for several centuries. Between 75 and 90 per cent of the land area of any one parish was owned or controlled by these individuals, including much of the land either in or surrounding the riverside villages. Estate ownership remained stable with only two major land sales recorded between 1835 and 1875 (both of which involved the same vendor).

The proposal to construct a railway between London and Bristol through the Thames Valley was announced in 1833. After the defeat of the first Bill in 1834 (due in no small part to the fierce opposition from local landowners) the GWR Act was passed in 1835. Construction of the railway began at both London and Bristol in 1837 and opened section by section with the entire route completed in June 1841. By June 1840 the railway line through the parishes of Basildon, Goring and Pangbourne had been opened. Stations were built in the latter two villages, quite possibly as a result of pressure from the local landowners during the land acquisition negotiations rather than in anticipation of substantial ticket sale revenue.

Figure 2: *Map of the Great Western Railway*

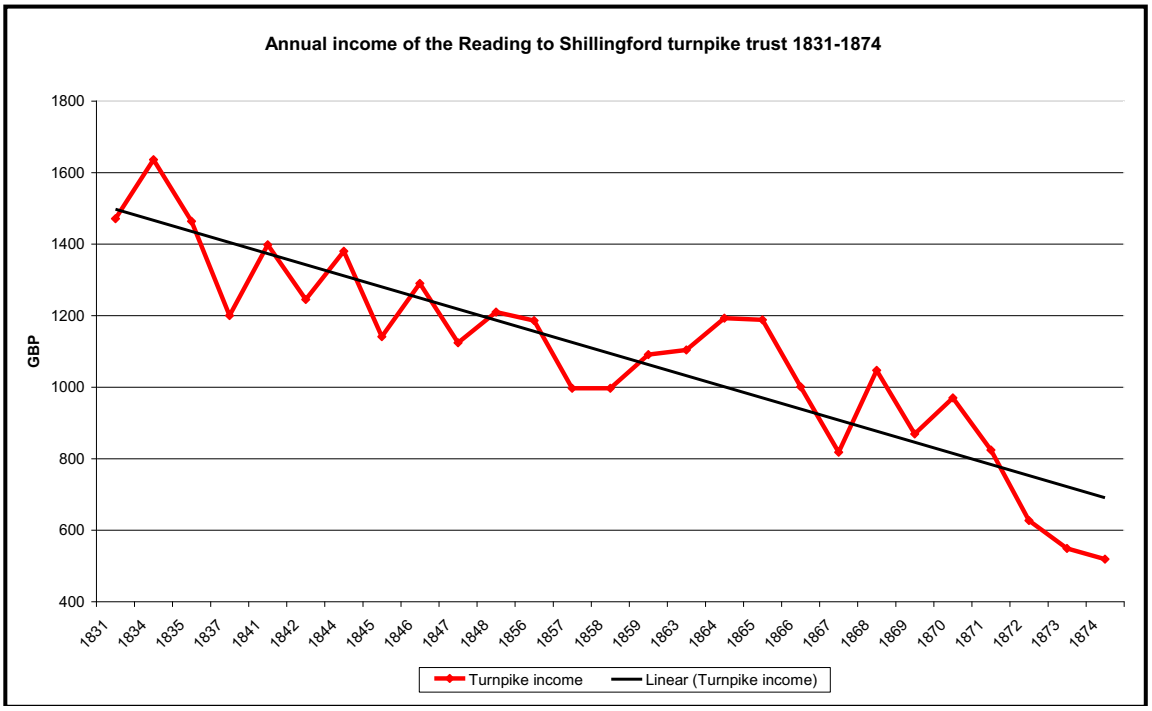


Source: GWR Museum, Swindon

While the local inhabitants watched the reordering of the physical landscape, few can have imagined the reality of the dramatic compression of time and space inherent in railway travel. From the day the railway opened it was possible to be in London within two hours instead of the six it took by coach and the thriving market town of Reading was but fifteen minutes away. In an age where living the rural idyll was becoming fashionable, the Goring Gap parishes were within commuting distance of both the city and a vibrant provincial centre. There were, therefore, a number of changes which might have been expected to occur. Perhaps a downturn in traffic numbers using the road and the river followed by a slump in village economies and high levels of outward migration. On the other hand, the railway could have encouraged inward migration or a tourist trade as happened elsewhere in scenic areas thereby stimulating village economies.

The turnpike trust (the Reading to Shillingford) which managed the road through the study area saw a significant downturn in their finances in the years immediately following the opening of the railway line.

Figure 3: *Turnpike road income*



Source: Financial Records of the turnpike trust. Berkshire Record Office.[22]

According to Cowslade's 1834 Berkshire directory at least 60 scheduled stagecoach services a week travelled the turnpike road between Streatley and Pangbourne. By 1842-3 there were none.[23] In keeping with studies of rural carriers elsewhere, the number of local carriers listed in the commercial directories remained relatively constant but due to the absence of real traffic figures it is impossible to estimate the quantity or class of private road users. However, whatever they may have been, they were insufficient to keep the turnpike trust financially viable and it was wound up in 1874. Moreover, any reduction in volumes of either stage coaches or long distance private travellers had the potential to wreak significant damage to the economy of roadside villages as had happened elsewhere within the immediate region.[24]

Competition from the railway sounded the death knell for almost all barge traffic on the River Thames. As is evident in Figure 4, lock toll income went into freefall after 1841. Fragmentary evidence suggests that some local producers also switched from using the river to the rail for the transportation of their produce.[25]

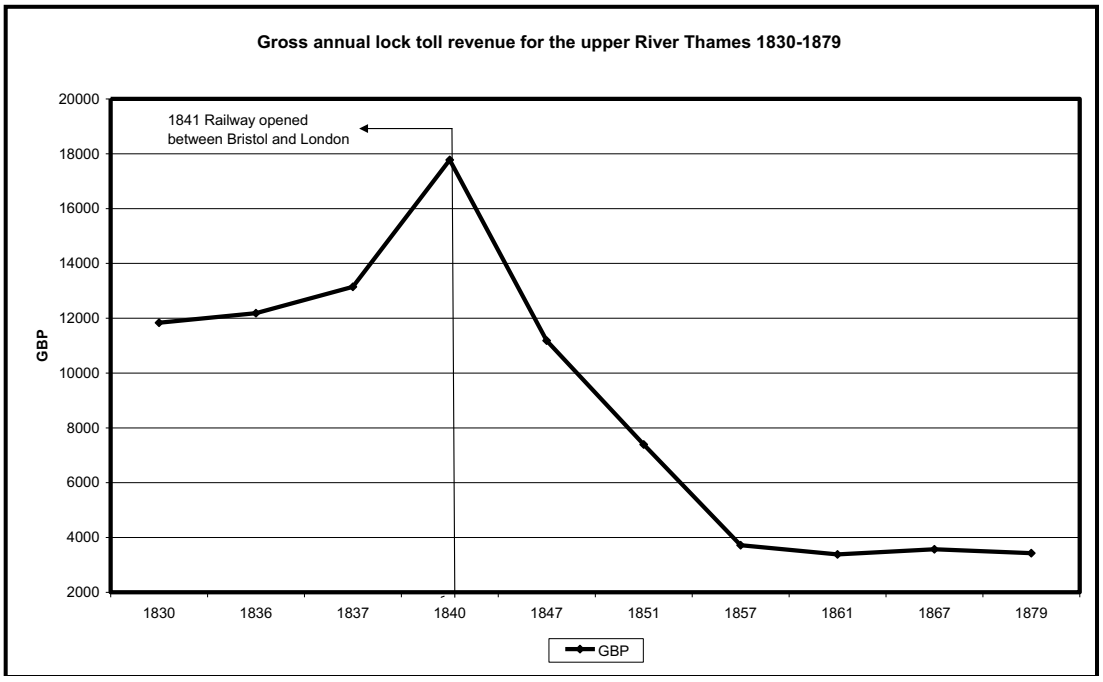
Figure 4: *River lock toll revenue*

[22] BRO. Q/RUT 1-36, *Financial Records of the Berkshire Turnpike Trusts* (1822-59); BRO D/EH 02, *Account Books for the Shillingford to Reading Turnpike Trust* (1863-74). Income figures for individual toll gates are unavailable.

[23] Cowslade, (ed). *A Directory & Gazetteer for the County of Berks*, (Reading: 1834); John Snare, (ed). *Snare's Post Office Directory to Reading*, (Reading: 1842-3).

[24] Daphne Phillips, *The Great Road to Bath*, (Newbury, 1983); K Tiller, (ed). *Benson: A Village through Its History*, (Cholsey: 1999).

[25] J. Kenneth Major, (ed). *Robert Stone, Miller of Pangbourne*, (The International Molinological Society, 1980); PRO RAIL 1014/1/9, 'Proceedings of the Great Western Company with Extracts from Evidence in Support of the Bill before the Committee of the House of Commons in the Session of 1834'. Evidence of Mr Pearman, farmer of Whitchurch.



Source: Accounts of the River Thames authorities, Berkshire Record Office and River and Rowing Museum.

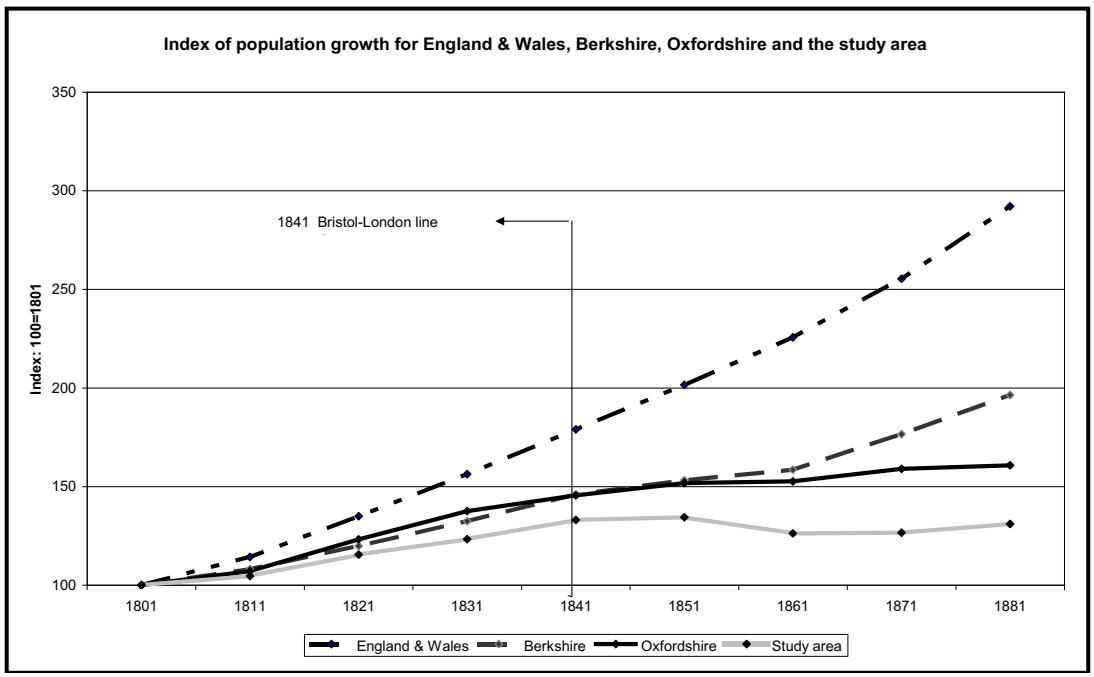
It is ironic that the steep increase in river toll revenue prior to the opening of the railway through to Bristol dates from the year that the GWR began to use the river to transport heavy building materials and construction equipment.[26] The halt in the fall of lock toll income after 1857, combined with patchy evidence from newspapers, journals and the CEB's suggest that recreational use of the river may have begun to increase.[27]

Given the economic fates which befall both the river and road authorities on top of the nationwide drift of people from rural areas to urban centres, one might have assumed that the population of the parishes would also have dwindled away. As shown in Figure 5, the population did not decline dramatically and indeed remained relatively static after 1861.

[26] D. G. Wilson, *The Thames: Record of a Working Waterway*, (London, 1987). Ch.8 p.91.

[27] Mr & Mrs S. C. Hall, *The Book of the Thames from Its Rise to Its Fall*, 1980 ed., (London, 1859); *Reading Mercury & Berkshire Chronicle* 1830-75.

Figure 5: *Index of population growth Index: 1801 = 100*



Source: Official published census reports and Mitchell and Deane, British historical statistics, Ch.1 tabs.1 and 7.[28]

To test the assumption that outward flows were led by young single people the population database was interrogated to identify all those aged 16-25. Table 1 below shows the percentage of people in this age group relative to the total population remained relatively static. The railway did not prompt an exodus of young people seeking the bright lights.

Table 1: *Number of single people aged 16-25, 1841-71*

	Percentage of total population
1841	12%
1851	13%
1861	11%
1871	12%

Source: CEBs 1841-71.

Unsurprisingly, an analysis of the employment structure revealed that the decline was driven by agricultural labourers. As local agricultural labourer's wages were notoriously low it is remarkable that more did not leave, especially after being exposed for several years to the superior wage and working environment enjoyed by railway navvies.

Table 2: *Occupations as a percentage of the total employed population*

	Agriculture	Transport	Trades & retail	Professional	Domestic service	Manufacture
1841	50%	4%	9%	6%	20%	10%
1851	44%	6%	11%	4%	19%	14%
1861	41%	5%	11%	6%	20%	10%
1871	38%	4%	11%	6%	25%	14%

Source: CEBs 1841-71.[29]

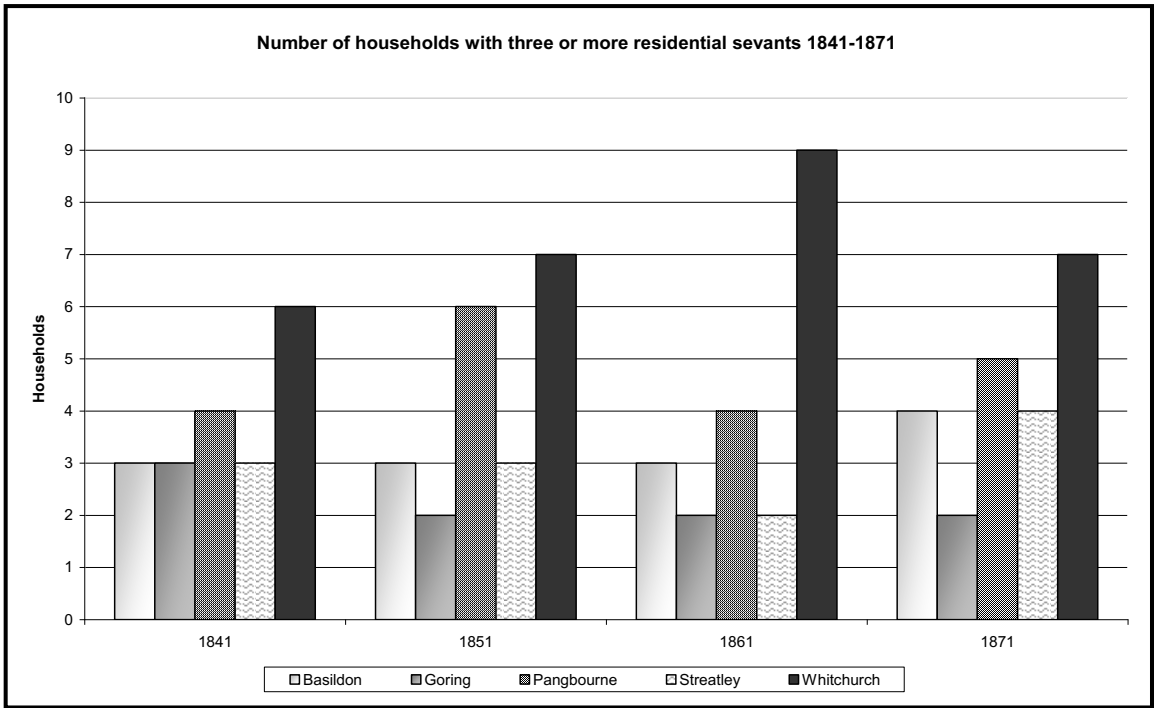
[28] Oxfordshire is defined as a rural county by Wrigley in *Poverty, Progress, and Population* (Cambridge 2004) Ch.1 tabs.1 & 7. Berkshire's growth is heavily influenced by the court at Windsor and industrial development in Reading.

[29] These categories are based on the Booth/Armstrong model.

Employment levels across almost all other sectors remained relatively constant. Within the trade and retail sector an examination of hotel employment revealed that the former coaching inns were not ruined by the loss of the stagecoach traffic and even maintained their 1841 staffing levels. The only employment sector to show any increase was domestic service in private households. As servants were generally young and single it is likely that it was this sector which maintained the stability of the 16-25 year age group.

Real estate agents had long used the scenic and recreational qualities of the area as major draw cards in marketing high quality housing and quickly added the proximity to a railway station to the list of attractions. In order to assess whether or not high net worth households were drawn into the area by the arrival of the railway, all non-farming households with three or more residential servants were identified.[30]

Figure 6: *High net worth households*



Source: CEBs 1841-71.

The results are unequivocal. Unlike Brighton or Southend, the presence of a direct railway link to London with a similar journey time did not attract potential commuters.[31] Distance from the coast is not a satisfactory explanation for the lack of elite inward migration as elsewhere in the country inland resort areas did experience the early advent of commuter and tourist traffic.[32] Figure 6 also demonstrates that a railway station did not necessarily improve the desirability of a village.

It is impossible to ascertain visitor statistics but there are indications as to what it was people came to do. A study of nineteenth-century publicly exhibited oil paintings of the river between Pangbourne and Goring shows that from 20 canvases shown in 1840 the number rose to almost 120 in 1875.[33] From 1841 to 1871 there is a noticeable increase in the census returns of both game-keepers and fishing guides. Newspaper notices, real estate advertisements and the singular absence of a regular

[30] The exact status of servants on farms in the 1841-51 census returns is obscure and therefore farming households were excluded from Figure 6.

[31] J. Simmons, 'The Power of the Railway', in *The Victorian City: Images and Realities*, (ed) H.J. Dyos, & Wolf, Michael, (London: 1973), pp.296-7.

[32] Ibid.; H.G. Rhys, "Railways, Leisure and Language in Mid-Wales During the 1860s" (paper presented at the International Association for the History of Transport, Traffic and Mobility, York, 2005).

[33] Personal Communication, Mr M Hall, Goring.

third class railway service also support the impression that the area was predominately visited by people pursuing elite recreational activities.

The conclusion to emerge from this study is clear. The overarching social structure scarcely altered in the 35 years following the coming of the railway. It therefore acted neither as a conduit for significant outward migration, nor as an agent for major social or economic stimulation.

South of the Essex Bristol line: courts and back-to-back housing in mid-nineteenth century Reading

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The historiography of housing for the working classes informs us that back-to-back housing – houses that shared a back wall and had no rear openings – and the courts in which they were found, were predominant in the midlands and the north. From the end of the eighteenth to the mid-nineteenth century this type of house building was favoured to accommodate the increasing working populations in many of the rapidly expanding industrial centres. For the cities of Birmingham, Sheffield, Nottingham, Liverpool and Leeds, amongst others, the benefits of back-to-back housing offered a practical and economic solution to an urgent housing problem. Large numbers of cheaply built houses were erected on both small parcels and larger areas of land, which were then let at relatively low rents. Although some use of back-to-back housing has been identified in Bristol, south Wales and East Anglia knowledge of its use elsewhere, particularly in the south, has it seems been clouded by the overriding connection with the larger industrial centres. Therefore, whilst historiography does not dismiss entirely their use in the south, Anthony Wohl identified four areas in London, matters of quantification have been reduced to accounts of; 'hardly any', 'not uncommon in the boroughs of southern England' and 'their existence south of Birmingham was exceptional'.[34] Today it is still not possible to establish with any amount of accuracy the extent of the use of this type of building below a line, which seems to have been drawn from Bristol in the west to Essex in the east.

By using the market town of Reading as an example, this paper will argue that the occurrence of courts and back-to-back housing in the south is worthy of investigation and more than a cursory acknowledgement. The fact that Reading had become increasingly insanitary by the middle of the nineteenth century is pivotal to the research. As reformers were stirred in to action empirical data was collected and published in two key reports; one, a locally commissioned survey undertaken in 1846 and the other, the report produced for the General Board of Health in 1850. Together they offer a comprehensive picture of life, particularly the living conditions of the working classes, but other relative evidence is to be found in the decennial census and various local media.

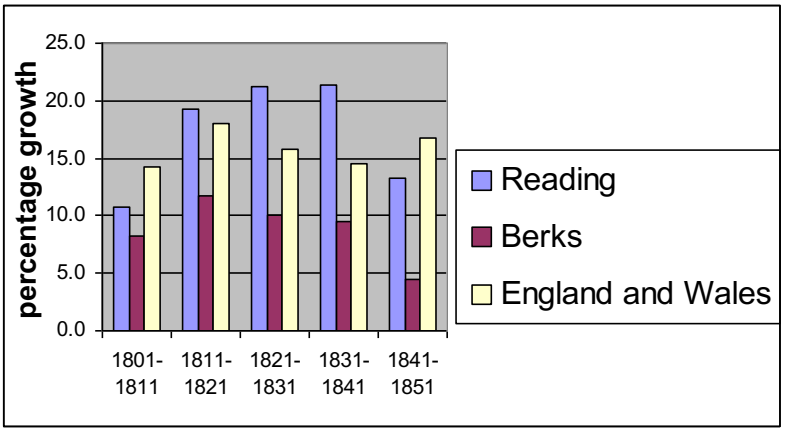
Early nineteenth century expansion

If, as the literature suggests, industrial growth and a rapidly expanding population were the key factors which predisposed a town towards the use of the back-to-back house, then Reading does not immediately present itself as a potential candidate. In 1801 Reading had a population of just 9,742; it was a small, regional, market town serving an agricultural hinterland. During the whole of the eighteenth century the population of the town had grown by only 40 per cent. However, during the next 50 years Reading underwent unprecedented growth as the population increased by 120 per cent to 21,456. For a regional centre of an agricultural area, where most towns had populations between 5,000 and 10,000, Reading was far from typical and as one of the largest centres in the county, population grew at a rate faster than Berkshire and in the most part faster than England and Wales, (Figure 1).[35]

[34] Wohl, A.S., *The Eternal Slum* (London, 1977) pp.13,135. Rodger, R., *Housing in Urban Britain 1780-1914* (Hampshire, 1989) p.32. Burnett, J., *A Social History of Housing 1815-1985* (London, 1978) p.74.

[35] Chalklin, C.W., *The Provincial Towns of Georgian England A Study of the Building Process 1740-1820* (London, 1974) p.31.

Figure 1: *Intercensal percentage growth in population, Reading 1801-51*



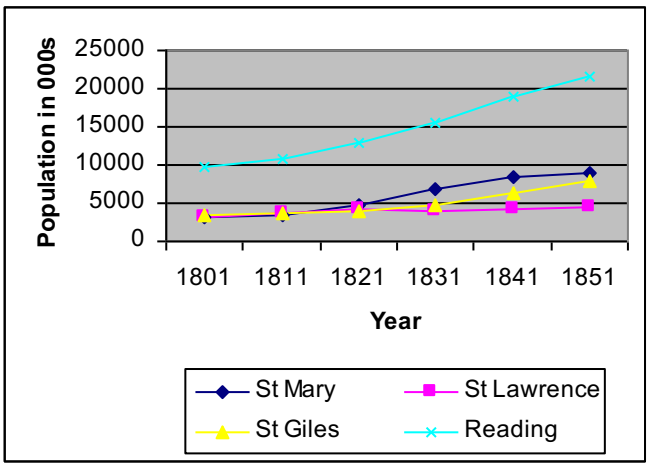
Source: Census of England and Wales

By the early nineteenth century Reading had developed in to a commercial centre, it had long enjoyed a position as a communication point standing at the confluence of the rivers Thames and Kennet and also benefited from the development of an extensive road network. Moreover, with the arrival of canals and the opening of the Great Western Railway station in 1840 this position was further augmented. At this time almost a third of the counties attorneys and solicitors were resident in Reading, it was home to five of the counties 18 bankers and in the 10 years from 1841 the working population increased from 37.8 to 48.2 per cent. The modal occupation at 17 per cent, especially among females under 20, was that of the domestic servant, but there were 14 per cent employed in the manufacture or retail of clothing goods, including 445 shoemakers and 465 milliners. The number of agricultural labourers living in the town by 1851 had increased by over 100 per cent during the previous 10 years – an indication of the move away from the countryside and the trend for urban living. Of the courts identified in the 1851 census the unskilled worker was in the majority as head of house in all the dwellings there, at 56 per cent. At the time an agricultural wage in Berkshire was on average 7s 6d per week, low even for the southern counties, and in Willow Court – where all but one of the heads of house was an agricultural labourer – 2s rent was more than a quarter of the weekly income.[36]

The effects of population growth on the town are perhaps best understood by analyzing the data from the perspective of the three town parishes; St Mary, St Lawrence and St Giles (Figure 2). Firstly, in 1801 the three parishes were roughly of equal size; each contained about a third of the total although St Giles was the largest of the three. Over the next 50 years the density of population for each parish changed significantly; St Mary became the fastest growing parish and St Lawrence the slowest. In 1851 about 42 per cent of the population now lived in St Mary's parish, St Giles had 36 per cent, whilst just over 21 per cent now lived in St Lawrence. The reasons for the different rates of growth were mostly to do with the topographical and geographical aspects of each parish, which dictated the availability of building land.

[36] Mingay, G.E.(ed.), *The Agricultural Revolution, 1650-1880* (1977) p.234. Pre decimalisation, s - shilling and d - penny, there were 12 pennies to a shilling and 20 shillings to a pound.

Figure 2: *Population growth in Reading 1801-51*



Source: Census of England and Wales

During the first half of the century the number of houses increased by 153 per cent (33 per cent faster than the population), but whilst this surplus of houses only facilitated a small decrease in the overall occupancy levels for the Borough, the parish breakdown reveals a slightly different picture (Table 1).

Table 1: *Parish growth; population, habitation and occupancy 1801-51*[37]

Year	1801	1811	1821	1831	1841	1851
St Mary						
Population	3156	3501	4762	6798	8365	9068
Houses	539	662		1414	1641	1786
Average Occupancy	5.9	5.3		4.8	5.1	5.1
St Lawrence						
Population	3170	3627	4091	4048	4285	4571
Houses	561	672		746	759	810
Average Occupancy	5.7	5.4		5.4	5.6	5.6
St Giles						
Population	3416	3660	4014	4749	6287	7817
Houses	651	611		921	1237	1502
Average Occupancy	5.2	6.0		5.2	5.1	5.2
Reading Borough						
Population	9742	10788	12867	15595	18937	21456
Houses	1751	1945	2446	3081	3637	4098
Average Occupancy	5.6	5.5	5.3	5.1	5.2	5.2

Source: Census of England and Wales

St Lawrence, with only 19.5 per cent of the houses by 1851, shows occupancy little changed from 1801, but St Mary the most densely occupied in 1801 now has the best level of all three parishes. Clearly the inhabitants of the parish benefited from the higher level of building activity, a three-fold increase over the 50-year period, but what do we know about the back-to-back type of house being built here and in the other parishes?

[37] Inhabited houses only are given in this example to give an accurate calculation of occupancy levels.

Quantifying the back-to-back house in Reading

It is from the first survey of the town that the only firm figures on the number of back-to-backs in Reading is available. When John Billing undertook his analysis of the sanitary state of the town in 1846 he identified 129 courts and classified 656 houses or 16 per cent of the total housing stock as being back-to-back or without rear ventilation – single back (Table 2).[38] This type of housing accounted for 67 per cent of all the housing found in courts. The back-to-back was 'transplanted from its late-eighteenth-century infancy to full maturity in the early nineteenth century'.[39] In Reading, Mary Lobel's map for 1800 identifies 17 named courts and there is clearly evidence of back-to-back building.[40] However, although it is difficult to accurately quantify the number of courts or back-to-backs at the beginning of the century, the 129 surveyed in 1846 does indicate a significant tendency towards this form of house building for the first half of the nineteenth century. Like the courts in the well-researched cities and towns of Birmingham and Leeds, court building in Reading reached its zenith in the 1840s. At this time back-to-backs in the larger towns comprised in the region of 65-70 per cent of the total housing stock so, by comparison the 16 per cent for Reading may seem small, but are they insignificant?[41] In Ipswich – a town that John Burnett acknowledged as an exception being south of Birmingham – there were 805 small back-to-backs known as "single houses", in 1856 they were equal to 11.5 per cent of the total housing stock.[42] Therefore, although the overall number in Reading was smaller, in percentage terms back-to-backs accounted for a larger proportion of the overall housing stock.[43]

Table 2: *The 1846 analysis of houses and courts in Reading*

Parish	Courts	One Entrance	Houses	No rear ventilation	Restricted ventilation
St Giles	42	35	268	153	123
St Mary	60	48	499	360	184
St Lawrence	27	26	211	143	166
Total	129	109	978	656	473

Source: Billing, 'Statistics of the Sanitary Condition of the Borough of Reading' pp.260-261.

The largest number of back-to-backs to be built in a block in Reading was the 56 or so built in the courts of Somerset Place, Chatham Street, in the parish of St Mary during the 1820s (Figure 3). However, the size of this development was unusual for the town – the average number of houses per court was 7.6 – and is best explained by the availability of a larger piece of land being developed by only one or two builders. The landowner John Weldale Knollys leased an area of land to Alfred Compigne for a term of 99 years. John Leaver, a shoemaker cum-builder, then acquired a parcel of this land and insured 36 dwellings here in 1825.[44] The only other identified large block of back-to-backs were those built in Crane Court, Silver Street, but this development is small by comparison at only 24 dwellings. The smaller block of back-to-backs and the single-back seem to have been preferred and were often juxtaposed. Together they were more suited to the practice of infilling; utilizing land within an already built up area, like the block of 10 back-to-backs built in Laud Place on the site of a previously demolished house.

Figure 3: *Somerset Place, Chatham Street*

[38] *Remedial Measures for the Improvement of the Sanatory Condition of the Town; together with the Reports of Mr. John Billing* (Reading, 1846) p.14.
[39] Rodger, *Housing in Urban Britain 1780-1914*, p.32.
[40] Lobel, M.D., *Historic Towns Volume I* (London, 1969).
[41] Rodger, *Housing in Urban Britain 1780-1914*, p.32.
[42] Burnett, *A Social History of Housing 1815-1985,* p.74.
[43] Ibid.
[44] Berkshire Record Office (BRO), D/EX 1112/9.

Source: Ordnance Survey 1879, XXXVII.3.7

Life in a Reading back-to-back

The distinguishing characteristic of the back-to-back was its construction around a shared central or back wall, which acted like a spine. Whether back-to-back or single back these dwellings were almost identical in layout; one door together with any windows in the front wall and fireplaces provided the only means of draught and ventilation for the house. Each dwelling was normally only one room wide and deep with each room of the house placed one directly on top of the other, but the number of floors varied. Sale particulars described the houses found at 31-35 Warren Place as having had a 'living room with cupboard and two bedrooms', suggesting three floors in this instance.[45] The ground floor was the general living space with a fireplace; the upper room or rooms were reserved as sleeping spaces and some, though not all, had fireplaces. It was normal for a third floor to have been incorporated into the roof area, but there is no evidence at the moment to suggest that an upper floor was used as a workshop, such as those found in Nottingham and Birmingham. Access between floors was by means of a steep staircase – which may or may not have been enclosed – with each room being accessed via the other.

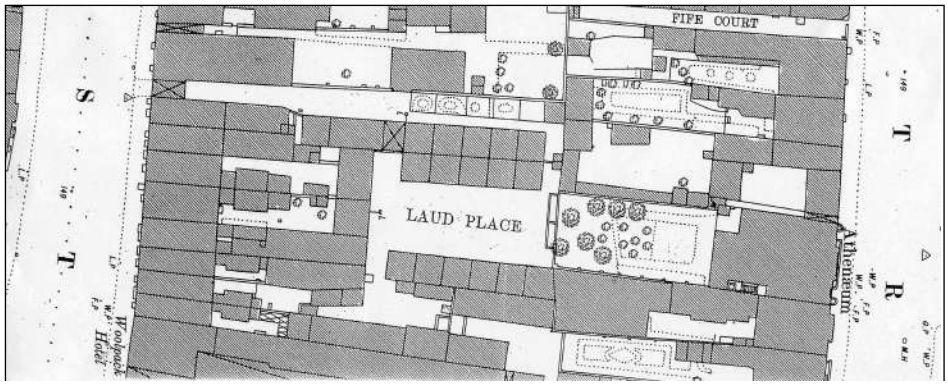
The size of back-to-backs appears to have varied across the country; at the smallest end of the scale there was the 10 ft square room of the back-to-backs in Ipswich, but back-to-backs in Leeds had the largest overall plot size of about 15 ft square.[46] In Reading there is little evidence available to establish an average size, but evidence suggests it varied, often dictated by the size of the space used for building. The single-backs of Gas Court, Friar Street, for example were all 14 feet in depth, but the width varied from between 10 and 14 feet.[47] However big the rooms the number was limited and whilst two people only inhabited many court dwellings the majority housed at least five in 1851. Moreover, houses with upwards of seven inhabitants were also common and there were instances as high as 13 to be found.

Apart from the advantage of ones' own front door and some private space the paucity of the accommodation ensured a shared existence. Access to the courts was often via a single tunnel or passage (the X on Figure 4, Laud Place indicates a covered passage) and the absence of any internal facilities made the most basic of daily functions unavoidably communal. In Somerset Place in 1850, 60 back-to-back houses were recorded as sharing two taps and four privies.[48] Not all courts had the luxury of their own tap and it was not unusual for occupants to have to carry water a considerable distance, 30 yards through an inconvenient passage and up two flights of stairs, a task that would have

[45] BRO, D/EX 1112/8.
[46] Burnett, *A Social History of Housing 1815-1985*, pp.74-75.
[47] BRO, D/EX 551/28.
[48] Lee, *Report to the General Board Of Health*, p.22.

been worse in winter.[49] Furthermore, water supply in Reading by 1850 was by no means adequate or pure and the piped supply from the river Kennet was only on every other day for 12 hours.[50] Likewise the drainage arrangements for the town were also basic and the cesspool – the 'monster evil' – was the most common and primitive method.[51] Of the 129 courts only 21 drained into cesspools, 20 had covered drains that were likely to have been for the removal of surface water only, 56 drained into surface gutters and 28 had no drainage whatsoever.[52] Therefore, with so many of the courts lacking proper drainage it is not surprising that they were found guilty of being the "seats of every disease". Contents leeched into the surrounding soil, walls and floors undermining the fabric of the houses and courts were often covered in excrement. All this could be had for a rent of as little as £2 per annum or as much as £7 10s, or from between approximately 9d and 2s 11d per week in 1851.[53]

Figure 4: *Laud Place, Broad Street*



Source: Ordnance Survey 1879, XXXVII.3.8

Conclusion

During the first half of the nineteenth century the back-to-back was clearly utilized as a form of house construction in Reading and evidence has demonstrated that the propensity for back-to-back building was not necessarily dependent on or centred upon the industrial centres of the midlands and the north. Although population was clearly a factor in Reading and the overall growth significant, for the first and last decennial periods rates were only just above 10 per cent. However, as Reading expanded the back-to-back was erected in all areas and provided accommodation for some of the poorest of the town's working-class population. Just as the back-to-back had evolved elsewhere it did so in Reading, in a way that was fitting to local conditions and local needs, a factor that created a form of court that was atypical to the formal rectilinear layouts found in the larger developments. It was the irregular spaces in which the back-to-backs and single-backs evolved, and the preference for through terrace building on larger developments, which prevented swathes of streets with back dwellings from becoming a topographical feature of the town. Finally, this quantification of Reading back-to-backs presents a strong case for a closer study of the use of this type of house building in the south. Furthermore, it is a sufficient enough body of information to challenge the previously held beliefs and make back-to-backs in the south the rule and not the exception.

[49] BRO, R/AC2/10/1 Minutes and Proceedings of the Sanitary Committee May 1873-Jul 1876 p.76.

[50] Darter, W.S., *Reminiscences of Reading by an Octogenarian* (Reading, 1888) pp.59-61and *Remedial Measures for the Improvement of the Sanatory Condition of the Town; together with the Reports of Mr. John Billing* (Reading, 1846) pp.16-17.

[51] Lee, *Report to the General Board Of Health,* p.16.

[52] *Remedial Measures for the Improvement of the Sanatory Condition of the Town; together with the Reports of Mr. John Billing*, p.14.

[53] BRO, D/P 96/11/192-199 MF 217.

Collective action and social exclusion in the British post-war housing programme

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Introduction

For the urban working-class, the provision of better quality housing was a central political issue in the thirty years after 1945. Because city councils were often controlled by the Labour Party even when the Conservatives were in power nationally, the provision of housing was also by far the most important means by which the Labour Party could set about building (rather than simply talking about) its vision of a better society. This paper discusses the history and implications of that programme of intervention in two solidly Labour-controlled, working-class local authorities (Sheffield and Southwark).[54] It argues that instead of building solidarity between people, collective provision came to divide them; and that this played a major role in loosening the attachment between the Labour Party and the skilled and prosperous elements of the working class.

The impact of social housing

Over a period of only thirty years after the end of the War, the previously-dominant system of tenure in Britain's inner cities (private renting) was reduced to residual status. From 1950 to 1975, the public sector constructed just over 4.3 million new dwellings, while the private sector built just over 3.9 million.[55]

Most of these public sector dwellings were built by local authorities. Pressures from central government constrained their choices; Dunleavy has argued that central pressures largely determined the scope and nature of the building programme.[56] However, it is clear that while centrally available subsidies for slum clearance and central housing targets created pressure to build, government was usually pushing at an open door.[57] Housing became a key yardstick by which local leaders judged their success, and were judged by the local press.

At both local and national levels, the pressure for *public* provision of housing stemmed from a set of problems which could only be solved by collective means (given the existence of rent control, the widespread existence of houses in multiple occupation and the low feasibility of making private contracts for area-wide improvement). Thus councils first municipalized much private rented housing, then demolished it as part of the slum clearance programme (Figure 1).

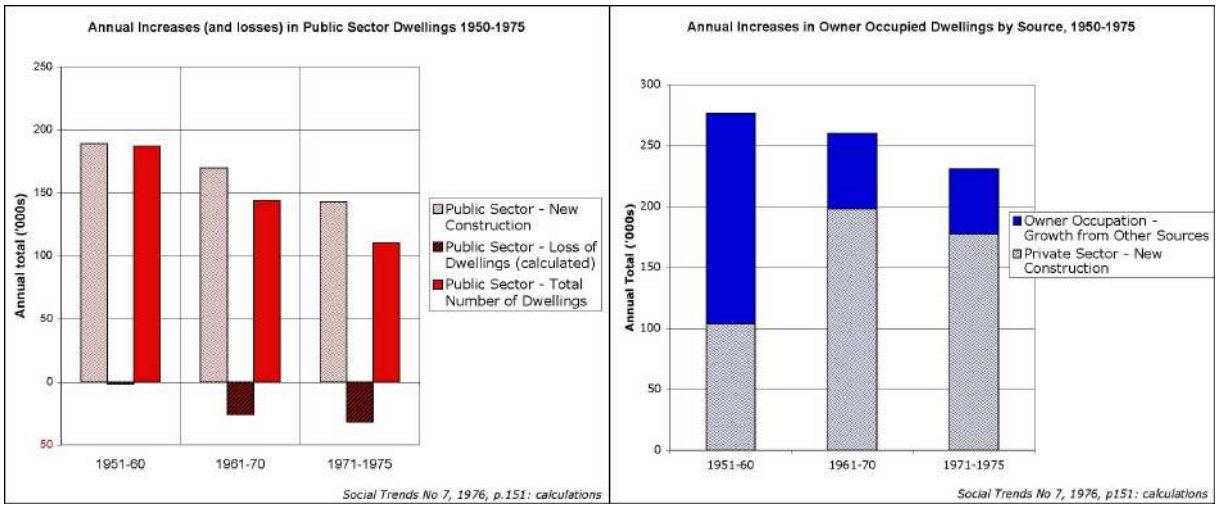
[54] The local pictures presented in this study are an amalgam of primary material from several thousand local newspaper stories, academic sources, additional literature, and re-analyzed statistical data. The voices that are heard in local newspapers are not 'representative'. But local newspapers tend to report a wide variety of views, and to reprint – more or less verbatim – comments made by local councillors and local residents. Although the voices heard in these sources may seem familiar, the worlds which they reflect have largely vanished. Apart from oral history, local newspaper stories are the closest that we can get to the fine-grained experiences of residents in these vanished worlds.

[55] *Social Trends* No 7, 1976, p.151: author's calculations. Much of the growth in owner-occupation before 1960 was fuelled by sales by private landlords to owner occupiers; private sector construction then became a major factor in the rise of owner-occupation, to become the dominant form of tenure by 1970.

[56] Legislative and subsidy régime changes are clearly summarized in Peter Malpass and Alan Murie, *Housing Policy and Practice*, *Public Policy and Politics* (London, 1982) pp.45-75. Patrick Dunleavy, *The Politics of Mass Housing in Britain, 1945-1975: A Study of Corporate Power and Professional Influence in the Welfare State* (Oxford, 1981) pp.36-55, 67-70, 102.

[57] Miles Glendinning and Stefan Muthesius, *Tower Block: Modern Public Housing in England, Scotland, Wales, and Northern Ireland* (New Haven, 1994) p.155. Peter Shapeley, Duncan Tanner, and Andrew Walling, 'Civic Culture and Housing Policy in Manchester, 1945-79,' *Twentieth Century British History* 15, no. 4 (2004).

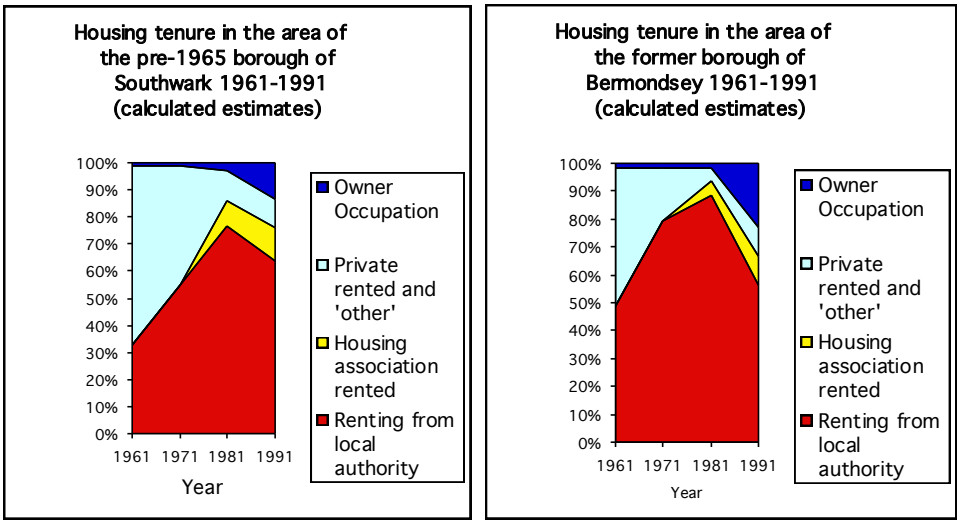
Figure 1: *United Kingdom Annual Average Changes in Dwellings 1950-75, by Sector*



By 1973, about half of the semi-skilled and unskilled manual workers in Britain, and almost four in ten skilled manual workers, lived in housing rented from local authorities or New Towns.[58] In some regions the impact of council purchases, demolitions and new construction was even greater: in Scotland over 50 per cent of households were local authority tenants by 1975, and in the 'North' standard region, 40 per cent.[59]

The proportion of council housing varied not simply between regions, but within them. Because slums had been largely concentrated in the inner cities, and because the cheapest building land was available in cleared areas, much of the reconstruction was geographically focused. One consequence of this was to bring about a fundamental change in the nature of the relationship between local authorities and residents; in extreme cases, the right to live in a Borough at all came to depend on administrative decisions taken by the Council about who should be allowed access to its homes (Figure 2).

Figure 2: *The evolution of Tenure in former Southwark and Bermondsey, 1961-91*[60]



[58] *General Household Survey*, 1973, p.32.

[59] *Social Trends* No 7, 1976, p.151.

[60] *1961 Census England and Wales: County Report: London*, (London, 1963); *1981 Census: Ward and Borough Indices for Greater London*, (London, 1984); *1991 Ward Profiles*. Author's estimates, to reallocate wards to their former Boroughs.

Housing provision and collective action problems

However, the collective provision of privately-consumed goods poses special problems to political theorists. The fact that one family lives in a house means that it is not available to another family. Politicians thus also have to overcome uncertainty about how the fruits of cooperation will be distributed. But there is no certainty about whom political authorities will favour, and no means to bind future governments. Thus people should (in principle) be reluctant to make sacrifices for uncertain future gains. In practice, however, support was (initially) widespread, and public provision happened on a very large scale. This puzzle needs to be explained. Theoreticians have advanced three principal sets of solutions:

- The first set stresses the emergence of trust, to reduce uncertainty about others' intentions. Trust can reassure people that the fruits of cooperation will be distributed 'fairly'. But rational maximization does not justify extending trust to strangers. Thus trust depends on the existence of widely shared values, rooted in communities which can punish deviation from their norms.[61]
- Collective action dilemmas can also be resolved by the imposition of hierarchy. This process, which overcomes contractual indeterminacy by substituting administrative solutions, is similar to that described by Williamson; his argument is that firms ('hierarchies') expand because the costs of contract-enforcement (and other transaction costs) become greater than the cost-savings to be achieved by buying on spot markets.[62] By analogy, political hierarchies are able to make flexible administrative choices to allocate housing in ways which reflect community values, even though it would be impossible to write clear contracts which could achieve this.
- A more limited range of collective-action problems can be solved by formal institutions, which guarantee rights of access. But 'rights' offer a poor basis for action, because they are hard to specify in practical terms; furthermore, many 'rights' are incommensurable or – at least – competitive.[63]

The study of Sheffield and Southwark suggests that the habits and beliefs of Labour Party activists in the pre- and immediate post-war era met the first two of these conditions. In stable communities with low population turnover and considerable social and ethnic homogeneity, trust was able to emerge because of the probability of repeated interactions between participants, the emergence of reputation, and the likelihood of swift retaliation in face of a failure to live by the code. Collective values were based on a very restricted view of human nature, and of which individuals should be counted as a part of the 'community' to which duty was owed.[64] The restricted range of potential beneficiaries was concealed from the party's leaders by a historically contingent set of ideologies based around rationalism, planning, and un-theorized 'socialism,' which rendered invisible those outside its moral compass.

Furthermore, because power was hierarchically distributed, those who were in charge could *exclude* other groups from the assets that were being created (making them more like 'club goods' than

[61] Jane Mansbridge, 'Altruistic Trust,' in *Democracy and Trust*, ed. Mark E. Warren (Cambridge, 1999), pp.297-302. Elinor Ostrom, 'A Behavioral Approach to the Rational Choice Theory of Collective Action,' *American Political Science Review* 92, no. 1 (1998). Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* (1990) p.17.

[62] Oliver E. Williamson, *Markets and Hierarchies: Analysis and Antitrust Implications: A Study in the Economics of Internal Organization* (New York,London, 1975). passim.

[63] William E Connolly, *The Terms of Political Discourse* (Lexington, Mass., 1974). W.B. Gallie, 'Essentially Contested Concepts,' *Proceedings of the Aristotelian Society* LVI, no. New Series (1955/6).

[64] For example, in 1951, 97% of the population of each of the three Southwark boroughs had been born in the British Isles, and many had been born locally (*1951 Census England and Wales: County Report: London*, (London, 1953). Table 19), while in Sheffield in 1961 96 per cent of local residents had been born in England, and the total number of immigrants from outside the city boundaries (in that year) was only 1.8%, as against an average for large English cities of 3.2 per cent. (William Hampton, *Democracy and Community: A Study of Politics in Sheffield* (London, 1970) pp.36-37.)

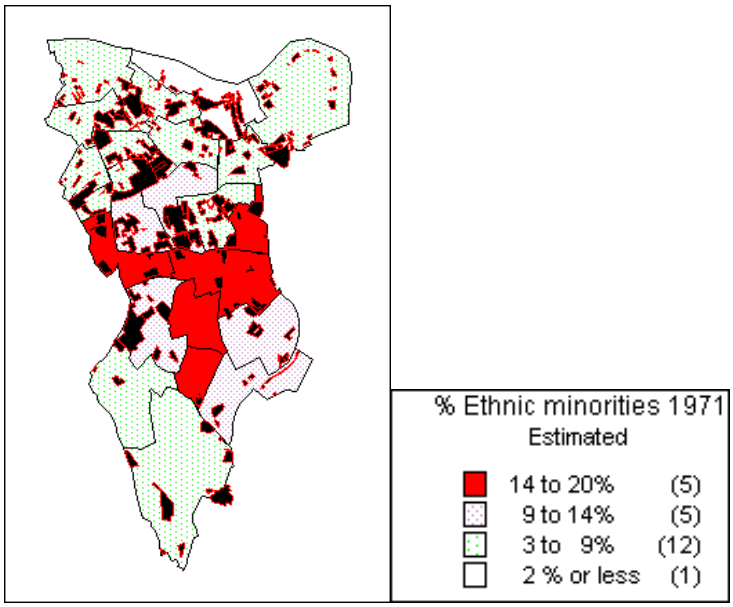
'public goods') and this built support amongst likely beneficiaries.[65] Public provision of housing acted as a collective-purchasing club on behalf of the most respectable, prosperous and skilled members of the local working class; rents were high, and housing allocation overtly favoured the respectable.

Contradictions of collective provision

But both trust and hierarchy were time-limited solutions. They could not survive social diversity, or the emergence of alternative claims for access to social housing. In the 1960s – the era of 'Cathy Come Home' – up to 75 per cent of all dwellings in both Sheffield and Southwark started to be allocated to those displaced by slum clearance. In Southwark, it was hard for affluent, upwardly mobile working-class families to buy homes in the borough (since the Council discouraged owner-occupation); but they could not get council houses, either. In Sheffield, the Council positively encouraged the children of the skilled working-class to buy their own homes, and even became a major mortgage lender; but it could not recapture the former enthusiasm for collective action amongst those who now had other concerns.

As (generally poorer) slum dwellers started to move into council dwellings, hostility over housing allocation was made worse by the need to cross-subsidize the (high) rents of the new homes they lived in by raising the (low) rents paid by the (generally better-off) established council tenants. This provoked rent strikes in both Sheffield and Camberwell (later to become part of Southwark). In Southwark, from the mid-1970s, this challenge was made more acute by the arrival of overseas immigrants who were no longer – as they had been in the 1960s – effectively excluded from access to council housing (Figure 3).

Figure 3: *Southwark, ethnic minority percentage by ward, and the location of council housing, 1971*[66]



The strongly hierarchical nature of these local authorities – dominated by older-statesmen, with younger politicians not expected to speak, and the public and pressure-groups entirely excluded – had allowed them to impose their values. But their faith in an atheoretical scientism, which eschewed design diversity in favour of 'objective' analysis of housing requirements resulted in poor-quality townscapes, which were nonetheless implemented on a mass scale.[67] Once things started to go wrong, as design defects became increasingly evident and social problems mounted on the new estates, both

[65] Richard Cornes and Todd Sandler, *The Theory of Externalities, Public Goods, and Club Goods* (Cambridge Cambridgeshire ; New York, 1986) pp.8, 23.

[66] Southwark LSL MAPS. Major council estates have been plotted in black.

[67] See, for example, J.M. Richards, *An Introduction to Modern Architecture* (Harmondsworth, 1940) p.39.

their ideology and their power insulated them from negative feed-back, and prevented them from changing course.

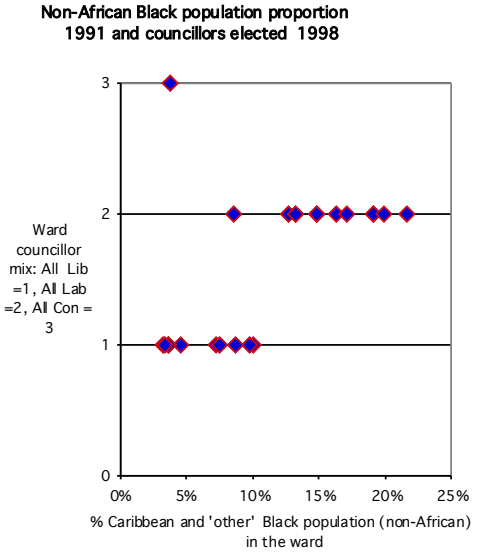
As this old order crumbled, what remained as a basis for collective action was the third principle; the idea of rights. But formal rights were harder to specify, and were not rooted in the un-articulated values of the community; an idea of fairness based on support for local families from the *milieux* which generated Labour's leaders and activists was confronted by an idea of fairness based around serving those in greatest 'need'; there was no evident means to resolve these competing claims. This breakdown of shared values provoked extensive attempts to circumvent the system – both by the emergence of black-markets, and by the increasing use of 'statutory homelessness' to jump the housing queue. In a spiral of decline, this 'cheating' then further undermined the credibility of the process.

In Southwark, in particular, where housing pressures on working-class families remained intense, claims to housing based on existing community membership could seem self-evidently just to established residents, but racist to newcomers. In that borough, white working-class Bermondsey defected *en-masse* from support for the Labour Party. This did not reflect support for the general principles of Liberalism, however, since there were often protests (sometimes violent) when black families were allocated houses.

The search for a new collective project

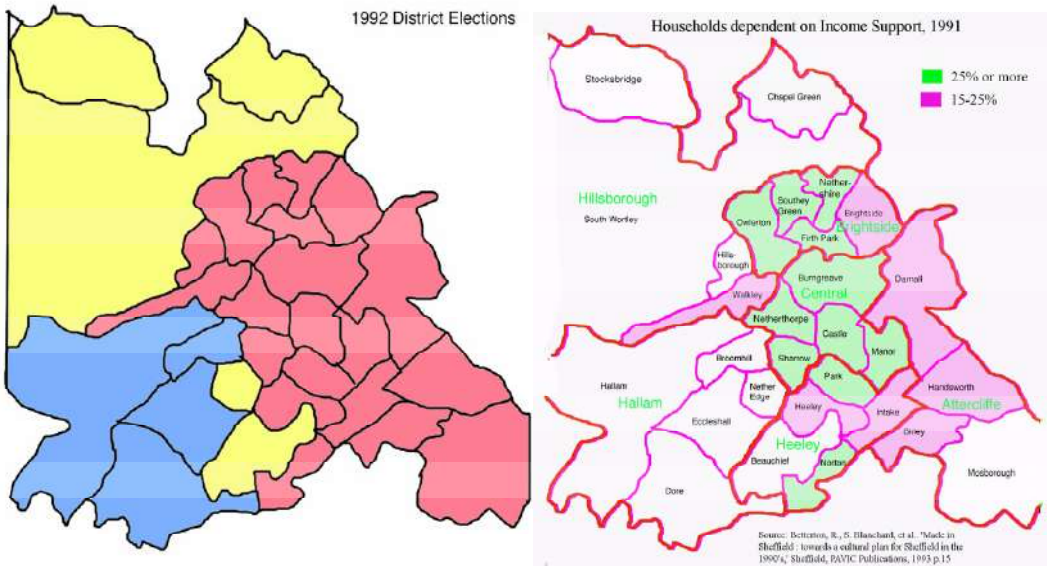
The subsequent history of the two areas cannot be understood without taking account of conflicts of interest within the 'working class', which made reconstruction of a new Labour vision hard to achieve. The persistence of highly-unionized public-sector work forces created tensions between councillors' obligations to the public, and the public-sector unions. Needs-based allocation of council housing concentrated the poorest and least capable families into large, unpopular estates – while families in the better council estates stayed put, or bought their homes under 'right to buy' legislation. In both cities, the Party turned to spectacular projects of regeneration in order to try to build new coalitions. But these projects were not enough to overcome the conflicting interests of different neighbourhoods, did not generate large enough inflows of resources, and sometimes failed, expensively. Faced with these contradictions, the new leaders used party discipline to fortify their position. Labour became increasingly dependent on the voting support of wards with high concentrations of the socially excluded. In Southwark, it depended on wards with high proportions of people from Afro-Caribbean backgrounds (Figure 4).

Figure 4: *Proportion of self-described non-African black population in 1991 census, for Southwark wards electing different combinations of councillors in 1998*[68]



In Sheffield, control rested on the voting support of wards with high concentrations of voters receiving state benefits (Figure 5).

Figure 5: *Sheffield - Labour wards in 1992 council elections, households dependent on income support, 1991*



Because many collective goods (such as housing and education) had area-based mechanisms of delivery, it was hard to connect the interests of the areas which most needed help with those of other neighbourhoods. In order to build coalitions beyond its existing base, Labour adopted positions that were oriented to social control; but it remained to be seen whether this would be enough to re-engage the demands of the prosperous with the needs of the poor.[69]

[68] Source: *1991 Census: Information from the 1991 Census of Population: Ward Profiles*, (Southwark, 1993). The difference between the means was significant (sig. = 0.000).

[69] Frank Field, *Neighbours from Hell* (London, 2003). *passim.* For working-class Labour Party members nationally, tough policies on law and order and behavioural problems were increasingly salient by 1997 – see Patrick Seyd and Paul Whiteley, *New Labour's Grassroots: The Transformation of the Labour Party Membership* (Houndmills, Basingstoke, Hampshire ; New York, 2002) pp.62-64. See also: Stephen Pollard, *David Blunkett* (London, 2005).

By the end of the century, Labour had still not re-assembled a hegemonic coalition. Inconceivably from the standpoint of 1945, in Sheffield the Liberal Democrats seized power in 1999 (Figure 6), and remained in contention thereafter. In Southwark, in 2002, the Liberal Democrats also took control.

Figure 6: *Sheffield - 1999 District Elections*

The features so deplored by Labourism's critics – narrowness, inflexibility, exclusiveness – were what enabled the cities to be rebuilt. It was precisely when the Labour leadership stopped being narrow, inflexible and exclusive that the Old Labour project collapsed. Its successors have had great difficulty in finding an alternative vision.

Their experience suggests the existence of an intractable social dilemma facing those who wish to use collective action to increase social equality. Collective political action involves high levels of uncertainty about outcomes; it depends on trust. Trust is possible on the basis of an assumption of shared values. But fraternity is underpinned by frequent contact, bounded communities, and the emergence of reputation. The community which acts collectively will often be unwilling to share the benefits it creates. *Fraternité* and *égalité* can be enemies, not allies.

ABSTRACTS OF ACADEMIC PAPERS

I/A International Monetary and Financial Cooperation Since 1945: Markets, Policies, and Institutions

Chair: **Catherine Schenk** (Glasgow)

In the course of the twentieth century the international monetary system has witnessed a number of seesaw changes. From the classical gold standard of the Belle Epoque to the unstable gold exchange standard of the inter-war period, and from the post-1945 Bretton Woods system of fixed exchange rates to the era of floating after 1973. One of the perennial debates in economic history concerns the question of how much formal or informal cooperation the international monetary system requires, or indeed tolerates. Views on and practices of international monetary and financial cooperation have differed widely over the course of the century, largely dependent on the prevailing monetary regime. One aim of this session is to compare these different historical experiences over time (successive monetary regimes) and space (core and periphery), and thereby provide elements for a more comprehensive overview and assessment of international monetary and financial developments and policymaking during the late twentieth century. This session will look in particular at the dynamic interaction between markets, government policies, national monetary authorities and international monetary institutions (IMF, BIS).

Stefano Battilossi (Carlos III, Madrid)

Capital mobility and monetary control under Bretton Woods, 1958-73: how did central bankers react to financial innovations?

In a recent influential paper, R. Rajan and L. Zingales outline the political economy of the "great reversals" of financial development which, in the inter-war periods, led governments of all industrialized countries into a policy of systematic and pervasive regulation of their banking and financial system (Rajan and Zingales 2003). In a post-war Europe that only slowly returned to external convertibility, governments, markets and international institutions were struggling over the scope, the speed and the sequencing of financial reforms. However, in the early 1960s the balance of power seemed quite unexpectedly to be shifting in favour of market forces. Bank intermediaries actively promoted financial innovations in money and capital markets, especially at international level. The cross-border mobility of short-term capital was enhanced by the growth of Eurocurrency markets, based on an unprecedented network of worldwide interbank transactions. The emergence of the Eurobond market provided an alternative to heavily regulated domestic capital markets, traditionally dominated by sovereign issues. Governments and monetary authorities generally allowed such developments to unfold, either by benign neglect or sympathetic support. In some cases, market-oriented financial reforms were also implemented.

The honeymoon of governments and markets proved short-lived. The late 1960s came to be dominated by the resurrection of old, and the invention of new regulatory devices and capital controls. The rationale for this new regulatory escalation alleged by central bankers was that sudden reversals of capital inflows and outflows, in a pegged system that obliged monetary authorities to intervene in the foreign exchange market, muddled the conduct of monetary policy, undermined their ability to keep monetary expansion in check or obliged them to engage in sterilization policies at odds with other macroeconomic goals. International debates, as wearisome as inconclusive, between central bankers followed on the opportunity and the usefulness of international coordination in the regulation of international banking business (Toniolo 2005).

But, was monetary control really significantly undermined by financial integration? To date, no empirical study has been undertaken on this aspect of the conduct of monetary policy in the 1960s in a comparative European perspective. The paper aims at filling this gap by empirically analyzing and comparing the response of monetary authorities of major European countries to inflows/outflows of short-term capital before the demise of the Bretton Woods system. More specifically, following the modern literature on capital mobility and sterilization (Darby 1983, Edison 1993, Calvo et al. 1995), we first estimate an intervention equation for the exchange market to understand how central bankers

reacted to exchange market pressure and changes in the current account balance and inflationary expectations. We also analyze the sources of growth of reserve money in order to assess the contribution of net domestic and foreign assets to the growth of monetary base, thus measuring the relative importance of the balance of payments and the government budget as a source of inflation. Finally, a reaction function of central banks is estimated in order to investigate the degree of sterilization which central banks engaged in when responding to changes in net foreign assets and the domestic-foreign interest differential. The empirical exercise will allow us to shed light on the utility preference of central bankers as well as on their ability to cope with pro-market financial innovations within the framework of the macroeconomic and institutional constraints of the late 1960s.

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Kazuhiko Yago (Tokyo Metropolitan)

Monetary and financial cooperation in Asia: market and institutions

The Eastern Asian nations (China, Japan and Korea) and the ASEAN countries have been a centre of the world's economic growth since the 1950s, and also an origin of several financial crises. This paper deals with the monetary and financial cooperation which took place in this area, from a historical perspective.

Macro-economic performances of this area have been explained from the following points of view:

(1) Export-oriented growth, combined with protectionism and cheap money
(2) State-led regulation over money market and capital movement
(3) Economic policy consulted by international institutions (IMF, IBRD, etc)

On the other hand, less attention has been paid to the function of markets and the role of intra-Asian financial cooperation. Taking notice of these points, this paper tries to provide an alternative view on the monetary and financial cooperation in Asia.

In this paper, a particular focus is to be brought on the development of "swap" operations in this region. Swap operations have been one of the most important tools of international financial and monetary cooperation. The swap network among central banks has its origin in the bilateral collaboration between the FRB of New York and the Bank of England in the 1920s (James 1996, p.160). The swap network was revived in the 1950s, this time under the initiative of the Bank for International Settlements. In the 1960s, the swap network played a role in the Multilateral Surveillance scheme to cope with the pound sterling crisis. In 1966, however, the FRB, suffering balance of payments trouble, developed its own bilateral swap network, which provoked severe criticism from European countries.

The aim of currency swaps in the era of fixed exchange rates was: "to enable the monetary authorities to retain control over the course of events" (BIS, cited in Toniolo/Clement 2005, p.388). Afterwards, in the 1970s, the role of swap began to change: instead of being the back-door agreement among the central banks, the swap network became a "ruler" to discipline the monetary policy of the member countries. The swap operation thus symbolizes the role of market and institution in the course

of international financial and monetary cooperation, from the fixed rate regime to the free float regime, and from the period of reconstruction and growth to that of recession and crises.

The Asian countries studied this process as contemporary witnesses. Intra-Asian cooperation developed, although slowly, after the 1950s, inside and outside the sterling area (Schenk 1994). This paper follows the incidents concerning the development of swap networks in Asia from the 1950s onwards, in contrast to the European and American developments. The following topics will be discussed:

- The post-war "trade triangle" in theory and practice: China, Japan and the South-East Asia
- Asian exchanges between the dollar and the sterling: 1950-1960s
- Multilateral Surveillance Scheme: its impact on the Asian authorities
- Swap networks in the private sector: international banking in Asia
- Intra-Asian financial and monetary cooperation during the post-Bretton Woods period: a perspective

This paper draws on the archival sources of the BIS as well as the Bank of Japan and the Ministry of Finances of Japan. Some oral archives are also referred to.

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Piet Clement (Bank for International Settlements)

The Bank for International Settlements and central bank cooperation during and after the Bretton Woods era

Since 1930, central bank Governors from Europe, the United States and Japan have gathered regularly at the Bank for International Settlements (BIS) in Basel in order to foster international cooperation in the monetary and financial fields. The nature, scope and, ultimately, the outcomes of this cooperation have varied over time as a result of the opportunities and constraints imposed by the prevailing international monetary system and, more broadly, as the result of the changing geo-political and economic environment.

This paper reviews the successes and failures of central bank cooperation at the BIS during and after the Bretton Woods era (1945-1990s). More in particular it will contrast the nature and scope of central bank cooperation under the "state-led" Bretton Woods monetary and financial system (1945-1971/73) with the "market-led" post-Bretton Woods system (after 1973).

Under Bretton Woods, central banks in the western world mainly focused on monetary cooperation, i.e. on the joint efforts to keep the global system of fixed, stable exchange rates viable. However, central banks had to revert more and more to ad-hoc arrangements and emergency measures in order to achieve this goal, as market developments began to change the underlying fundamentals and the political consensus to adapt the system accordingly proved elusive. Ultimately, and notwithstanding the fact that high-profile central bank cooperation reached a peak in the 1960s in an effort to sustain the Bretton Woods system of fixed exchange rates, the system was nonetheless swept away in the early 1970s by market forces.

The prevalence of market-determined, floating rates after 1973 led to a fundamental re-orientation of central bank cooperation, its policy goals, scope and nature. During the post-Bretton Woods era, central bank cooperation tended to be much more low-profile than it had been before, but at the same time it focused increasingly on the robustness of the international financial infrastructure (for example, the potential risks to systemic stability posed by bank failures).

Finally, the switch to floating rates also led to another reaction: it prompted the European Community partners to embark on an ambitious path toward monetary unification as a way to eliminate the volatility of market rates. This was essentially a political project, but the central banks and the BIS played a crucial role in designing and implementing the different steps that would eventually lead to the creation of the European Central Bank and the introduction of the euro.

This paper will try to assess the see-saw changes in the nature and scope of central bank cooperation during the second half of the twentieth century, and the particular role the BIS played in this process. This will be done by highlighting a few particularly illustrative episodes, such as the functioning of the European Payments Union in the 1950s, the establishment of the Gold Pool and the handling of the sterling crises in the 1960s, the aborted regulation of the eurocurrency markets in the early 1970s and the elaboration of the European Monetary Union blueprint by the so-called Delors Committee in the late 1980s.

James Boughton (International Monetary Fund)

The IMF and the force of history: ten events and ten ideas that have shaped the Institution

The International Monetary Fund was designed during World War II by men whose world view had been shaped by the Great War and the Great Depression. Their views on how the post-war international monetary system should function were also shaped by their economics training and their nationalities. After the IMF began functioning as an institution, its evolution was similarly driven by a combination of political events (Suez, African independence, the collapse of global Communism), economic events (the rising economic power of Europe, the middle East, and Asia), and trends and cycles in economic theory (the monetary approach to the balance of payments, new classical economics, the rise and fall of the Washington consensus). As they happened, these forces had effects that were perceived as adaptations to current events and new ideas within a fixed institutional structure and mandate. The cumulative effect of history on the institution has been rather more profound and requires a longer and larger perspective.

I/B Mobilizing Gender: Women, Work and Transport in the late Twentieth Century

Chair: **Katrina Honeyman** (Leeds)

This session examines issues of major importance to workers in the transport sector and to those for whom personal transport to work has become 'necessary' in the late twentieth century**.** As the international labour market became 'feminised' in the late 1970s, increasing numbers of women workers faced gender inequality in pay, gender segregation, closed doors to promotion, negligible access to family rights, discrimination and harassment. Furthermore, many workers in the transport sector, men as well as women have seen globalization, de-regulation and privatization squeeze their jobs, their wages and their conditions. This session aims to address questions of contemporary interest to workers in the international economy and the United States within the broad framework of the transport sector of the economy.

Maggie Walsh (Nottingham)
The American woman and her car: driving to work?

Automobility has long been a notable feature of American society in the twentieth century, but this phenomenon has not been disaggregated by sex. Traditionally historians have assumed that the motorcar was a masculine vehicle, both in terms of its technology and its usage. Recent research, however, has largely discredited this simplistic view. Some women always drove automobiles. However, since the rapid suburbanization of the United States after the Second World War more women got behind the wheel because of new living patterns and the paucity of public transit. The proportion of women who held driving licences increased steadily, but most still drove the family car when, and as, it was available.

More women became drivers in the years of the modern feminist movement and the push for equal rights such that the automobile was becoming as much a feminine as a masculine vehicle. Young women unceasingly treated passing their driving test as a rite of passage and more households felt the pressure to own two vehicles. But it was primarily women's increased participation in the labour force and the changing location of the feminised service sector occupations that was responsible for the rapid increase in vehicles on the road in the United States in the 1970s and early 1980s. Women now needed access to automobiles to facilitate their journey to their paid work preferably in locations that were convenient both to their homes and their domestic responsibilities. As more mothers of school age and pre-school children as well as married women were gainfully employed, they needed to juggle child-centred tasks, household activities and paid work commitments. They thus required a method of transport that was flexible enough for multi-purposes so that they could link their different tasks into one long interrupted trip, rather than several shorter journeys. Their preferred mode of transport became the automobile, partly because of the time and location constraints of using public transport and partly because as Americans they wanted, if not demanded, individualized travel.

Not all, women, however, were the same. Though most suburban women were using the car as frequently as men, albeit their gender patterns of usage remained different, inner city and poor women might remain auto-less or remain passengers of both public transit and cars. Government policy makers increasingly became concerned about these differences and turned their attention to distinguishing between female users of transport rather between female and male drivers. These planners and officials were apprehensive about road congestion and ways of solving that congestion, but they also were anxious about gender equity in transport. Women who lived in inner cities or who needed to commute from suburb to suburb rather than in the more traditional way from suburb to the central business district were at a major disadvantage if they did not have access to a car. In analyzing this female diversity income appears to have been the dominant influence in shaping what might be called the modern female car culture. Age and race-ethnicity have provided the main challenges to the dominant model by revealing alternative commuting to work patterns and less auto-dependency, though issues of health and poverty might substitute for these characteristics. Certainly by the end of the twentieth

century women on their way to work had considerably increased American automobility, consolidating that nation's position as the world's leading traveller and energy consumer.

Minghua Zhao (Greenwich)

Globalization and women's work in cruise shipping

Seafaring has, until very recently, been an overwhelmingly male dominated industry. The feminisation of labour in shipping did not take place until well into the 1990s, a decade after the trend identified as the 'feminisation of labour'. In shipping, as in many service sector industries, this move came in the context of economic liberalization, deregulation and the casualisation of employment. It thus became not a feminist triumph of equality, but was a search for income that could help support families in a world that was increasingly stratified into rich and poor.

Until the 1990s women seafarers in general and women employed on cruise ships have been 'missing from history'. Historical sources focused mainly on dependent relatives or mentioned women's employment aboard only in passing. Some authors became preoccupied with the displacement of seafarers from the developed world by those from developing countries, particularly those employed on cargo ships. Some trade unions and maritime museums looked into the working and living conditions of women seafarers, but this research was confined to workers of a particular ethnic origin and did not reflect the global nature of the maritime labour force. Ship owners and world trade unions also initiated studies on the business or labour conditions of world cruise shipping, but these were seriously biased not only with their respective commercial or political interests but also with strong male prejudice. Female academics also started to see maritime history as a fruitful area for their endeavours. Informed by feminist discourse and cultural theory they deliberated about a small number of women seafarers in the past with little reference to recent developments. The Seafarers' International Research Centre (SIRC) widened the research net by studying female seafarers in the European fleet in recent times. This presentation is based on research that expands this work to include women employed in the world cruise fleet.

The background for this specific research is the growth in world trade and the consequent expansion of world shipping. Taken together with the globalization of the world seafarers' labour market in the 1980s and 1990s, this led to an increase of women's shipboard employment. This trend started to take clearer shape when both the industry and unions became increasingly frustrated with the growth in cases of sexual harassment on cruise ships. It was then thought that a more balanced sex ratio among the crew could help build a positive atmosphere aboard, and this is turn would generate a more constructive atmosphere among both passengers and crew. The growth of women's participation in world shipping became especially marked in the cruise sector. Here up to 60 per cent of the work force was female, was of diverse nationality and served in a variety of roles and positions. Such a relatively dense concentration created a major impact on the structures and processes of shipboard social organization. While the shipboard socio-technical system has remained highly hierarchical, the introduction of gender as a new source of both lateral and vertical differentiation affected the 'traditional' social division of labour.

The objectives of this presentation are threefold. Firstly, it analyzes the socio-economic background of women employed on cruise ships. Secondly, it examines the recruitment practices of crewing agencies – especially in some key labour supply countries. Thirdly, it explores how gender and ethnicity 'map' onto the status hierarchy of cruise ships operating in world waters and speculates about some major theoretical findings. It then assesses the implications of women's advances in world cruise shipping by identifying the main opportunities and barriers for their further participation in the industry and it also suggests what strategies should be taken to promote women's further participation in this part of the world maritime economy.

Sarah Finke (International Transport Federation)

Women, work and the changing transport industries

The paper addresses some of the key issues facing women in the transport industries in recent years. In particular it examines the role of unions in pursuing equal job opportunities and working conditions in the world's transport industry. Using data available to the International Transport Federation (ITF) it looks at the changing face of the transport industry as the borders between different multinational companies disappear and the focus in transport employment changes from traditional operational occupations to logistics and the transport chain.

In the context of the discussions that took place at the 2002 Congress in Vancouver, the Women's Committee of the ITF has promoted a two-tier policy that firstly, recognizes that recruitment and organization of women must be a priority for ITF unions, and secondly, demands that the ITF focus on how globalization has led to changing employment structures that have specific gender effects. Women's participation in the workforce has been increasing, but often as part-time and temporary workers and issues arising from these specific patterns need understanding and resolving. Union membership has also increased among women, but many of these new members are based in the public sector. A large proportion of the workers within the transport sector are in the private sector and their concerns may need to be addressed from a different perspective.

In transport, the largest employment growth sectors have been areas where female employment is high, for example, air transport, the cruise industry and call centres. These are areas that can be called 'feminised'. However, union organization here remains a challenge. These workplaces have low union density and high employee turnover. Criticism has also been levelled at trade unions for not keeping pace in terms of women's representation at senior levels – thus not encouraging female membership and not providing role models. Some unions, however, have been meeting these challenges and in several countries white-collar workers are now more likely to belong to a trade union than manual workers.

It may be that additional measures are needed to face radical changes in the workforce. Many ITF unions have not yet addressed questions like organizing informal workers, recruiting different groups of workers peripheral to their core membership, or organizing in 'new' workplaces such as call centres. The challenges intrinsic in recruiting this different type of worker apply both to men and women, but the majority of the current target group are women.

Other major challenges exist in making this shift. Strong cooperation with other global union federations and the International Confederation of Free Trade Unions (ICFTU) is necessary, for example, to ensure effective organizing in call centre work. At the same time, the ITF's sectional structure, which clearly divides industry from industry, may in future make it practically difficult to work on multi-modal issues. Challenges to organizing women internationally exist at the level of trade unions too, with the international message often failing to reach women workers.

I/C The Peasant Economy in England, c.1300-c.1500

Chair: **Richard Smith** (Cambridge)

Recent research has made it increasingly clear that it was the production and consumption patterns of peasants, rather than those of landlords or the crown, that did most to shape the overall direction and character of the English economy in the later middle ages. Peasants were numerically the most important producers of primary foodstuffs, and it was the composition and scale of their output that did most to determine the degree to which urban society and a specialized non-agrarian sector were able to develop in this period. Peasants were numerically the most important producers of other key agricultural commodities; in the case of wool, the most important example, this meant that the inland and overseas wool trades were ultimately shaped by the capacities of peasant flocks. Given this situation, it is obviously crucial to be able to find out as much as possible about how peasant households organized their economic activities. We need to discover more, for example, about the crops peasants grew and the livestock they kept; their strategies for engaging in the market; the methods they used to provide labour on their farms; the extent to which their decision-making was influenced by the availability of credit mechanisms; and their preference for written records versus oral procedures when managing their enterprises and dealing with buyers and sellers.

In the past, the nature of the available source material sometimes made historians pessimistic about the scope for gathering information on such issues. The records, it was argued, were virtually without exception created for the use of landlords, and that the information they contained about the peasants was limited because confined to matters of interest to their lords. More recently, however, investigators have shown that determined and imaginative use of the sources can yield more about crucial aspects of the peasant economy than might previously have been imagined. This approach is typified, for example, by Dyer's novel use of fifteenth-century non-manorial sources; by projects led by Dodds which analyze tithe accounts (the subject of presentations at the Society's 2004 conference); and by Stone's forthcoming work discussing peasant yields.

The three papers in the proposed session extend and exemplify this recent trend in the approach to the sources. Among other things, they show how records originally created to meet landlords' needs were employed and adapted by peasants to suit their own requirements. Collectively, the papers illustrate a range of peasant economic activities and influences upon their decision-making. Peasants were heavily influenced by the legal environment in which they operated, and the availability of legal devices for the disposal of their property. This forms the context for Schofield's discussion of the assigning and transfer of debts between peasants. Briggs's paper also looks at credit and the transactions in which it was used, and asks whether the later medieval shift to an increasingly pastoral peasant economy required, or indeed was facilitated by, forms of credit different from those prevailing before the Black Death of 1348-9. Finally, by outlining a broad approach to the study of peasant agriculture, Dyer shifts the session's focus away from the exchange of commodities arising from peasant production, and turns instead to that production itself, its chief characteristics, and the influences upon it.

Christopher Briggs (Cambridge)
Credit in the later medieval English village: the example of Willingham, Cambridgeshire, 1377-1458

To what extent was the role of credit in the peasant economy in the century and a half following the Black Death of 1348-9 different from that played in the later thirteenth and early fourteenth centuries? What were the most important differences? As the long-term changes that followed the Black Death took effect, did the overall significance of credit in peasant economic life increase or decrease? This paper is intended to contribute towards answering these questions through a study of records of peasant debt litigation from the village of Willingham, located on the edge of the fen around eight miles north of the town of Cambridge.

Elaine Clark's pioneering research on agrarian credit in medieval England concentrated on the large village of Writtle (Essex) in the period 1382-1490.[1] It showed that credit was routinely used for a range of different purposes, many of them associated with production in crafts and trades. Not all the debts incurred were small-scale; in fact, Clark found that around half of all money debts were for amounts over five shillings. Clark also found that relationships between creditors and debtors were more 'horizontal' than 'vertical'. Credit was typically extended between a large group of social and economic equals to facilitate the 'material flow'.

Work done on rural credit more recently, however, has tended to focus on the period before 1350. This has revealed contrasts with the picture from Writtle. For instance, the range of purposes for which credit was used appears narrower in the earlier period, with fewer references to credit in craft production and commerce. Also, to judge by the debt litigation evidence, most pre-plague credit was smaller scale than that extended at Writtle in the fifteenth century. Finally, the period before 1350 appears to yield greater evidence of exploitative credit relationships, in which a small number of richer peasants exercised a position of power over their heavily indebted poorer neighbours.

The case study of a single village provided in this paper is used to assess further the picture of temporal contrasts implied by existing research. The main aim is to present information about the amounts lent, the purposes of credit, and the social character of credit networks in Willingham in the later fourteenth and earlier fifteenth centuries. This information is derived from the debt litigation records contained in the excellent series of Willingham manorial court rolls. Because these records begin only in 1377, this paper cannot attempt to compare the situation after 1350 in this village with that prevailing beforehand. However, for comparative purposes the general character of the pre-Black Death rural credit market is indicated using evidence gathered from manorial court roll series relating to other villages.

In general, the data discussed support the picture of substantial change over the period c.1300-c.1400 in the role played by credit in the peasant economy and in the social relations entailed by local credit networks. For example, the Willingham evidence of c.1400 reveals the use of credit in the provision of a surprisingly wide range of goods and services. Furthermore, around 88 per cent of the 395 recorded debts of the period 1377-1458 were expressed as sums of money, which offers something of a contrast to the earlier period where debts in grain and other goods tended to be more common. However, the amounts lent and borrowed at Willingham appear to have been only slightly larger on average than was the case elsewhere before 1350. Where creditor-debtor relations are concerned, the Willingham records also provide much more evidence of 'horizontal' and reciprocal credit relationships than is typically the case for the period before the Black Death.

This section of the paper focuses in particular on the markedly pastoral nature of Willingham's economy. The buying and selling of livestock at Willingham was clearly among the most significant uses of credit, as illustrated by the existence of bylaws that regulated the purchase of beasts from cattle drovers, as well as by the debt litigation material. Taken together, this evidence points to the more general possibility that credit assumed a changing and perhaps increasing role in the final quarter of the fourteenth century as the peasant economy became more pastoral in orientation.

Around 1400, most aspects of the Willingham economy clearly depended heavily upon credit. However, it is far from certain that the role of credit remained as significant thereafter, since the court rolls present a picture of dramatically reduced indebtedness across the next half century. Whereas a total of 322 separate debt lawsuits were begun in the manor court in the period 1377-87, the equivalent figures for 1412-21 and 1441-50 fell to 85 and 18 suits respectively. This situation of a virtual disappearance of manorial debt litigation around the middle of the fifteenth century is reasonably familiar from other studies, and is commonly associated with a decline in the effectiveness and therefore attractiveness of the manor court as a forum in which to prosecute debt lawsuits. This paper concludes with a section of reflections on the possible implications of the dramatic diminution of

[1] Elaine Clark, 'Debt litigation in a late medieval English vill', in J.A. Raftis (ed.) *Pathways to Medieval Peasants* (Toronto, 1981), 247-79; Elaine Clark, 'Medieval debt litigation: Essex and Norfolk, 1270-1490', PhD thesis (University of Michigan, 1977).

Willingham debt litigation with respect to the availability and importance of credit in the local economy.

Christopher Dyer (Leicester)
Peasant agriculture, 1300-1500

Campbell has provided us with an excellent overview and analysis of lords' agricultural economy in the first part of this period, yet as he freely acknowledges, demesnes accounted for 20-30 per cent of the land, and the remainder was cultivated by peasants. There are numerous technical difficulties in studying peasant agriculture, but some patterns and trends can be perceived from the study of inventories, tithes, tax records etc. Peasants were subject to some of the same constraints and influences as the lords, such as soils, climate and markets. But differences in the crops grown and animals kept can be identified, which point to peasants having their own economic priorities and management systems. Towards the end of the period, with lords bowing out of direct management of their demesnes, the peasant sector became even more important. Expanding our knowledge of peasant agriculture gives us insights not just into peasant production and peasant mentality, but also the long-term development of English agriculture at the dawn of the modern era.

Phillipp Schofield (Aberystwyth)
The assignment and transfer of debts in the manor court

This paper introduces research generated by an ongoing investigation of the nature of peasant society in the decades either side of 1300, and in particular, material gathered with Dr C.D. Briggs for a planned volume on inter-personal litigation for the Selden Society. A considerable amount of work in recent years has been directed at the market in relation to the medieval English countryside. Approached from a number of different directions, including discussion of the internal market of the village, of relativities of wealth and the nature of land transfer, as well as of external relations, of the interaction between country and town, of the urban hinterland, a main thrust has been to establish ways in which peasants engaged with medieval markets. One important feature of that engagement has been the use of credit by peasants, an object of study for a number of historians in recent years. In this paper, I would like to develop one feature of that study by examining ways in which credit could be used, or more precisely, the ways in which debt itself could be transferred. This will involve some brief discussion of the nature of credit in the medieval village and also of the ways in which credit and indebtedness were recorded and secured, notably through the evidence of entries, including inter-personal litigation, recorded in the manor court. It will also therefore require some consideration of the legal and extra-legal mechanisms and institutions which operated in order to facilitate or to limit the assignability of credit/debt in the medieval village. This will also permit us to draw some conclusions regarding the exchange and interconnectedeness of legal mechanisms in medieval England and their consequences for the operation of the peasant economy.

I/D Aspects of the Economic History of Film

Chair: **Avner Offer** (Oxford)

John Sedgwick (London Metropolitan)

The consumption characteristics of film: evidence from the British and US market during the 1930s

Film is an example *par excellence* of a product that is vertically differentiated, in that although each film is unique in some respects in relation to other films, they are not of equal attractiveness to audiences, perhaps because each member of an audience is a unique individual, which results in variations of taste over the ensemble of filmgoers. The industrial economics literature in this area has developed over the past 15 years from the pioneering work of John Sutton, who sought to explain why, in some industries, a continuously expanding market would not cause industrial concentration to decline indefinitely. His answer, simply put, is to be found in the degree to which firms in an industry invest in endogenous sunk costs, such as advertising, and research and development, with the intention of enhancing consumers' 'willingness to pay'. Where consumers respond positively to such strategic behaviour there will be a lower bound beyond which industrial concentration will not fall. Indeed, the greater the responsiveness of consumers to this strategic behaviour the more likely it is that there will be an escalation of sunk-cost investment and the 'higher will be the lower bound to equilibrium levels (of concentration) in the industry'. This paper seeks to show how audiences reacted to the levels of sunk-cost investments in film during the 1930s. The logic of vertical product differentiation is that where prices are invariant between products, as in the case of cinema admission prices, it is possible for a small number of products (sometimes only one) to appear superior in almost all respects to all others, not for just one consumer, but almost all consumers across a variety of circumstances of time and place. In other words, vertical product differentiation with respect to film, and indeed other fashion products, has a strong consumption dimension, requiring filmgoers, as unique sensory beings, to form a common assessment of value in order for 'hits' to occur.

The context of this paper is filmgoing in Britain and the United States during the 1930s, when filmgoing was the dominant paid-for leisure activity in both countries and draws upon various data sets: those created for the UK – both national and local – by the author, using his POPSTAT methodology, based upon the programmes of distinct populations of cinemas, as advertised in city/district/town newspapers; and the weekly box-office returns of first-run cinemas across North America recorded in the American trade paper *Variety.*

Peter Miskell (Reading)

Selling global products in local markets: United Artists in Britain, c.1927-47

In the period from the 1920s to the 1940s the film industry is typically regarded as one in which production was centralized, and standardized products were distributed on a global basis. The leading international firms were all American, and the success of their products in overseas markets was among the most visible symbols of Americanization. But if US firms dominated the international market for films in this period, they also relied heavily on overseas distribution for their corporate profits. Could US film-makers really ignore national differences when introducing these cultural products to international audiences? In the parlance of modern management literature, there can be little doubt that American film multinationals 'thought global', but is there any evidence that they might also have 'acted local'?

This paper explores the activities of United Artists in the largest national market outside the United States. Britain, like other European countries, introduced legislation to protect its national film industry in the 1920s. This limited the amount of screen time available to US films, and forced American film distributors operating in the UK to handle a significant proportion of British-made products. The large, vertically integrated film companies responded by producing and distributing their own pictures within the UK (the infamous 'quota quickies'). But what was the response of United Artists – a specialist film distribution company with no production capacity at all?

Lacking the ability to make British quota pictures of its own, United Artists could only continue its operations in Britain by distributing the films made by British independent producers. Did these British films serve to undermine the company's reputation as a specialist distributor of high quality films, or, did this forced adoption of more locally-made product actually provide a boost to the company's performance in its most important foreign market? The answer should tell us something of the degree to which national market differences actually mattered in this industry, and by extension, how far Hollywood firms were really able to 'Americanize' their international audiences.

Gerben Bakker (Essex)

Sunks costs, market structure and productivity growth in services: the case of the film industry

A major issue within the productivity literature has been whether services can ever reach a productivity growth similar to that of manufacturing. Some argue that in several service industries, such as entertainment or healthcare, productivity growth is inherently slower than in manufacturing, and therefore more and more income will be spent on them. As services account for by far the largest share of employment in modern economies, this issue is essential for understanding long-run, economy-wide productivity growth.

Analyzing the early development of the film industry, this paper attempts to investigate the nature of long-run technological change and productivity growth in service industries and to establish whether and how they differ from manufacturing. The paper, a speculative and open-ended inquiry into the nature of sunk costs, argues that, when combining sunk costs with proper industry and market definition and proper output measures, productivity growth in services such as entertainment may have been far larger than previously thought. The industrialization process appears to be something that did not exclusively happen to manufacturing, but that also could be discerned in service industries, and enabled a sharp rise in productivity growth in services. This industrialization of service industries came as a thief in the night because it was brought about by the emergence of new, high-sunk-costs industries that industrialized services by automation, standardization and making the service tradable and that coincided with a shift from process to product innovations, from low sunk costs to high sunk costs, from many identical 'typical', 'representative' firms to singular, quasi-unique firms, from small markets to large markets, and from fragmented to highly concentrated industries. The paper makes a beginning with empirical tests by investigating the entertainment industry in detail and by comparing it with other high-sunk-costs industries such as pharmaceuticals, telecommunications, transport and household appliances.

While in the secondary sector process innovations can yield substantial productivity gains, for some service industries product innovations involving high sunk costs are important. Entertainment companies in the early twentieth century rapidly adopted cinema technology as a radical product innovation which made up for the decreasing returns to further process innovations, switching the industry onto a path of higher productivity growth, and merging the freshly integrated national entertainment markets into an international one, by automating and standardizing live entertainment and making it tradable. The paper uses detailed and comparative data on the emergence of the film industry in the US, Britain and France from the late nineteenth century until the late 1930s.

The paper will assess the extent to which these findings help to explain long-run UK productivity performance vis-à-vis the US and continental Europe (cf. Broadberry 1997). It will also investigate if and how these findings differ from the current literature on service industries.

I/E Foreign Investment

Chair: **Paolo di Martino** (Manchester)

Bishnupriya Gupta (Warwick)
Information and capital flows in colonial India: the industrial divide between British and Indian business

The early development of Indian industry had several unique features: it was one of the first instances of long-distance foreign investment in manufacturing. In eastern India, the export industries drew capital from investors in Britain and expatriates living in India and entrepreneurship from British firms. In contrast, the main industry that developed in western India was cotton textiles, an import substituting activity, which drew capital and entrepreneurship from Indian merchants in the hinterland. Firms were floated on the London Stock Exchange as sterling companies or in India as rupee companies. The sterling companies raised their capital in Britain and traded their shares on the London stock market. Some sold block shares to British expatriates in India. The rupee companies raised capital from Indians as well as British expatriates.

The paper seeks to explain the pattern of investment in India under British rule. While the export-oriented industries, such as tea and jute relied largely on British investment, the major import substituting activity, the cotton textile industry was dominated by Indian owned firms. While the existing literature has explained the dominant role of British investment mainly using political and social advantages arising from the imperial domination of policy and its access to economic and social networks, this paper argues that economic and informational factors play an important role in determining this industrial divide.

British entrepreneurs had good knowledge of the export market, in the mother country, that Indians did not have. On the other hand, Indian industrial entrepreneurs had extensive knowledge of the local market, coming from their background in trade. Thus the divergent flow of entrepreneurship can be explained by the comparative advantage that each type had, Indians for the import substituting industry, and British for the export industries. We argue that capital flows followed flows of entrepreneurship, due to problems of moral hazard and asymmetric information. Consequently, investment flows were influenced by the extent of knowledge that investors had, and their links with entrepreneurs.

The size of the initial investment did not prove to be a barrier to entry. Our main finding is that in each industry, the majority group had the larger firm, although this difference is not statistically significant. That is, in the cotton textile industry in Bombay, the Indian firms on average were larger than British firms, while in the jute industry, British firms were larger. Thus the hypothesis, that Indians were uniformly more capital constrained, is not borne out. Although Indian entrepreneurs might have faced capital constraints, this constraint was not absolute. They could raise capital through the indigenous networks.

Instead the role of community networks in determining entry into industry was more important. The decision to enter into industry was made easier by the presence of entrepreneurs from the same community suggesting that informational flows were easier within the community.

Gerhard Kling (Utrecht School of Economics), **Joerg Baten** & **Kirsten Labuske** (Tuebingen)
Foreign direct investment of German companies in the period 1873-1927

As we work with micro-level data, namely 600 German companies, we can focus on their individual investment decisions between 1873 and 1927. In particular, companies can decide to invest in their home country (Germany) or to conduct foreign direct investment (different forms of FDI). We estimate the investment opportunities set and assess whether companies under or over-invest abroad. Hence, our empirical study can determine whether a so-called home country bias (preference to invest in home country, in spite of better opportunities abroad) exists and how this home county bias changed over time. This aspect is particularly interesting, as our data cover the first phase of globalization, which exhibited a high degree of economic and financial integration. We also cover a part of the subsequent

deglobalization period. It is astonishing in how many countries those pre-WWI firms invested, including many LDCs in the Caribbean and Pacific regions. Overall the data set includes 948 FDI in 37 sectors in 55 countries and a control group of more than 550 firms without FDI. In contrast to many other studies on FDI (for example see Bloningen and Davies (2002) or Carr et al. [2001]) that analyze FDI on a high level of aggregation, are we able to focus on determinants of historical German FDI not only at country or sectoral level, but also at company level.

Our study has four main aims: (1) following Berkel (2004), we try to clarify the home country bias, which might depend on cultural aspects and legal frameworks; (2) as our investigation period coincides with the first phase of globalization, we discuss the differences between the first and second globalization period. FDI nowadays is usually driven by outsourcing activities ('slicing up the value chain'), which is a specific feature of the second phase of globalization (see Feenstra, 2004). What are the motives for conducting FDI in the pre-1914 period? What are relevant push and pull factors? (3) Besides analyzing the extent of the home country bias and discussing the differences concerning FDI in the current and previous periods of integration, we concentrate on behavioural aspects that might influence the individual investment decision. In particular, companies might be affected by the decision of competitors (or suppliers). To illustrate this point, one could consider the automobile industry nowadays that shifted production facilities to Eastern Europe. This FDI triggered additional foreign investments of suppliers in the respective regions. Besides strong economic factors for following others in conducting FDI, rational information based herding might be relevant. This means that companies imitate the move of others because they think that this decision reflects information regarding the profitability of foreign investments. Could we find such information cascades in our data? (4) Finally, we try to quantify the success of FDI. It might be possible that the success of FDI changed over time depending on the level of economic and financial integration.

Our methodology is based on gravity models that are usually applied to explain trade. These models can be applied to analyze FDI streams. We use the following set of variables: (1) investment alternatives in home country (proxies are used as we do not have micro-level information; i.e. interest rates, return on investment, and stock returns); (2) macroeconomic shocks in home and host country (GDP and inflation shocks; construction of shock variables is based on Chen and Jordan, 1993); (3) wage differentials as motivation for outsourcing (which is a particularly important form of FDI in today's world), and wage differentials relative to human capital differentials; (4) interest differentials: motivation for outsourcing if industry is capital intensive; (5) size of the foreign market; (6) transportation costs (otherwise exports could substitute FDI); (7) tariffs and political variables; (8) the decision of competitors (behavioural aspect); (9) the previous success of FDI to distinguish between good and bad imitation (information cascades).

Our preliminary results indicate that economies of scale are the factor that drove investment on the company level prominently. When we focus on the determinants that explain in which German countries invested primarily, we find that a high foreign national income relative to German national income played an important role. In some specifications, the motivation to save on the wage bill was also a motivation to produce abroad with German technology.

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Miguel A López-Morell (Murcia)

Rothschild investments in Spain, 1856-1930

The paper attempts to analyze an approach to the investments carried out by the Rothschild House in Spain during the nineteenth century and in the first third of the twentieth century. Actually, this is a phenomenon that connects directly with one of the main debates in economic historiography: the impact that foreign capital actually had on the economy of those countries under development during the period when industrialization and modern capitalism were definitely consolidated. The argument departs from the classical works by Cameron, Lewis, Singer, Nurkse and Gerschenkron about the exogenous development of latecomers and endeavours to confirm or argue with new sources the initial hypothesis that well-known authors (such as Tortella, Broder, Nadal, Harvey, Anes or Tedde) have suggested about the role that this merchant bank performed in the evolution of railways, mining and industry in Spain during these years.

The first part of the paper tries to define the period when the principal capital incomes were produced by the Rothschild initiatives, the intensity they had and the sectors they affected. The beginning of their activities can be placed at the end of 1855, when the Rothschild family started to promote the railway business in Spain, through the Madrid-Zaragoza-Alicante (MZA) company. This society invested heavily, financed exclusively with French capital; a fact that led to the building of some of the main railway lines in Spain, in competition with "Norte de España", a railway company with a very similar length, managed by the Pereire family. At that time, Rothschild had a stable agency in Madrid, settled in 1835, which would become one of the active financial settlements in the city, with strong financial relationships with the Spanish State, which received a substantial amount of loans, and for which they negotiated part of the public debt in foreign countries.

Twenty years later, and without abandoning either their financial relationship with the Spanish government or the development of MZA, the Rothschild group took a second turn, essential in the diversification of their investments. The target was to profit from their experience in the raw materials trade, in order to achieve direct control of industrial production. They would either gain ownership of share capital, or promote specific companies, as would happen in the case of copper and lead (metals with which the Rothschild had developed intense exchanges from the middle of nineteenth century) and petrol, following the success of the *Bnito* Company prospecting for oil in the Caucasian region. In this way Rothschild's decisive contribution to the creation of the Deutsch et Cie. petrol refinery (a company that began in 1879 thanks to an agreement between the Rothschild House of Paris and French refiner Deutsch de la Meurthe), the setting up of the Société Miniére et Metallurgique Peñarroya in 1881 and control over the Rio Tinto Company from 1889 took place. The latter would become unquestionable leaders for the production and transformation of lead and copper pyrite in Spain and Europe, respectively, in the coming years.

We have quantified the importance of these investments and financial activities and their impact on Spanish enterprises and markets, and in foreign investment in each period. Our main conclusion states that Rothschild French and British branches moved between five per cent and 15 per cent of total Spanish private investment and up to 55 per cent of all foreign investment. Figures that gain more significance taking into account the concentration of these capitals in the most dynamic and strategic sectors of Spanish economy (railways, mining, metallurgical and chemical industries). Besides, MZA supplied around 30 per cent of the railway network, mainly in quality, because it controlled four of the most important railway radial lines in the country, apart from raising a similar level in the movement of goods and passengers. Apart from that, Peñarroya and Rio Tinto covered the majority of the national production of lead, copper and pyrites, and a remarkable participation in the production of coal. With reference to Deutsch et Cie, the figures of the last quinquennium of the nineteenth century is the only information available, when its third participation in the national production of refined petrol is confirmed. This did not include other important contributions from these companies, such as, those of sulphuric acid, superphosphates, electricity or coal-derived products, where participation was very important. On the other hand, these investments were very profitable, mainly that of Rio Tinto's, which showed an annual financial profit of 14.6 per cent during the period, when they controlled this company

(from 1889 to 1936, according to our research), with years of maximum profitability that correspond to the period from 1896 to 1913, when these figures rise to 28.8 per cent.

Finallly, we have outlined the steps followed and means used by the Rothschild's House in order to achieve the success in each of their businesses. These factors are mainly the following: the Rothschild family's superiority in providing financial services to the companies they controlled in Spain; secondly, their facility to dominate markets through the establishment of monopolies or cartels at either a national or an international level, developed in all the corporations they controlled in a more or less disguised way; thirdly, the flexibility they showed when applying different industrial and financial strategies in their companies, allowed them to profit most in different scenes; and, lastly, the importance they gave to the effective transmission of information by negotiating through a system of agencies and contacts created for that purpose among politicians and business classes in Spain.

Primary sources for this work were found in the British and French branches of the Rothschild's archives, which valuable materials have been contrasted with the Spanish and French public administration documentation (Archivo Histórico Nacional, Archivo de la Administración Civil del Estado, Ministère Française des Affaires Etrangères, Ministère Française d'Economie et Finances and Ministère Française d'Industrie et Commerce), with financial institutions in this period, such as the Bank of Spain. Up top of them, archives of companies controlled by Rothschilds in Spain have also been analyzed, such as the old Société Miniére et Metallurgique Peñarroya (Metaleurop nowadays), the Rio Tinto Co´s in London and in the mine, and those of the MZA railway company found in the Spanish Railway Foundation archives.

I/F Reconceiving the History of the Nazi War Economy

Chair: **Lutz Budrass** (Bochum)

The aim of this panel is to mount a concerted challenge to the prevailing historiography of the Nazi war economy. Ever since 1945 our understanding of the German war effort has pivoted around a sharp chronological break in early 1942. In early work organized around the idea of a Blitzkrieg strategy the winter crisis of 1941-42 was seen as the moment at which the Nazi leadership finally realized the inescapable necessity of full mobilization. Richard Overy and Rolf Dieter Mueller writing in the 1980s disputed this periodization, insisting that Hitler's regime did attempt full mobilization before 1942. For them, however, February 1942 remained crucial, since they saw Albert Speer's appointment as giving a new organizational focus to the war effort and setting in motion a programme of determined rationalization. Whereas one literature was built on a contrast between minimal Blitzkrieg before 1942 and total war thereafter, the other was organized around the dichotomy between inefficient organizational chaos and rationalization. The remarkable thing is that both rested on a single quantitative source, the industrial statistics compiled by Rolf Wagenfuehr, Albert Speer's chief statistician, in the later years of the war. On closer inspection these statistics appear distinctly fragile.

The panel will be top and tailed by chair/commentator Lutz Budrass, whose fundamental work on the German aircraft industry has been vital in re-energizing the debate about the German armaments economy. He is also the co-author of one of the papers to be presented. He is thus ideally qualified both to introduce the papers to our audience, placing them in their proper historiographical context and to provide an 'internal' critique suggesting further avenues for research. His introductory comments of five to seven minutes will be followed by three papers each of no more than 15 minutes. Time keeping will be strict. In conclusion Budrass will set the stage for plenary discussion with a further brief comment of five minutes.

The panel will open with a critique of the Wagenfuehr index and the suggestion of alternative data sources with which to describe the aggregate development of German industry and armaments production in World War II (Tooze). We then present an industrial case study of a sample of large aircraft producers, representative of the most important sector of armaments production (Streb). This study confronts the macroeconomic Wagenfuehr-data with microeconomic firm-level data drawn from annual audit reports. Finally we present a revised estimate of the wartime investment boom (Scherner), one of the most remarkable features of the German war effort, which further calls into question the familiar narratives of the historiography. Converging from three entirely separate research projects these papers all call into question the reliability of the Wagenfuehr data and the well-worn narratives of the German war economy built on them. We hope that they will form the starting point for a new historiography of the Nazi war economy.

Adam Tooze (Cambridge)

No room for miracles: armaments and industrial production in the Third Reich

The existing historiography of the Nazi war economy relies to a remarkable extent on a single source. With suitable arithmetic manipulation Wagenfuehr's data on industrial production and employment can be made to show *both* that the German economy was undermobilized in the early years of the war (the Blitzkrieg thesis advanced by Milward) *and* that since labour was mobilized and armaments production did not rise proportionally, labour productivity in armaments production must have plunged (the polycratic inefficiency thesis favoured by Overy and Mueller). On closer inspection, however, both Wagenfuehr's production index and his employment figures are suspect. On the production side Wagenfuehr's data understate the footprint of the Wehrmacht in the German economy. His armaments index requires careful reinterpretation and extension, if it is to provide an adequate description of arms production before 1942. At the same time Wagenfuehr's indices understate the level of investment in German industry. Combining these biases his index seriously understates the output of the all-important metalworking sector early in the war. Added to which his employment data exaggerate the degree of conversion to military production in the early years of the war. The result is a highly distorted picture of the performance of German industry between 1939 and 1942. As an alternative this paper

proposes that we make use of the comprehensive estimates of industrial turnover, value added and turnover compiled by German industrial statisticians in collaboration with the research teams of the United States Strategic Bombing Survey. These suggest a far more plausible story about the development of German industrial production between 1939 and 1942, which avoids the implausible choice – between undermobilization or productivity disaster – that dominates the existing literature. Output in the hard core of the German war effort grew rapidly in the early years of the war on the back of a huge surge in armaments production and investment. Contrary to Wagenfuehr's claim that armaments output plateaued between 1940 and 1941 the overall index increased, with large increases in the production of weapons, naval vessels and tanks, offsetting the deliberate scaling back of ammunition production after the unexpected Blitzkrieg victory in France. It is possible that there were teething problems in firms newly coming into armaments production. However, overall productivity in metalworking increased quickly between 1939 and 1942 as labour became scarce, new capacity came on line and producers benefited from learning curve effects. There was no botched mobilization of the German economy before February 1942. And it follows that there was no room for an "armaments miracle" under Speer.

Jonas Scherner (Mannheim)

Industrial investment in Nazi Germany: the forgotten wartime boom?

To date we lack reliable data on the level of industrial investment in the Third Reich. In the figures for the period up to 1939 compiled by the Reichs Statistical Office, large parts of the investment of the armaments industries are not included. Estimates for the wartime period rely on faulty figures for equipment-investment produced by Wagenfuehr. Furthermore the methods used by Krengel for West Germany and Kupky for East Germany to infer total investment from Wagenfuehr's data are extremely problematic. Added to which our overall knowledge of the quantitative significance of the war relevant branches – autarchy and armaments industries – is extremely patchy. Commonly cited sources are clearly inaccurate. For instance, on the basis of a reinvestigation of the sources, it seems that total investment under the Four Year Plan was at least 20 per cent higher than stated in Petzina's well-known study. And yet, a precise knowledge of these figures is clearly crucial if we are to arrive at a proper characterization of the political economy of the Third Reich. Investment strategies with their long-run implications for industrial output are particularly revealing as to the debate about a Blitzkrieg strategy supposedly pursued by Hitler's Germany early in the war. Furthermore, investment data may play a crucial part in demystifying Albert Speer's so-called armaments miracle, about which it is commonly claimed that it depended on intensive rather than extensive growth. This paper, based on largely unknown sources, attempts to fill this gap, providing figures for industrial investment for the entire period between 1936 and 1944. It will be shown that actual investment was substantially larger after 1938 than has hitherto been recognized. The paper will also present detailed estimates for investment in armaments and autarchy industries for the period 1934-43. These show that during the period 1940-42 Germany experienced a spectacular investment boom, primarily directed towards widening the industrial base for war. This clearly should have substantial implications for the historiography, since it calls into question both the Blitzkrieg narrative and the conventional view of the post-1942 armaments miracle.

Lutz Budrass (Bochum), **Jonas Scherner** (Mannheim) & **Jochen Streb** (Hohenheim)

Demystifying the German 'armament miracle' during World War II: new insights from the annual audits of German aircraft producers

It is widely believed that it was armament minister Albert Speer who caused the sudden upswing of the German armament production after 1941 by introducing several rationalization measures and, probably most important, by replacing cost-plus contracts with fixed-price contracts. We question this view by exploring a new set of firm-level data. In this paper, we mainly concentrate on seven German aircraft producers which were engaged in the production of the Ju 88 and Ju 87 aircraft, and which represented about the half of the German aircraft producers. For six of these firms (Arado, ATG, Heinkel, Junkers, Siebel, Weser) audit reports of the Deutsche Revisions- und Treuhand AG are

available in the Federal Archives in Berlin, covering most of the war years. For Henschel we added data from company files which partly survived in the archives of Zahnradfabrik Friedrichshafen (ZF). The development of factor endowment, production, productivity, costs and prices of these seven firms during the war suggests, that in the aircraft industry, which accounts for about 40 per cent of German armament production, the crucial political changes occurred not in 1942 but before the start of World War II. In spring 1937, the aviation department chose to rely on fixed-priced contracts in order to give aircraft producers the incentive to reduce costs. In summer 1938, it decided that aircraft producers had to concentrate on a few different types or components so they could run larger production series. What followed was a predictable path of industrial development, not a sudden production miracle. Moving down the learning curve the managers of the aircraft producers learned how to deploy the workers more efficiently. As a result, in the period before 1942 the growth rate of value added per blue-collar worker was considerably higher than under Speer's reign. It came to 17.3 per cent both in 1938 and in 1939, to 9.2 per cent in 1940, to 6 per cent in 1941, and only to 3.5 per cent and 3.7 per cent in 1942 and 1943 respectively. After 1941, it was primarily the ongoing growth of the capital and labour endowment combined with a higher capacity utilization that enabled aircraft producers to raise their monthly production continually until summer 1944. We will have to analyze other war industries in greater detail before we can prove our hypothesis that this result is not an industry-specific exception. But these data from a crucial segment of the military-industrial complex are enough to cast serious doubt on the conventional characterization of Speer's armaments miracle.

II/A Women and Wealth

Chair: **Anne Laurence** (Open)

David Green (Kings London)

Feathering the nest: men's and women's wealth in nineteenth century London

This paper explores the range of wealth left by men and women in nineteenth-century London. It operates as three distinct scales: the nation; the region and the individual. It uses wills, probates and taxation records to examine the kinds of wealth held by individuals and the strategies used to bequest such wealth to beneficiaries. The paper has three primary aims. First, it sets Londoner's wealth in the context of the nation as a whole, focusing on the period from 1800 to 1870. Typically, Londoner's invested more heavily in government securities than elsewhere. As securities lost their allure, other forms of liquid investments were made, although there were significant differences between the types of property accumulated by men and women. Property related wealth appears to have been relatively more important for women than men. The extent of debt also differed between men and women, especially when individuals died whilst still economically active. Secondly, using valuations of probated wealth, the paper then explores the occupational and geographical breakdown of wealth in early nineteenth-century London, paying attention to the ways in which those with wealth moved residences within the city. The evidence confirms a clear westward movement of wealthy inhabitants from an early part of the century. Finally, the paper discusses the ways in which individuals disposed of their wealth and the factors that influenced their choice of beneficiaries. In doing so, gender was an important consideration in the way that women, in particular, distributed their wealth after death.

Lucy Newton (Reading)

Women investors in early nineteenth century English joint-stock banks

In 1826 the Banking Act allowed the establishment of joint-stock banks (JSBs) in England and Wales, following their Scottish neighbours. Institutions that took advantage of this legislation could sell shares to an unrestricted number of partners outside a 65-mile radius of London. The Common Law obligation of unlimited liability for the debts of the banks remained for those who purchased shares, which no doubt influenced the composition of investors. Following the crisis of 1825-6, 93 private banks in England and Wales had failed (approximately 15 per cent of the total) and the aim of the legislation was to strengthen the banking sector and prevent further excessive losses experienced by customers following bank failures.

Many of the new joint-stock banks operated in a similar way to their private predecessors and many were formed from businesses of old private banks. But they did have a positive effect on the banking sector. Part of this process involved the input of shareholders in these new institutions. Investors bought capital and, it may be argued, stability and success to joint stock banking. JSBs competed fiercely, and ultimately successfully, with the private banks – by 1900 there were 29 private banks with 147 offices as compared with 41 joint stock banks with 6,426 offices (Collins, 1988: 51).

The aim of this research is to examine a particular group of investors in the new JSBs. Patterns of investment and shareholdings in a range of companies are coming under renewed scrutiny (Hickson and Turner, 2002; Dixon, Garnham and Jackson, 2004). In addition, the financial interests of women have been of recent interest to historians (Maltby and Rutterford, 2004; Green and Owens, 2003). This paper analyzes the shareholding patterns of women in the JSBs that were formed under the 1826 Act (that is between 1826 and 1844 when the act was repealed). No one has considered the particular input of women investors into the new wave of quasi-corporate banking institutions. Did they play a significant investing role in these banks, in terms of numbers and/or volume of funds? What were the attitudes to banks towards women shareholders? Were they related to other, male shareholders in the same institutions? These issues will be examined in the context of constraints upon women's property ownership before 1882.

Janette Rutterford (Open) & **Josephine Maltby** (Sheffield)

A nesting instinct? Women investors and risk in England, 1700-1930

A newspaper article in 2004 commented that women "could learn a thing or two" on equity investment (*Observer*, 20 June): their natural caution – the "nesting instinct" of the title – made them unduly cautious. Risk avoidance meant that they also avoided the rewards of more daring male investors. The object of the present paper is to look at historical evidence provided by women's investment behaviour as a contribution to the debate about female attitudes to risk.

Various factors may affect risk preference apart from gender per se – age, race, level of education (including financial knowledge), employment and marital status. Findings so far have very broadly been that women are more risk averse than men (Bajtelsmit and Bernasek 1998, Jianakopoulos and Bernasek 1998) but this result has been the subject of a number of qualifications. Gerrans and Clark Murphy (2004) comment that the gender effect (female risk aversion) varied according to marital status: single females were more risk averse than married ones. A female who considered herself to be financially informed was likely to be less risk-averse than an uninformed female. Age, however, had something of a reverse effect: informed married women were likely to be less risk-averse than informed married men who were older than them – i.e. age made men more risk-averse. Dwyer, Gilkeson and List (2002) emphasize the importance of education – and in particular investor knowledge – in affecting investment decisions: a higher level of education produced greater willingness to take risks. Dwyer et al also stress that wealth has an effect on decision-making, with wealthier investors taking more risks. VanDerhei and Olson (2000) find a similar wealth effect, which they believe to have a powerful impact on women, making younger and less well-paid women much more conservative in their investment behaviour than older, higher-paid ones.

These findings suggest that there is a role for historical research in enhancing our understanding of the attitudes to risk displayed by female investors.

From the early eighteenth century, shares in joint-stock companies offered an alternative investment. Affluent women were very active investors in the South-Sea Company prior to its dramatic collapse in 1720, as well as owning holdings in the Africa and East India Companies (Laurence, Carlos, Bowen). The canal and railway companies of the late eighteenth/early nineteenth centuries attracted a wide range of provincial investors (Hudson): 14 per cent of Hudson's sample of 8000 shareholders in these companies in the period 1760-1850 were women.

Women's investment in mid-nineteenth century limited companies is evidenced by comments suggesting that they were naïve investors liable to be fleeced by the unscrupulous: "persons ignorant of business" (evidence to the Mercantile Law Commission 1854). Victorian fiction often depicted women who suffered drastic losses because of investment – widows were the "prey" of fraudulent bankers (*Punch* 1856). But despite this anxiety, investment in limited companies became an increasingly important part of women's financial assets. This trend continued into the twentieth century.

Further research is needed to gain a fuller picture of the environment in which women investors have operated in the past and the way in which they adapted themselves to it. This paper attempts to reassess the situation by examining the history of women's investment behaviour in particular, their investment in risky assets, and considering the impact on it of contextual factors, including marital status, wealth and investment knowledge, which have been identified by recent research.

II/B British Industrial Revolution

Chair: **Knick Harley** (Oxford)

Robert C Allen (Oxford)

Capital accumulation, technological change and the distribution of income during the British Industrial Revolution

The paper reviews the macroeconomic data describing the British economy during the industrial revolution and shows that they contain a story of dramatically increasing inequality between 1800 and 1840: GDP per worker rose 37 per cent, real wages stagnated, and the profit rate doubled. The share of profits in national income expanded at the expense of labour and land. A "Cambridge-Cambridge" model of economic growth and income distribution is developed to explain these trends. An aggregate production function explains the distribution of income (as in Cambridge, MA), while a savings function in which savings depended on property income (as in Cambridge, England) governs accumulation. Simulations with the model show that technical progress was the prime mover behind the industrial revolution. Capital accumulation was a necessary complement. The surge in inequality was intrinsic to the growth process: technical change increased the demand for capital and raised the profit rate and capital's share. The rise in profits, in turn, sustained the industrial revolution by financing the necessary capital accumulation.

Bart Los (Groningen) & **Alessandro Nuvolari** (Eindhoven University of Technology)

A dynamic input-output model of the British Industrial Revolution, 1760-1840

The precise contours of economic change of the British Industrial Revolution are still a subject of contention among economic historians. According to the more traditional view, the British Industrial Revolution consisted essentially in an acceleration of technical progress covering a wide array of industrial sectors, leading to a deep process of transformation of British economy and society. This view has been challenged by Crafts and Harley (1992) who, on the basis of revised estimates of industrial productivity growth, consider the Industrial Revolution in less dramatic terms with technical progress concentrated in few key sectors, such as cotton and iron.

A number of recent contributions (see, in particular, Harley and Crafts, 2000 and Stokey, 2001) have attempted to probe further into these issues, by proposing historical reconstructions of the "mechanics" of the Industrial Revolution based on Computable General Equilibrium (CGE) models calibrated on historical data. The ultimate aim of these exercises is to check the mutual consistency of different hypothesis and, in this way, to assess the plausibility of the various interpretations.

This paper is essentially a contribution in this spirit, but, rather than adopting a traditional CGE simulation model, opts for a dynamic input-output approach (see, for example, Leontief and Duchin, 1986). The actual model used is based on Los (2004), as this model is specifically concerned with the effects of technical change. Whereas CGE models allow only for a "comparative statics" type of exercise, the dynamic input-output framework is capable of capturing explicitly the emergence and evolution of linkages between sectors. This has been frequently pointed out as a fundamental feature of the industrialization process by many economic historians. Besides the explicit consideration of linkages, the other main features of the model are: i) demand based on income dependent consumption patterns; ii) international trade; iii) non-immediate adjustments of markets.

Our dynamic input-output model is calibrated on a slightly revised version of an input-output table for 1841 constructed by Horrell, Humphries and Weale (1994) and on a new table constructed for 1760. We run simulations assuming a variety of scenarios concerning the dynamics of technical progress in agriculture and manufacturing sectors. Our preliminary results seem to be consistent with the Crafts and Harley view.

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Timothy Leunig (London School of Economics)

Time is money: a reassessment of the passenger social savings from the British Railways

This paper reassesses and extends Hawke's passenger railway social savings for England and Wales. Better estimates of coach costs and evidence that third class passengers would otherwise have walked reduce Hawke's social savings by two-thirds. We calculate railway speeds, and the amount and value of time saved by railways. Initially small, time savings was three times fare savings by 1912, when total railway passenger social savings exceeded 13 per cent of GDP. The transition from railways saving money to saving time came when railway technology stopped simply fulfilling existing demand more cheaply (travel for the affluent) and became a new good (travel for the masses).

II/C People in Place: Housing, Family and Demography in later Seventeenth Century London

Chair: **Matthew Davies** (IHR, London)

Mark Merry & **Philip Baker** (Birkbeck, London)

'Whereas they may lerne to be good coks in honest merchaunt men housed': family and household in late seventeenth century London

This paper seeks to examine the social and demographic make-up of the household and family in London at the end of the seventeenth century. Evidence for this type of examination can be found in the rich taxation material of the 1690s, principal among them the returns made for the Marriage Duty Act of 1695. The value of the Marriage Duty Act material has long been recognized. Since the 1930s it has been used to analyze a whole range of demographic and social phenomena, including population density, the topography of wealth and status, occupational distribution, and household size and composition. Ongoing large-scale immigration and incredible population growth resulted in changes in the characteristics of London's population by the end of the seventeenth century; and the burgeoning processes of urbanization and commercialization changed the existing patterns of employment, material consumption, economic relationships and social regulation in the city. Without question these processes had a significant impact on the way households and families organized themselves and their domestic environment.

Using careful definitions of terms such as 'family', 'household', and 'unit', the paper seeks to place the demographic and social survey into the specific local context of five parishes at the heart of the City. The eastern end of Cheapside, as one of London's most significant commercial centres, generated living conditions whereby domestic activities, production, retail and wholesale went on in close proximity, and where multiple occupancy and divided dwellings were the norm. Within these spaces, about which much is known for the survey area in the period after the Fire, the domestic unit was shaped. A comparison with earlier periods and the poorer parish of St Botolph Aldgate illustrates the nature and extent of this adaptation.

Gill Newton & **Richard Smith** (Cambridge)

Demographic patterns in late seventeenth century Cheapside

This paper reports the results of an attempt to link a family reconstitution of the five Cheapside parishes of All Hallows Honey Lane, St Mary le Bow and St Pancras Soper Lane, St Marin Ironmonger Lane and St Mary Colechurch with Marriage Duty Act assessments for 1695 that survive for four of the aforementioned parishes. This paper is based primarily on analysis of All Hallows Honey Lane, St Mary le Bow and St Pancras Soper Lane. Following the destruction of all three churches in these parishes by the Great Fire of 1666 and subsequent rebuilding of St Pancras and St Mary le Bow, the three parishes were united and possess one set of parish registers after 1697. The study is part of a larger project to compare the demography of this collectively affluent group of parishes with the rapidly growing and significantly poorer extra-mural parish of Clerkenwell.

The comprehensiveness of the 1695 Marriage Duty assessment inhabitants listing allows a window onto some of the individuals who were at a stage that fell between the landmark life events of birth, marriage and death captured in a family reconstitution, namely servants and apprentices, bachelors and spinsters. Furthermore, given the high population turnover in London, the likelihood of a family residing in the parish long enough to leave evidence of its formation through marriage or dissolution through death of a spouse, as well as its expansion through the baptism of children is limited. Some sense of the turnover can be derived from the evidence concerning the actual marriage duties paid or owed. For instance, in the returns for 1696-7 for St Mary le Bow and All Hallows in total 95 parishioners are listed as paying an amount out of a combined population of 866 persons in 1695. Twenty-five of these are not listed in the 1695 assessments and were either newcomers or a new-comer assuming responsibility for a burial payment. It appears that approximately 30 per cent of these persons had been resident in the parish for less than two years. In these relatively wealthy parishes a

key factor in high population turnover was the large proportion of the population made up of servants and apprentices. Maidservants, apprentices/journeymen accounted for one third of the population. Such individuals would have low probabilities of experiencing events leading to the recording of their names recorded in the parish registers – a major factor when associated with their high rates of mobility that would account for modest levels of successful linkage between tax assessment and parish registers.

It was to be expected that the most successful linkage was achieved between biological families recorded in the assessment and the parish registers. Sixty-nine per cent of the married inhabitants of these parishes were traceable in the reconstitution. The low success rate in matching maidservants and apprentice/journeymen in the parish accord with Laslett's observation from a rural and small-town vantage point that 90 per cent of servant movements were across parish boundaries – a feature that would be further exacerbated in the spatially shrunken parishes of intra-mural London. However, it was reassuring that the household heads who were linked to the reconstitution possessed wealth characteristics based on tax assessment that were indistinguishable from those who were not able to be linked. Such a feature suggests that demographic observations made on the linked segment of the population were less likely to be atypical of the parish populations as a whole.

Of the 301 reconstitution families baptizing more than one child between 1670 and 1721, 52 had at least one intergenesic interval of one year or less and just over two thirds an intergenesic interval of 18 months or less. These intervals, far shorter than those found in rural and small town populations at a comparable date, suggest that significant numbers of mothers were not breastfeeding their children, since if they had done so the inhibitory effect of suckling on conception would have resulted in longer gaps between births. The infant mortality rate for the parishes in 1670-1721 was 225 per 1000 and is somewhat higher than those found in many parts of rural England in populations with far lower proportions of high status inhabitants. They are also somewhat higher than those calculated by Finlay for London parishes during earlier periods in the seventeenth century and are supportive of a general worsening of infant mortality in intra-mural parishes as the century progressed. However, they are somewhat lower than the levels calculated for a similar period by Landers based upon his reconstitution of London Quaker families. One factor that may have served to depress the observed rate of infant mortality was the deaths of those away from the parish at wetnurse. By linking the parish register entries relating to baptisms and burials with the infants and children reported in the listing it would appear that the families with 'missing' children came disproportionately from those whose household heads were in the highest assessment categories. Of course there is no direct evidence of deaths of such children failing to be reported in the parish registers, although the possibility of such omissions must be high. Wetnursing outside the parish could explain some of the deaths where amounts were collected but there was no corresponding burial in the register.

A further feature, less connected with the high social status of Cheapside parishioners but reflecting a more widespread feature of London's demographic behaviour, was the rising number of marriages that involved parties neither of whom were resident in the parishes and were marrying there by licence.

Notwithstanding the elevated social status of parishioners infant mortality was high suggesting that these parishes were affected by the general worsening of infant life chances that was occurring in London in the decades following the disappearance of plague as a killer in the 1660s. High population turnover was in part a function of the large numbers of servants and apprentices resident within the relatively wealthy households that formed a notably large proportion of all co-resident groups in these intra-mural parishes.

Vanessa Harding (Birkbeck, London)

Housing and households in seventeenth century London

The 'People in Place' project seeks to trace objective changes to family size and structure in early modern London, and to examine relations within and between households. An important contribution to this discussion is the integration of property histories into the database of reconstituted families. One of the problems we have with analyzing household composition is our ignorance, in most cases, of the physical structures within which these people lived; the distinction between house, houseful and

household is also crucial to evaluating much of the information contained in census-type returns that use these units. Similarly, a qualitative appreciation of family life is enhanced by an understanding of the rooms and spaces and facilities available to the family. The meaning of private and public is affected by spatial conditions and constraints; the gendering of domestic space and activity is an important element in family dynamics.

As early modern London grew and spread, it became more diverse and more sharply differentiated from area to area. The medieval and Tudor city contained a variety of house types, from the poorest to the most splendid, often close to one another, but the seventeenth century saw the emergence of wide areas of similar housing and social character. Some of the poor and labouring classes continued to live close by the rich for economic and practical reasons, but the majority were settled in areas generally of a poor urban or suburban nature, especially to the north and east of the city, that contrasted with the better houses of the mercantile centre and the middling-class developments towards the west. This paper examines housing in seventeenth-century Cheapside and Aldgate and compares some of the evidence for changing types and standards of accommodation with that for changing family forms and relationships.

II/D New Perspectives on the Early Modern Baltic World

Chair: **Chris Evans** (Glamorgan)

Göran Rydén (Uppsala)
Swedish economic history and the 'New Atlantic Economy': iron production and iron markets in the eighteenth century

Swedish early modern economic history has to a large extent been dominated by the iron industry. This is easily explained as that industry was, next to agriculture, the most important sector of the Swedish economy. Iron was made at nearly 500 ironworks, or *bruk*, scattered around in *Bergslagen*, the large ironmaking region in central Sweden. The export of bar iron dominated Swedish trade, accounting for as much as 75 per cent of the total value of exports. A very large number of studies have been undertaken, and the literature is large and somewhat difficult to grasp. However, most of the studies are a bit out-dated, and the current orthodoxy was formed many years ago.

One of the most blatant flaws in the history of the Swedish iron trade is the restricted national perspective, a problem that has been exposed by very recent developments within the field of Global History. Apart from a few attempts by scholars such as Eli F. Heckscher and Karl-Gustaf Hildebrand, who discussed the presence of Swedish iron on the British market, no substantial study has dwelt upon any international aspect of Swedish ironmaking, and the distribution of iron on international markets. With as much as 80-90 per cent of total production of bar iron being sold on foreign markets during the eighteenth century this flaw is a serious one.

The aim of this paper is to reinstate the Swedish iron trade into its global context. The links between Swedish iron production and global markets will be analyzed. It will be argued that Swedish iron was an essential commodity in the British rise to supremacy in the Atlantic World. The starting point is a complex of ironworks north of Stockholm where a high-quality iron was made. This iron was very suitable for steel-making, and it was soon monopolized by British merchants. Steel manufacture in Britain, which was expanding very rapidly in the early eighteenth century in response to Atlantic demand, came to depend absolutely on Swedish inputs.

Leos Müller (Uppsala)
Swedish neutrality and shipping in the second half of the eighteenth century

By the late eighteenth century Sweden had become one of the leading shipping nations in Europe. According to the established historical perspective (Eli F. Heckscher), the successful development of Sweden's merchant fleet should be attributed to the protectionist policy of the state and to Sweden's exchange pattern of bulky imports (salt and wheat) and exports (iron and timber products). This paper argues that the most important factor in the rise of Swedish shipping was Sweden's neutrality in the Anglo-French wars, especially those of 1776-83 and 1793-1802. I will provide a picture of the development of Swedish shipping based on the "Algerian" passport registers, which record all Swedish-flagged vessels employed in trade south of Cape Finisterre. These unveil the significance of tramp shipping in Swedish maritime activity. The traditional view is that Swedish vessels were engaged only in Swedish foreign trade. However, a close analysis of the Algerian registers and other sources show that Swedes were very active in tramp shipping in the Mediterranean and, from the 1780s, also in transatlantic shipping. Here, neutrality was a major competitive advantage. Sweden was a French ally, but she carefully avoided entanglement in the Seven Years' War, and she was an active member of the neutrality leagues of 1780-83 and 1800. Sweden lay on Europe's geographical periphery and had ceased to be a first-rate power, but that did not prevent her occupying a profitable neutral niche in the drawn-out struggle between Britain and France. From a broader Atlantic perspective, Swedish neutrality played an important role in reducing the negative impact of warfare on trade. Due to neutrals, such as Sweden and Denmark, commercial connections between belligerent countries – and between belligerents and their overseas colonies – were not completely disrupted.

Pierrick Pourchasse (Brest)

Problems of French trade with the North in the eighteenth century

There is a paradox as regards France and her trade with the North during the eighteenth century. Whilst her trade balance remained well in surplus, France appeared to be excluded from her own trade east of the Sound. Mercantile transactions were in the hands of foreign merchants and French shipping rarely ventured into the Baltic. Traditionally, many reasons have been put forward in order to explain this weakness. As regards shipping, it is asserted that foreign ship-owners, particularly the Dutch, enjoyed lower freight costs than the French, that French ships were more heavily manned, and that French seamen were more expensive to hire. As for the organization of trade, it has been suggested that the absence of favourable treaties with the northern powers impeded French merchants, or that low profits to be earned on transporting Baltic products were too small to divert investment from the more lucrative colonial trade. These explanations all have validity, but the problems identified were not unique to France. We must look for other reasons, such as the attitude of the French state, which failed to maintain an effective consular service in the Baltic area. The failure of French merchants to establish an efficient network of mercantile ‘colonies’ that could rival those of the Dutch or the English should also be considered. France, with its natural wealth in timber and grain, came late to Baltic commerce, and had difficulty in competing with well-established rivals.

II/E Central and Eastern Europe

Chair: **Stephen Broadberry** (Warwick)

Max-Stephane Schulze (London School of Economics) & **Nikolaus Wolf** (Free University Berlin)
Precursors of separation: the disintegration of the Habsburg Customs Union before World War I

In the wake of the First World War, Europe experienced a severe backlash of integration, with more than 11000km of new tariff borders, the breakdown of capital markets and economic policies orientated along the lines of domestic goals rather than international coordination. The former Habsburg Empire, one of the Continent's largest economies and broken up into several successor states in the aftermath of the war, offers a particularly poignant illustration of post-World War I political and economic disintegration.

This paper explores changes in economic integration patterns across the major regions of the Habsburg Empire *prior* to its actual dissolution in 1914-18. We draw on an Engel-Rogers-type approach to analyze a large new panel of grain prices for all major cities of the empire between 1877 and 1913, controlling for distance and changes in transport costs, as a means to estimate whether the future political fault lines (or prospective national borders) along which the empire split up became noticeable *before* 1914. Two findings are outstanding: first, while overall market integration proceeded apace, we find a large and significant effect of the future borders in the data already from 1877 onwards. Second, this latter effect is increasing between 1900 and 1913 and more so for low 'value-to-weight' goods such as, for example, rye. Hence, the process of growing absolute integration was accompanied by increasing differences in relative integration between different parts of the empire. This result is compatible with the available evidence on regional income differentials in the Habsburg Empire, raising important questions about the extent to which the customs union regime was conducive to intra-empire convergence.

The new findings echo a largely political historiography that emphasizes the rising importance of late nineteenth century nationalism and nation-building endeavours among the 'nationalities' which ran counter to the Habsburg state's policies to preserve the political and economic integrity of a multinational empire.

Martin Ivanov (Bulgarian Academy of Sciences)
Filling in the statistical gap of the SEE periphery: estimates of Bulgarian GNP, 1899-1924

For more than six decades Bulgarian economic historians successfully 'resisted' the Cliometrics' temptations. Both the luck of scientific interests and of research capacities are to be blamed for that mirthless situation. At the crossroads where the qualitative 'highway' meets the quantitive 'country-road', one should admit that most scholars preferred taking the comfortable route. As a result, we are compelled to speak only intuitively about the Bulgarian (and South-East European) past attaching mythical status to certain historic events and undervaluing others. What is the actual rate of growth of the Balkan periphery; is it lagging behind or catching up with the 'industrial core'; how backward were agrarian societies in South East Europe (SEE) and how did they endure external shocks like World War I and/or the Great Depression? These are questions that could be answered only in a quantitive way.

The occasional overseas interest towards the 'powder-keg's' historical economic performance suffers from language limitations and the quality of statistical data. Some even speak of the 'statistical iron curtain' falling down from Vienna eastwards. In their recent book Kevin O'Rourke and Jeffrey Williamson (2000) exclude the SEE periphery from their sample 'simply because the historical data are inadequate for those regions' (2000: 18).

The current research adopts a different approach. A detailed review of the available statistical information shows it is sufficient not only for guesstimates (Bairoch, 1976) but for proper National Income calculations. As far as the body of Bulgarian historic statistics is concerned, at least, one could hardly define it as 'inadequate' or 'inferior'.

The method applied here is that used in the mid-1940s by the contemporary Bulgarian economist Asen Chakalov (1945) for calculating Bulgaria's National Income (1924-45). Despite the fact that it suffers certain methodological limitations it allows us to construct an acceptably reliable GNP approximation. It should be added that Chakalov's National Income figures bear the seal of approval of Angus Maddison (1995, 2003) whose recent country-level estimates have become a 'staple in international comparisons of income' (Good-Ma, 1999; Hanson, 1998). Chakalov was used as the only source of Maddison's Bulgarian estimates.

The current research focuses on five different years (1899, 1905, 1911, 1921 and 1924) casting Chakalov's GNP estimates quarter of a century backwards. The findings are consistent with prevailing pessimistic assessments (Gerschenkron, 1962; Lampe and Jackson, 1982; Lampe, 1986; Palairet, 1997, Good-Ma, 1999). The average growth rate between 1899 and 1924 was quite modest – one per cent and per capita growth was even negative (-0.28 per cent). True, there were some periods with better performance (1899-1911) but they were far from enough to compensate the downturn caused by the military decade (1912 to 1918 for Bulgaria) and the three consecutive lost wars (the First, the Second Balkan War and World War I).

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Matthias Morys (Oxford)

Adjustment under the Classical Gold Standard: how costly did the external constraint come to the European periphery?

Conventional wisdom has that peripheral economies had to "play by the rules of the game" under the Classical Gold Standard, while core countries could get away with frequent violations. Drawing on the experience of several countries in the European periphery (Austria-Hungary, Italy, Sweden, Greece, and Portugal), my paper challenges this view. Based on a vector error correction model and impulse response functions, it is shown that even the so-called periphery embarked on sterilization policies and was not forced to use the discount rate tool in a way that would have put the domestic economy under too much strain. While these findings suggest that adherence to gold came less costly than commonly believed, the paper also shows remarkable differences between countries: for some of them (for instance, Austria-Hungary) the external constraint was much easier to bear than for others.

It is often argued that the adjustment process to balance of payments-disequilibria was very different in the case of the 'core' (UK, US, France, and Germany) as opposed to the 'periphery'. Several studies have shown that core countries could get away with frequent and sizeable violations of the "rules of the game"; it is then argued that this was due to their real economic structure (theory of optimum

currency area), self-stabilizing speculation, or central bank cooperation among the core countries, to mention only some of the explanations discussed in the literature. By contrast, adjustment is believed to have been very hard in the case of the periphery: if peripheral economies wanted to adhere to gold, they could do so only at the price of entirely sacrificing the room for domestic stabilization policies.

My paper attempts to understand how peripheral economies reacted to a gold outflow. According to the "rules of the game", a central bank was supposed to react to an outflow of gold by: (a) increasing the discount rate and (b) deliberately exacerbating the effect of a gold outflow on the monetary base. Both measures were meant to speed up the adjustment process. At the same time they were deeply unpopular for their strangulating effect on the domestic economy.

A vector error correction model of the three time series relevant in our context (gold flows, changes in the monetary base, bank rate differential to the core countries) allows us to calculate impulse response functions, thereby precisely answering our question: how did the monetary authority react to a gold outflow? The answer comes as a surprise: very much like the core, many peripheral countries consistently sterilized gold flows, thereby undermining the crucial link between gold flows and the monetary base which is at the heart of the Humean price-specie flow mechanism. As for the discount rate, the paper shows that most of the countries in my sample were not forced to use the discount rate tool in a way that would have put the domestic economy under too much strain. Both findings are interpreted as evidence that adherence to gold came less costly than is commonly assumed.

The impulse response functions can also be used to answer another question of no less interest: which countries adjusted more easily to gold flows than others? Faced with a gold outflow of equal size, some countries needed to raise their discount rate by three times more basis points than others. This suggests that some countries (for instance, Austria-Hungary) had much more "pulling power" than others, thereby retaining more room for domestic manoeuvre.

II/F Micro-History: its Uses and Values

Chair: **Pat Hudson** (Cardiff)

Jane Whittle (Exeter)

Market development and social relationships: the acquisition of food in a seventeenth century household

Gentry household accounts from the early seventeenth century provide a rich record of the ways in which food was acquired. Some food such as butter, cheese and beer was home-produced within the household. Other frequently consumed items such as bread and beef were purchased. High status friends and neighbours sent gifts of foods that were difficult to acquire such as apricots and turkeys, while tenants and other locals sold food that was collected or produced locally such as sea fish, wild birds and poultry. Imported products, raisins, spices and wine, were purchased at the local town.

This paper uses the household and kitchen accounts kept by Lady Alice Le Strange of Hunstanton, Norfolk, to examine the way food was produced and marketed in that locality, and the impact of a wealthy gentry family on the local food economy. Why did the household choose to produce some foodstuffs but not others? How did the food produced by a gentry household and that by other local households differ? In addition, the social relationships surrounding food are examined. Many named people presented food to the household, sometimes as gifts, sometimes for a 'reward' and sometimes for a normal market payment: what differentiated these people and their relationships to the Le Strange household?

The detailed study or 'microhistory' of a single gentry household offers a window into the operation of rural markets for food in this period, a market that is poorly documented in other sources. The accounts record not only how the gentry lived and 'consumed', but also much about the lives of their less elevated neighbours. And the accounts record not only the cost and nature of food acquired, the social relationships that surrounded food acquisition. The paper forms part of a larger research project utilizing Alice Le Strange's accounts to examine gendered patterns of consumption and work in the first half of the seventeenth century. This research is funded by the ESRC and AHRB as part of the 'Cultures of Consumption' programme.

Alysa Levene (Oxford Brookes)

Fostering, feeding and foundlings in four eighteenth century English parishes

In this paper, a microhistorical approach is used to shed light on a particular feature of life in four English parishes: the occupation of nursing for the London Foundling Hospital. The hospital opened as a home for abandoned infants in 1741, and followed a policy of wet nursing as many babies as possible in rural communities beyond London. This was a large-scale challenge, with in excess of 18,500 infants entering the hospital up to 1800. Analysis of nursing documents shows that hundreds of babies were sent to particular communities, often in Surrey, Kent, Essex, Middlesex and Yorkshire. Here, the registers of two parishes in Surrey (Epsom and Chertsey), and two in Yorkshire (Ackworth and Hemsworth) are investigated in particular detail, in order to examine the impact of nursing on the local community and the family of the nurse (both demographically and financially). Foundling nurses are shown to have had larger families than the mean for the parish, although taking a foundling to nurse corresponded with a lengthening of their birth intervals; they also worked for the hospital at a variety of stages in their life-cycles; and they seem to have exercised a significant degree of agency in how they used the hospital to supplement their income. The extra income that nursing provided tied these women to a more formal, waged female economy than is often recognized for this period, and may well have been used to keep large families or elderly women off poor relief. Other sectors of the local community seem to have regarded the foundlings with more antipathy, however, fearing that they were a drain on resources and a potential burden on the poor rates.

Ben Dodds (Durham)

A tale of two villages: peasant production in the late middle ages

Peasants are often thought of as slow, backward and resistant to change. This view has been expressed by present-day governments anxious to boost agrarian production, by Stalin in his forced collectivization programme, and by people in the middle ages. The thirteenth-century writer Jean de Meung, for example, described peasant life as 'tending the ancestral dungheap'. By contrast, however, many agronomists, economists and anthropologists have emphasized the adaptability of peasant society which has ensured its survival even in the most difficult circumstances.

Peasants constituted a significant part of England's population in the middle ages but any examination of their responsiveness to change is severely hampered by a lack of information. Tithe records are valuable to the historian because they shed a narrow shaft of light on the problem. At their best, tithe data inform us of changes in peasant grain output and the mix of crops planted on peasant strips and closes. Not only can we examine trends in production and consumption but we are sometimes given hints of the workings of the peasant household economy. Although tithe data are relatively abundant, long continuous series for particular communities and regions are not. They are certainly much scarcer than the series of manorial accounts which inform us about seigniorial production.

This paper uses two series from individual villages in England, one in the south and one in the north, which represent the best such data available. Output in the villages is set in the context of what we know about patterns of production and consumption in the late middle ages. Given the quality of the data, however, it is possible to push the interpretation further, to the level of the peasant household economy. Although it is acknowledged by historians that peasant producers were the most significant suppliers of grain to the market during the middle ages, we tend to think of peasant production as heavily subsistence oriented with production for the market as a minor, almost incidental, sideline. By contrast, the market orientation of more recent peasant communities elsewhere in the world has been shown to be much more complex than this. Of course, we shall never have sufficient information to analyze the medieval peasant household economy with the detail of studies of more recent peasantries. However, these tithe data do provide hints that we should not necessarily dismiss medieval English peasant production for the market as an accidental spin off.

Unfortunately, this approach to the peasant household economy in the middle ages is necessarily micro-historical. Only the very few best series provide this kind of insight. This raises questions over the validity of this approach, and the representativeness of the conclusions reached. It is the purpose of this paper to describe the findings of an in-depth examination of two peasant villages and then to discuss what this tells us and, equally importantly, what it does not tell us about the peasant economy in the middle ages.

III/A Early Customers and Brokers in the London Stock Market

Chair: **Anne Laurence** (Open)

Anne Murphy (Leicester)

Investors in London's first stock market boom

This paper examines the customer base of Charles Blunt, a financial broker operating during London's first stock market boom. The boom which extended between 1691 and late 1693 was stimulated by the restrictions that the Nine Years' War (1689-1697) placed on overseas trade. As idle trading capital was diverted to domestic use a great number of joint-stock companies emerged offering investment opportunities in projects as diverse as the manufacture of paper and textiles, and the search for sunken treasure. These novel financial opportunities attracted the interest of a wide range of investors, many of whom had little previous experience of investment in debt and equity instruments. The boom was typically short-lived and few of the companies established during the early 1690s survived into the eighteenth century. However, the stock market boom did prove to be a valuable learning experience for early English investors. Moreover, it paved the way for the introduction of England's first permanent funded long-term national debt. Blunt's ledgers are an invaluable source of information about the progress of the stock market boom and provide a unique opportunity to examine the nature and aims of the first investors to place their capital, and their trust, in London's financial markets.

The ledgers cover the period between January 1692 and August 1695. They contain just under 1,500 trades in the shares and derivatives of 23 companies, including most prominently the Linen, Glass and White Paper Companies. It is particularly notable that derivatives (defined as options, time bargains and loans on stock) were traded almost as regularly as the underlying shares confirming that the stock market of the early 1690s rapidly acquired a high degree of sophistication. The ledgers also document the rise and fall of the stock market and demonstrate how quickly the instruments that formed the national debt came to dominate the financial market. Indeed, in mid-1694 as government annuities and lotteries became popular and the Bank of England was founded, Blunt's business decreased and became dominated by trade in Bank stock and Million Adventure tickets.

Blunt kept annual accounts for each of his 155 clients in which he recorded the client's name, and often his or her address and occupation, details of the type of each transaction, the price at which it was conducted, the number of shares, the name of the counterparty and the amount of brokerage owing. Thus, the ledgers offer a clear picture of the type of individual who was active in the financial markets just prior to the establishment of the national debt and the foundation of the Bank of England. They also reveal much about the investment strategies employed by each client, their appetite for risk, and the nature of their relationship with Blunt. It is most notable that the ledgers document an accumulation of experience and the spread of excitement about the new financial opportunities on offer at this time. Examined in conjunction with surviving records of other joint-stock companies of the period the ledgers show that although very few of Blunt's clients were active investors in equities prior to the stock-market boom, nearly 50 per cent went on to invest in Bank of England stock. It is also interesting to note that John Houghton was a customer of Blunt's. Thus, in spite of his claim in the *Collection for Improvement* that he was 'not much concerned' in stocks, it is clear that Houghton's analysis of the market published in June and July 1694 was indeed born of first-hand experience.

Finally, the ledgers can enhance our understanding of subsequent developments in the financial markets. Most notably, Blunt's customers included a number of individuals who went on to become prominent stock-jobbers, including his cousin John Blunt, one of the chief architects of the South Sea Bubble. Even in the 1690s John Blunt was a very active speculator. He was also involved in the manipulation of stock prices in at least one company, demonstrating that his nefarious career started early!

Ann Carlos (Colorado), **Larry Neal** (Illinois) & **Kirsten Wandschneider** Middlebury College)
Broker networks during the South Sea Bubble: the strength of weak ties

We analyze transfers of Bank of England stock between individual investors during the bubble year of 1720 by applying network analysis to the 6,844 dyads to determine the features of the market during its first systemic shock. Was trading in Bank stock split between Tories and Whigs, or confined to Whigs, and therefore divided along political lines, as Carruthers argued for an earlier period? Were women exploited as gullible first-time investors? Were the major dealers in stock manipulators of the market and speculators? To what extent did they deal with each other? In answering these questions, we find evidence of a variety of active traders with diverse customer bases ranging across political, religious, class, and location lines. The trade patterns reflect the diversity of stockholders. Frequently, however, traders dealt with each other to maintain an active market in the stock. Network analysis enables us to determine that Abraham Craiesteyn, a wealthy London merchant with large holdings in both the East India Company and Bank, as well as connections with Dutch investors, served as the hub of the implicit, informal network of traders. He was not the most active of the dealers, however, ranking only sixth in book value among the dealers. He may, however, have been the most liquid dealer as he served the most diverse customer base.

Gary Shea (St Andrews)
South Sea Company directors' trading in shares, subscriptions and options in 1720

I. Theoretical introduction and background

The emergence of a new growth theory, which makes endogenous the rate of growth of technological progress or intangible capital (such as human capital) accumulation in determining the long-run growth rate of an economy, has gained great favour since its introduction (Romer, 1986, 1990; Lucas, 1988).

Our research seeks to establish a growth theory that can account better for persistent disparities in income levels, as well as improve our understanding of the rapid growth seen in some countries since the middle of the twentieth century. We intend to combine expertise from economic history, finance, theory and development, and use modern techniques to consider the micro-foundations of growth. Initial research has proved very fruitful (Trew, 2005; Nolan, Shea and Trew, 2005).

II. An historically-congruent theory of dynamic financial coalitions and growth

A simple insight from the historical literature has framed the way in which we develop our theory: individuals form coalitions of agents to provide finance for investment projects where fixed costs are a large element of total costs. The mass of the coalition, the spatial dispersion of its members, and the degree of trust between agents are all key to the development experience in this context, and all enter into the crucial decision over production technologies.

The Industrial Revolution in Western Europe holds a number of key facts that aid our understanding of the growth process. Cottrell (1980) and Harris (2000) both point to the importance of information problems, of spatial dispersion and of the legal and institutional environment. In the initial stages of low growth and underdevelopment, financial coalitions are small and invest in small, local, low-return projects. In the later stages we see specialized financial intermediation in the shape of banks and equity markets that facilitate higher levels of sustained growth in incomes.

III. A unique data set

The finance of industry *per se* has been shown not to have constrained economic development. Problems in raising finance for investment largely occur where the fixed cost as a proportion of the total investment is large. Large-scale infrastructure projects, undoubtedly crucial for the development of an economy are thus prime examples of the class of investments in which financial conditions can have a large effect on economic growth. This has been demonstrated in a number of studies, such as Milward and Saul (1973), Mathias and Postan (1978), Buchanan (1986), and Turnbull (1987), *inter alia*.

We analyze a unique and highly detailed historical data set (Shea), which covers micro-data of actual coalition formation in the finance of UK infrastructure (primarily canals and railways, but including

also gas and waterworks projects). These are uniquely rich micro-data on actual coalitions funding different types of infrastructure across both time and space. They are not lone case-studies but combine to depict a broad, disaggregated and evolving picture of financial coalitions. Initial analysis strongly supports both the more general suppositions of historians on the ways in which finance is collected, specifically via regional coalitions.

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III/B Labour and Mobility

Chair: **Nigel Goose** (Hertfordshire)

Jason Long (Oxford)

The economic return to primary schooling in Victorian England

There is a long tradition in the economic history literature of attributing England's loss of world economic leadership and its protracted growth slowdown to its comparatively poor educational system and underinvestment in human capital. England lagged behind the U.S. and Germany both in the technical education of skilled workers and in the provision of high-quality primary education. Unlike the U.S. and Germany, England had no national system of compulsory primary schooling before 1870, and the available schools were of decidedly mixed quality and content. Providing solid elementary education to the entire populace ensures that gifted individuals from all backgrounds will have the minimum tools necessary to advance in the labour market. By failing to provide high-quality education broadly, England restricted the talent pool from which its economy could draw. Along these lines, both the quality and quantity of English primary schooling have been criticized.

In this paper, I use new longitudinal data on individual males linked between the English censuses of 1851 and 1881 to analyze the quality of English primary schooling by measuring the effect of childhood primary school attendance on adult earnings. The panel nature of the data reveals both childhood schooling in 1851 and adult occupation in 1881 for each individual, along with family demographic and economic information in both years. I use reduced form models to analyze the correlates of school attendance and to estimate the treatment effect of school attendance and the economic return to each year of primary schooling. In addition, I estimate a structural model of endogenous school choice to account for potential selection bias in reduced form models.

I find that primary school attendance as a child conveyed real but small labour market benefits in adulthood. Each year of schooling increased annual adult earnings by 1.3 per cent. Under most assumptions on the discount rate and work-life duration, the present discounted value of this premium would have comfortably exceeded the rather modest direct and opportunity costs of school attendance. However, the return is quite small when compared to modern estimates of the return to secondary schooling in developed economies (5-15 per cent) and the return to primary schooling in developing economies (around 7 per cent). In addition, attending school had a substantially smaller effect than did other factors like father's socioeconomic status and residing in an urban place.

These findings argue against the harshest critics of primary schooling in Victorian England: schooling did convey a pecuniary benefit that almost certainly exceeded its cost. However, the effect is comparatively small, and the overall findings are broadly consistent with the pessimist view. Schooling (at least at the primary level) offered a very limited path to mobility. The educational system does seem largely to have failed in the critical task of sorting for and selecting talent, and thereby facilitating an efficient allocation of human capital. It is entirely plausible that this educational failure relative to competitors like the U.S.and Germany played an important role in England's relative economic decline.

Jerome Bourdieu, **Lionel Kesztenbaum** (INRA) & **Joseph Ferrie (**Northwestern)

'Vive la différence'? Intergenerational occupational mobility in France and the U.S. in the nineteenth and twentieth centuries

Recent research on occupational mobility across generations has found few differences among advanced, industrialized countries. Nineteenth century observers such as de Tocqueville and Marx, however, saw vast differences in mobility between the U.S. and Europe, perceptions that persist to the present day despite the similarity of modern mobility rates. Research by Long and Ferrie has shown that substantial differences in intergenerational occupational mobility between Britain and the U.S. can be discerned in the middle of the nineteenth century, even after accounting for differences in these countries' occupational structures, but that those differences are no longer apparent by the second half of the twentieth century.

The comparison between the U.S. and Britain, though of great interest because of the long historical and economic ties between them, may reflect differences in economic development in the mid-nineteenth century: Britain had already seen substantial urbanization and exit from agriculture, and was well into the Second Industrial Revolution by 1850, while the U.S. remained a largely rural and agricultural economy at that date, though substantial industrial activity had begun by then, particularly in New England. We reduce the impact of some of these differences by adding France as a third point of comparison. In the mid-nineteenth century, France was more similar to the U.S. than was Britain in its ruralness, the size of its farm sector, and how far its industrialization had advanced. If differences between the U.S. and France are nonetheless apparent, they must be attributed to something other than where these countries were located in these measures of economic development.

We ask specifically whether differences in intergenerational occupational mobility between France and the U.S. were actually as great as contemporary observers asserted, why such differences might have existed, and how any mobility differences between these two economies evolved from the nineteenth to the twentieth century. To do this, we use: (1) data from French civil records that document the occupations of several thousand pairs of fathers and sons from throughout the nineteenth century and the Formation Qualification Professionnelle (FQP) survey of 4,700 father-son pairs from the late twentieth century, and (2) data from the U.S. on 75,000 father-son pairs from 1850 to 1920 and the 1973 Occupational Changes in a Generation (OCG) survey of 10,000 father-son pairs.

We compare the occupations of sons to those of their fathers twenty to thirty years earlier using: (1) a set of four broad occupational categories that we have defined consistently for both France and the U.S.; and (2) a measure of the association between fathers' and sons' occupational categories (the Altham statistic) that abstracts from differences either across countries or within countries over time in the distribution of people across occupations. A smaller Altham statistic indicates a weaker association between the occupation of a father and that of his son, and therefore reveals greater intergenerational occupational mobility.

Over the third quarter of the nineteenth century, intergenerational mobility was greater in the U.S. than in France (the Altham statistic was 11.91 for the U.S. and 19.46 for France, while the difference between them in the association between fathers' and sons' occupations was statistically significant). At the same time, mobility in both countries was greater than it was in Britain (with an Altham statistic of 23.99 and a statistically significant difference compared to both France and the U.S.). By the third quarter of the twentieth century, intergenerational mobility had fallen in both France and the U.S. (the Altham statistic rising to 26.16 in France and 20.76 in the U.S.), though mobility remained virtually unchanged in Britain (its Altham statistic rose only slightly to 24.03).

Though the magnitude of the Altham statistic was similar in all three countries by the third quarter of the twentieth century, there remained some differences in the specific patterns of association between fathers' and sons' occupations. We cannot reject the null hypothesis at any conventional significance level that the patterns of association were the same in Britain and the U.S. in the decades after World War Two, nor can we reject this null hypothesis at the five per cent level for Britain and France. For France and the U.S., however, we can conclude that some differences in these patterns of association remained even as the gap in overall mobility between them narrowed from the nineteenth century to the twentieth.

As de Tocqueville and Marx noted at the time, the U.S. was indeed more occupationally mobile than France in the middle of the nineteenth century. After accounting for differences between the two countries in the distribution of occupations, we show that intergenerational occupational mobility was greater in the U.S. than in France, though the U.S. advantage was less than that over Britain at the same time. By the last quarter of the twentieth century, the differences among all three countries had narrowed considerably.

We conclude with an explanation of the nineteenth century differences and why they narrowed in the twentieth century, focusing on differences between the U.S. and France apart from differences in urbanization, the size of the farm sector, or the extent of industrialization: differences in: (1) access to education; (2) opportunities for occupational advancement through migration to rapidly growing and newly developing regions; and (3) the extent to which political and social upheavals removed

institutional impediments to mobility, the influence of landed wealth and the growth of state employment.

Joyce Burnette (Wabash College)

Child day-labourers in agriculture: evidence from farm accounts, 1740-1850

Child labour has long been an important issue in discussions of the Industrial Revolution. While pessimists point to the employment of children as one of the inhumane aspects of industrialization, optimists reply that child labour was not new, just more visible in the factories than it had been before. Unfortunately, since most of historians' attention has been focused on factory employment, little data is available on child labour in alternative types of employment. While parliamentary reports provide good data on children working in factories, information from other industries is more limited, making it difficult to know if factory work was unusual. Information on child labour in agriculture is available from the middle of the nineteenth century, from census returns, and from parliamentary reports such as the 1843 report on *Women and Children in Agriculture*. Before the 1840s, however, it is more difficult to say how many children worked in agriculture. This paper uses a sample of English farm accounts from 1741 to 1849 to examine the extent of and trend in child labour among agricultural day-labourers.

The data used in this paper is a sample 189 annual observations of farm wage accounts, from 62 different farms between 1741 and 1849.

In order to use farm wage accounts to study child labour, I need some method for distinguishing children from adults. Males and females are easily distinguished by their first names, but the age of a worker cannot be determined from the name. Some records identify boys, but this is not consistent enough to provide an accurate measure of child labour. It is possible to determine the ages of workers from the 1830s or 1840s by matching them to the census manuscripts, but this method is time-consuming, identifies the ages of only about half of the workers, and is not available for earlier records.

In this paper I use the wage to identify which workers must have been children. I have constructed wage profiles for workers from two farms by matching workers from the wage accounts to census manuscripts. (See "How Skilled Were English Agricultural Labourers in the Early Nineteenth Century?" available at http://persweb.wabash.edu/facstaff/burnettj/Homepage.html.) Based on these wage profiles, I define boys as those males earnings one-half the adult male wage or less, and I define girls as those females earning three-fourths or less of the adult female wage. Based on the wage profiles constructed, males in the "boys" category should be approximately 16 years of age and younger, while females in the "girls" category should be approximately 14 years of age or younger. (Both Kirby and Rahikainen examine children below age 15.) Using this method, it is possible that some of those identified as children were really elderly individuals who are paid the same low wages as children.

The Extent of Child Agricultural Day-Labourers

I find that few girls were employed as agricultural day-labourers. In more than half of the observations in my sample (57 per cent), no girls were employed. On average less than one per cent of all days worked were worked by girls. The maximum employment of girls occurred in 1804 when a Norfolk farm employed girls for 8.5 per cent of all days worked.

Most of the children hired as agricultural day-labourers were boys. On average 13.3 per cent of the day-labour workforce were boys (the median was 12.9). The employment of boys was much more common, and only seven per cent of observations employed no boys at all.

I find that the textile factories of the Industrial Revolution did employ more child labour than agricultural day-labour. In Lancashire cotton factories, for example, 35 per cent of the labour force was age 15 or younger. In agricultural day-labour, children were only 14 per cent of the labour force.

Trends in Child Labour

I expect to find increasing use of child labour between 1740 and 1850 for two reasons. The first reason is that during the period studied here, the use of indoor servants declined, especially in the south. Since farms were employing fewer boys as servants, we would expect to find them employing more boys as

outdoor labourers. The second reason to expect increases in the prevalence of child labour is that between 1771 and 1831 the percentage of the population that was between the ages of 5 and 14 grew from 20.6 per cent to 24.4 per cent. (Kirby, 2003, p.27) If the probability of an individual child working did not change, an increase in children as a portion of the population should lead to an increase in children as a portion of the labour force.

I find an upward trend in the employment of boys, but no trend in the employment of girls. The trend coefficient for girls is not significant. For boys' employment, there is an upward trend which suggests an increase in 11.5 percentage points over the years between 1750 and 1850. However, since the employment of indoor servants was declining during this period, it is likely that this increase simply reflects a shift from indoor to outdoor employment rather than a net increase in the number of boys employed in agriculture.

III/C Urban and Rural Poverty under the Old Poor Law, c.1670-1790

Chair: **Richard Smith** (Cambridge)

Leonard Schwarz (Birmingham) & **Jeremy Boulton** (Newcastle)

The workhouse in the metropolis: London life in the eighteenth century?

The London workhouse was a ubiquitous institution. The capital's parishes made the move to indoor relief with alacrity following the 1723 Workhouse Test Act. By the middle of the eighteenth century William Maitland counted 50 such institutions in the metropolis:

Table 1: *Parish workhouses in eighteenth-century London*

District	Number of houses	Parish workhouses	Houses per workhouse
Southwark	14,371	9	1,597
Middlesex parishes	32,375	16	2,023
Parishes within and outside City jurisdiction	24,260	18	1,348
City of Westminster	15,445	7	2,206
Total	86,451	50	1,729

Source: W. Maitland, *Survey of London*, II, 1756 edn, pp. 1188, 1347, 1381, 1392

Parliamentary returns in 1803 suggested that between one and three per cent of the total population of London's parishes were housed in a workhouse at any one point in time. Given the much higher throughput of such institutions, experience of these institutions must have been commoner, but how common? Moreover, it is apparent from the St Martin's evidence that the London workhouse performed particular welfare and medical functions for only particular sub groups of the population. Again, it is clear that the parish workhouse was just a part of what Jo Innes has dubbed the 'mixed economy of welfare' in the metropolis. The experience of paupers must have been multi-faceted, even occasionally bewildering, as they were passed between parochial institutions, city hospitals, infirmaries and private medical institutions.

This paper aims to describe the welfare functions and medical services that parish workhouses might provide for local populations by looking at one of the best documented. This is the parish workhouse of St Martin in the Fields, currently the subject of intensive analysis as part of the ongoing ESRC Pauper Biographies Project: (http://www.staff.ncl.ac.uk/j.p.boulton/esrcframeset.htm)

We aim to set the workhouse firmly in its parochial context. What sort of people were admitted and at what point in their life cycle? How common was experience of the workhouse, and what part did the workhouse play in the 'mixed economy of welfare' in the Georgian capital city? To what extent do patterns of admission to, and discharge from, this large workhouse reflect changes in the society and economy of the metropolis?

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Steve King (Oxford Brookes)

Sickness and its relief in rural Midland and East Anglian communities, 1730-1820

This paper will draw upon material in the Joan Kent Archive and from the Wellcome Trust funded project 'Sick, poor and dead', to investigate the nature and treatment of sickness amongst the poor in rural communities, market towns and smaller urban locations from Berkshire, Northamptonshire, Norfolk, Wiltshire, Oxfordshire and Leicestershire between the early eighteenth and early nineteenth centuries. The period covers a number of key transitions in poor law history and the background conditions affecting the scale of the poverty problem: between a period of rising 'real' relief expenditure occasioned by low price inflation and rising background living standards up to 1750 and the rapidly rising nominal relief expenditure but falling 'real' expenditure of the later eighteenth century; between a period of modest population growth in the early eighteenth century and the much more rapid growth of rural and urban populations between 1760 and 1820; between a situation where Hollen Lees can argue that the claims of paupers enjoyed legitimacy in the eyes of ratepayers prior to the 1790s to a situation where that legitimacy was questioned by the 1820s; between a situation where charity and the wider economy of makeshifts might make up a significant 'chunk' of the welfare needs of poor people in the early eighteenth century to one where such avenues were increasingly denuded in the early nineteenth century, with a commensurate rise in dependence upon the poor law; between underlying agricultural systems and land organization forms; and between a pauper population that, according to many historians, was feminised in the early eighteenth century and much more family-orientated by the early nineteenth century. Considering these background conditions, our paper argues that the way in which communities of different types treated their sick poor is a key indicator of the sentiment of the local poor law, the depth of its financial resources, the ingrained biases towards or away from certain 'client' groups, and the relationship between background conditions such as population dynamics, agricultural conditions/organization, urbanization and health, and the poor law system. It then moves on to a discussion of the different approaches to defining sickness and medical relief, showing how definitional issues can influence our appreciation of the sentiment of the poor law and our colouring of the experiences of being poor. The rest of the paper will then be split into two parts. We will start with a quantitative overview of the intra-regional variations in the structure and monetary value of medical relief. The role of doctors in different sorts of rural communities will be a particular focus of attention, and this section of the paper will explore questions such as:

> Why was a consistent 25 per cent of all poor law resources spent on the sick poor in Welford, Northamptonshire, while less than five per cent was the norm in Pangbourne, Berkshire? Why might one parish enter into very early contracts with doctors whilst the parish next door continued to rely on irregulars? What was the relationship between aristocratic initiatives to distribute medicine and the treatment of the sick poor by the poor law in communities that fell under the sway of aristocratic patronage? Why did the form of medical relief vary so widely? Can we see any patterning of the scale/form of expenditure on sickness and relate this to background demographic, socio-economic, agricultural or political conditions?

The paper will then move on briefly to consider in more depth the experiences of the sick poor themselves. Using life histories detailed in or reconstructed from doctoring records, vestry records, pauper letters, surveys etc., we will focus on two sets of questions: aggregative and life-cycle. In aggregative terms we will ask: What proportion of the pauper host did the sick poor constitute and how did it change over time? What was the relationship between access to medical relief and migratory status? What was the sex distribution of the sub-group of the sick poor? How did officials count the sick poor? In terms of our life-cycle focus, we will detail some of the complex life-cycles

retrieved/reconstructed as part of the Wellcome Trust funded project and try to answer key questions such as: How did periods of sickness fit into wider life-cycles of poverty at individual and family level? Why did some families receive generous and ongoing medical relief whilst others with similar medical conditions received one-off payments? How did families and individuals cope prior to an application for communal relief and/or when their applications were turned down? How was sickness used as a bargaining tool by paupers and officials? How did the rhetoric of sickness change over time, place or the life-cycle.

Of course, we will only be able to give a flavour of the data that underpin this project, but our overall conclusion will be that the treatment of the sick poor is the key barometer of the underlying sentiment and practice of the Old Poor Law in this period of transition.

Alannah Tomkins (Keele)

Urban poverty, institutional welfare and survival economics, 1723-82

Urban poverty experienced a peculiar set of opportunities and constraints. Opportunities derived from the variety of welfare offered by institutions (in their broadest sense, not solely or chiefly as punitive structures) including infirmaries, trade guilds, friendly societies and even money-lenders. Constraints by contrast were social (related to assumptions about urban life, involving attenuated kinship networks, unfamiliarity with parish or charity personnel, and alienating procedures for accessing welfare) and administrative (for example, wherever the laws of settlement were vigorously applied despite the tightly-packed proximity of tiny urban parishes). In this way, the experience of urban poverty was discrete; this is not to discount the possibility or strength of regional flavour, that Steve King would doubtless protest, or to ignore county influence on urban life. County dignitaries and aristocratic leaders pervaded urban charitable institutions like infirmaries and injected rural, metropolitan and continental influences. Even so, highly localized characteristics of the urban welfare economy (and recognition of realistic geographical limits on the movement of some poor people) generated a particularly urban milieu for the poor. Shades of urban-ness naturally gave rise to as much difference between towns as between urban and rural settings, since market towns operated poor-law schemes, for instance, that mirrored those of rural parishes, but rapidly expanding centres such as Liverpool and Manchester were compelled by weight of numbers to innovate, expand and (regrettably, in the process) surrender the task of tracking individuals among the poor.

My research has concentrated on traditional and county towns, communities where it remained feasible to operate the poor law by retaining the parish as the unit of government (and where individual paupers are not lost in the crowd), but where local preferences could give rise to distinct variations in operation. Here, the quality of urban-ness in each location arises from the unique plethora of competing authorities that carved out a place in the welfare economy. The result was not a tidy network of welfare but a loose assembly of options, where individuals positioned themselves repeatedly to fit official, philanthropic, or casual templates of the ‘deserving’. Even where two or more organizations made a concerted attempt to work as complementary services, as was the case with the infirmary at Northampton (which actively engaged with parishes from the outset), the results were spotty. At best the urban poor achieved an attenuated series of contacts with their would-be benefactors or collaborators, visible via the compilation of partial biographies. These are not the vigorous narratives of the pauper letter, but rather the irregular pulse of poverty’s encounters with officialdom.

III/D Land

Chair: **Judith Spicksley** (Cambridge)

Ted Collins & **Michael Havinden** (Reading)

Long term trends in landownership, 1500-1914

The history of landownership in Britain has been extensively studied, but as Sir John Habakkuk, the great authority on the subject, has noted the intense complexity of the lives and interests of the major landowners has produced a lack of certainty about the course of change and continuity; and ironically, more knowledge has made the identification of the main lines of the development of the estates system more difficult. He placed some faith in regional studies, but was also aware of the pitfalls. His early research was mainly on Northamptonshire, where the structure of landownership in the eighteenth century was particularly stable, and this led him initially to underestimate the extent of changes in ownership more generally. His later work is much more broad-based, but he still emphasized the need for more research and expressed the hope that his work would make it easier to test hypotheses in a more systematic fashion.[1]

The subject is far too vast for us to be able to undertake a national study, so we have followed Habakkuk's lead with a regional analysis; but we believe we are the first to have taken such a long period of time – 415 years – and to have attempted numerical consistency by examining every manor in Berkshire and 89 per cent of the manors in Oxfordshire. This enables us to present an almost comprehensive analysis of change and continuity.

The principal hypothesis about the general course of change in landownership is that the mobility of sales was very great in the period 1560 to 1699, but was far less after 1700. Lawrence Stone in his study of the crisis of the aristocracy in the earlier period found that a national sample drawn from the Feet of Fines and the Close Rolls for 1560 to 1700 showed that in the period 1560 to 1620 the number of transactions more than doubled compared with the early sixteenth century, and that by 1700 they were back to the pre-1560 level. R.H. Tawney also found that one third of the manors which he examined in seven counties were sold between 1560 and 1640, whereas Habakkuk found a fairly stable level after 1700.[2] This is a hypothesis which we can test quite fully for Berkshire and Oxfordshire.

Habakkuk was also uncertain whether the buyers of manors were drawn mainly from those with new wealth, such as lawyers, merchants, courtiers etc, or whether they came from within the ranks of the older families, seeking to enlarge their estates or settle younger sons on the land etc. This is also a subject on which we can shed some light for our region.

It is obviously not possible for us to cover adequately the whole complex history of landownership in Berkshire and Oxfordshire. Instead we shall try to provide a broad outline of the trends and to concentrate on a few key aspects. The first of these is to provide a measurement of the extent of changes in ownership, by distinguishing between those estates which remained in one family (though sometimes passing to heirs not in the direct line of male descent, such as husbands of the owners' daughters, or nephews and cousins etc.) and those estates which passed by purchase to new owners. In the case of new owners, we shall examine some examples to assess the social status of new owners, and where possible, the sources of their wealth.

The study is based on the ownership of 477 manors in Berkshire and Oxfordshire, derived from the Victoria County Histories of the two counties. The 165 Berkshire manors cover the whole county at its pre-1974 boundaries, for example, they include the Vale of the White Horse which was transferred to Oxfordshire in 1974. The 312 manors in Oxfordshire cover the whole pre-1974 county

[1] John Habbakuk, *Marriage, Debt and the Estates System: English Landownership 1650-1950,* Clarendon Press, 1994, pp.ix-x.

[2] Lawrence Stone, *The Crisis of the Aristocracy, 1558-1641*, Oxford, 1965, pp.36-38.

except for 30 parishes in Chadlington Hundred in the northwest of the county, which has not yet been covered by the V.C.H.[3]

Richard Hoyle (Reading)
Estimating the size of the English land market, 1540-1700

In *The Crisis of the Aristocracy* (1965), Lawrence Stone published a figure illustrating the 'Mobility of Land, 1560-1699' (p.37). This, drawn in a series of suspiciously straight lines, was based on a sample of Feet of Fine taken from three English counties and the numbers of entries on the Close Rolls under the Letter 'S'. The experience of the years between about 1635 and 1665 was marked by a dotted straight line. A detailed analysis was certainly tangential to Stone's major purpose which was to illustrate the mobility of land in the early modern period. But his figures showed a doubling in the activity of the English land market between 1560 and 1620, a pronounced peak in the land market between 1600 and 1630, and a falling off so that the activity in the land market was at much the same level in 1700 as in 1560.

This paper arises from a concern to test the basis of Stone's figure with new data collected from the Feet of Fines. Feet of Fine, it will be explained, are only indirectly registers of conveyances: they are the record of fictitious suits used to strengthen a purchaser's title by voiding claims, particularly claims of rights by entail, which the vendor or his family might advance in the future. But fines were widely and frequently made in the sixteenth and seventeenth centuries (over 4,000 per year at their peak), and even if it is difficult to establish the relationship of the number of fines to the number of transactions nationally, they offer the only way of looking at movements in the national (or county) landmarket. The character of the land transferred by fine is considered.

The paper is based on a newly collected data set of the numbers of feet of fine for two counties, Kent and Yorkshire, 1540-1700, to which it is intended that data for at least one further county will be added over the next few months. Figures are also established for the number of feet levied nationally 1640-1700 (for the earlier period the numbers are estimated from the Yorkshire and Kent data, which consistently form about 15 per cent of the national total).

The data is also compared to the limited data on the number of transactions available from two copyhold manors, Earls Colne (Essex) and Slaidburn (Yorks).

A preliminary analysis of the data shows that Stone was right to identify an increase in transactions in the late sixteenth century and an early seventeenth century peak. What he failed to show was a collapse in the land market in the mid-1640s. A comparison of the county data for Yorkshire and Kent shows subtle differences in overall shape of the curve – the early seventeenth century peak occurs at different moments for instance – but that there is, and especially after 1640, a close correlation in yearly movements in the numbers of transactions in the two counties. This leads to the thought that the turnover of the land market was tied to larger issues of credit and perceived well-being in the national economy, and this is investigated further.

Amanda Capern (Hull)
Women, land and family in early modern North Yorkshire

This paper will aim to establish women's economic and social agency through land ownership (and, to a much smaller extent, rental) in early-modern England through the example of North Yorkshire. The central question that the paper will seek to answer is 'what did land mean to women?'. Through the use of strict settlement and family strategies that rendered daughters and younger sons cash-rich and eldest sons the owners of land, land came to have strong patronymic associations that might be thought to exclude women both discursively and practically in terms of their ownership. This paper seeks to challenge this version of landed property ownership in the past through presenting those examples of women who did come into land ownership, arguing that they were an important minority.

[3] Owing to the kindness of Simon Townley, the editor of the Oxfordshire V.C.H., it was possible to see the typescripts of eight parishes in Bampton Hundred (part II) which had not been published at the date of writing and Minster Lovell, a detached part of Chadlington Hundred; and also to consult the files of original notes for the parishes in the Chiltern Hundreds of Ewelme, Langtree and Binfield, whose histories have not yet been written.

Land, whether in the hands of a man or a woman, was estate which in and of itself (legally) had perpetual succession. In this sense, both male and female owners held only a bundle of temporary rights and were bearers only from one generation to the next of something 'perpetual'. It was something of a myth that land was linked in perpetuity to a [male] name (and 'blood') and the study of women, land and family is one way of laying historical reality against contemporary gender construction and social expectation. The paper will analyze women's attachment to land to answer questions about whether or not they, like the men of their families, thought of land as a 'masculine' form of property. It will do this through discussion of the family strategies that women adopted to perpetuate family name or subvert patrilineage. The paper will discuss examples of particular women – who they were, how they came by and managed their land and which family and kin members they favoured in their wills. Did they follow the male example of leaving land to men and capital to women? Recent research by Anne Laurence, Pamela Sharpe and Judith Spicksley has all pointed to the importance of what David Green and Alastair Owens (2003) have called 'gentlewomanly capitalism' or the investment by single women in particular in businesses, stocks and shares and the very personalized money-lending and banking of the early-modern period. But for women land was an integral part of the asset transactions that took place in the family at critical life stages for them such as at marriage, remarriage and widowhood. It is therefore worth asking if they made the same clear distinction between land and capital as modern historians if both were linked, for example through jointure, in the transactional exchanges that took place within families to create and artificially perpetuate male name. Land was a legal title with complex meanings; discovering how those meanings interacted with early-modern 'femininity' lies at the heart of this research and its first findings to be presented in this paper.

III/E Manufacturing Districts

Chair: **Nicholas Dimsdale** (Oxford)

Francesca Carnevali (Birmingham)

Knowledge and trust: the regulation of cooperation in industrial districts: Birmingham (UK) and Providence (USA)

By comparing the history of the jewellery making districts of Birmingham and Providence this paper seeks to answer the following questions:

- How is knowledge shared between agents who are also competing with each other?
- How do small firms learn to trust each other and why is this trust important in reducing contractual hazards?
- Can governance structures help set up trust based relations and reduce transaction costs by reducing the impact of opportunistic behaviour?

The jewellers of Providence, the capital of the state of Rhode Island, on the East coast of the United States, can be defined as 'networked specialists' competing and cooperating in a well-defined area. The prosperous 1880s-90s were followed by decades of decline as the trade collapsed under the pressure of opportunism, design copying, interfirm suspicion and price shaving. The paper details how these evils destroyed the craft nature of the industry and in the long run generated negative externalities, even while the industry was growing in terms of output and of the number of firms. This pattern of spiralling, ruinous competition has been explained as the consequence of 'the evils of overcompetition, derived from the jewellery sector's own structure and technical capabilities'.[1] Structure and technological capabilities, however, might not be the reason for Providence's decline. By looking at the Birmingham jewellery trade it is possible to see that, though the structure of the industry and its technical capabilities encouraged competition, they did not make ruin inevitable. Despite suffering from the same contractual hazards as Providence in the late nineteenth century, Birmingham's jewellers were able to create governance structures to regulate competition (without price fixing) and promote cooperation. From the late nineteenth century through to the troubled inter-war years and the economic recovery of the 1950s and 60s the *Birmingham Jewellers' Association* created mechanisms to allow firms to reduce the risks associated with the fragmented structure of the industry. The activities of the Association ranged from credit checks, design theft prosecution, debt collecting, workers' training, political lobbying at a national level, to schemes for firms to share machinery. Thanks also to the activities of the BJA the district prospered, maintaining its distinctive productive structure. Though after the Second World War the number of firms declined, there was no concentration and the district maintained its distinctive productive structure. Jewellery is the Midland trade which has survived longer than most of the region's manufacturing industries.

In Providence similar attempts at associating failed. Following from this failure to establish internal forms of governance, the district started losing its structure and the craft based character of its production. While after 1945 the Birmingham district responded successfully to changes in the consumer market the Providence district, instead, went into terminal decline. Some established large firms continued to expand but outwork and start-ups continued to proliferate. By the 1960s the number of firms had decreased while the surviving firms had become bigger but trapped in a low-wage, low-quality equilibrium, under the pressure of foreign competition. By the 1970s the trade had become the symbol of the general collapse of light manufacturing in New England.

This paper compares the historical development of the two industrial districts to identify what factors allowed cooperation to flourish in Birmingham and not in Providence and what impact this had on the industrial structure of the two districts.

Debin Ma (London School of Economics)

[1] P. Scanton, *Endless novelty*, p.244.

Competition and growth: Japanese and Chinese silk reeling industries, 1860-1937

Raw silk was the most important export commodity for China and Japan in the late nineteenth and early twentieth centuries, accounting for approximately 20 to 40 per cent of their total exports. In 1873 China exported three times as much raw silk as Japan, but by 1905 Japanese raw silk exports exceeded the Chinese. In 1930, Japanese raw silk exports tripled those of China.

Behind this dramatic reversal of export performance lie some fundamental differences in the evolutionary paths of these two national industries in a span of four decades. On the technology side, the Japanese silk reeling industry successfully evolved from an initial imitator, to an adapter of European technology, to eventually becoming the world's leader in silk reeling machinery in the 1920s and 1930s. China, however, remained largely as an imitator and adapter of foreign technology throughout the entire period.

During this period, the institutional structure of Japanese silk reeling firms went through several phases of transition from rural co-operatives, to family firms, to modern corporations. Distinctive of the Japanese silk reeling industry was the emergence of several large-scale, multi-national, vertically integrated silk reeling conglomerates around the turn of the last century. They were the pioneers of major technological and institutional innovations. These leading firms co-existed with a large number of highly competitive small reeling firms spread all over the country.

The case of Chinese silk reeling firms presents an interesting contrast. There was no cluster of a few giant silk reeling firms. The firm sizes, in comparison with those in Japan, were relatively uniform. In particular, a form of machine and factory rental system began to dominate the Chinese silk reeling industry. Under this system, owners of reeling factories would rent out their machines on an annual fixed fee. The separation of ownership and management was considered as an inhibiting factor to technological innovation.

Using both Chinese and Japanese sources, this paper constructs time series indices for capital labour ratio, partial and total factor productivities, average firm size, concentration ratio and ownership types for both Japan and China in the first three decades of the twentieth century. These statistics along with a comparative narrative are to show that the contrasting performance of these national industries is largely a consequence of the drastically different political and economic reform policies pursued by China and Japan since the 1860s. The development of the Japanese silk reeling industry benefited directly from the Meiji legislatures on the protection of private enterprise, joint stock corporation and industrial patents, the promotion of industrial associations. The rapid build-up of modern transportation and communication and a national banking system in Japan also contributed significantly, in particular, to the rapid decline in barriers to learning and economy-wide transaction costs. Political and economic reforms, after many twists and turns, began to take hold in the early twentieth century and eventually contributed to a spectacular catch-up with the Japanese silk reeling industry in the 1930s. This again supports my argument for linking industrial competitiveness with economic policies.

Alfred Reckendrees (Cologne)

Diverse paths to factory production, 1780s-1840s: the woollen cloth industry in the West Riding of Yorkshire and in the West of the Rhineland (Prussian Rhine-Province)

The implementation of the factory system in the two regions of the West Riding and the West of the Rhineland followed different lines. The differences can be explained by the structure of the respective traditional systems of cloth production and different types of products, the similarities by production costs and changing market conditions.

The emergence of the factory in the cloth industry of the West Riding was related to the scribbling and fulling mills of the 1780-90s. The scribbling mills concentrated on the production of slubbings; these were processed to yarn by domestic spinners (who mostly owned little spinning jennies). Most of them worked on behalf of clothiers, others sold yarn on the market. The rate of vertically integrated firms was relatively low, yet since the beginning of the nineteenth century an increasing number of firms operated on a large scale. However, one of the characteristics of the West Riding's structure was the great number of firms working on only one or two stages of production

(scribbling and fulling mills); these mills still acccounted for 50 per cent in the 1830s. In spite of conflicts concerning the quality of work between the clothiers and the runners of the fulling mills or the dressing masters, this traditional industrial division of labour was preserved until the middle of the nineteenth century.

In the West of the Rhineland two different systems of industrial cloth production emerged since the 1810s. The dominating system was the vertically integrated "cloth factory" established in Aix-la-Chapelle and Düren where the firms processed raw wool to woollen yarn, wove the cloth, finished it to fine woollen cloth, and brought it to the international markets (Düren national markets) by own sales agencies. The industry of the Rhineland took the advantage of an industrial latecomer as explained by the concept of *"economic backwardness"* (Gerschenkron). In the first two decades of the nineteenth century the emerging factories implemented up-to-date factory equipment consisting (a) of complete sets of spinning machines comprehending the willy, scribbling and carding machines, slubbing billys and spinning jennies and (b) of gig mills, shearing frames, pressing machines, gas heating etc. Labour conflicts regarding machinery were temporary. Woollen yarn was seldom sold or bought because the quality of yarn was not as easy to prove as the quality of raw wool. This changed with standardization and testing instruments introduced in the last third of the nineteenth century. Specialized spinning firms emerged in the 1860s. The spinning firms produced for textile mass markets. They were increasingly employed by "cloth factories", and by new firms that just like modern trademark firms did not own any production units (*betriebslose Unternehmen*).

The second industrial system of production developed in the towns of Burtscheid and Eupen where firms were more specialized. Based on sufficent water resources firms for scouring (carbonization) were established in Eupen and also mills that dyed cloth on behalf of clothiers of neighbouring towns. Some freestanding spinning factories in Eupen worked for the small clothiers of the region, and they produced special yarn for mixed cloth. Other firms concentrated on dressing; these employed spinning factories for spinning the raw wool they had bought, sorted and scoured in order to secure the quality of the product. They employed putting-out weavers to whom the local market did not offer any other labour (different to Aix-la-Chapelle and its industrialized hinterland). From the 1830s onwards the number of integrated cloth firms in Eupen increased. The local system of cloth production was based on medium qualities and it was closer to the characteristics of the industrial system of the West Riding than to the characteristics of the fine-cloth industry of Aix-la-Chapelle. Different from the development of the West Riding, where the substitution of labour by machines did change the industrial division of labour only to some degree (spinning mainly remained with the domestic industry). Domestic spinning in Eupen was completely replaced by independent firms that produced woollen yarn for the regional cloth industry.

Henderson's view that *'only slow progress was made in extending the use of modern machinery in the German woollen and worsted industries'* does obviously ignore the "economy" of the woollen cloth industry. Of course, the Rhenish industrialists followed the British "role model" with a time-lag of 25 years, but progress was not slow. Industrialists rather modernized production quickly, if they expected a "return on investment" and if the new machines were ready for fine-cloth production.

The implementation of machinery into the different industrial systems of the West Riding and the Rhineland was based on productivity increase and resulting cost advantages; and the transition to the factory cannot be sufficiently explained by the concept of transaction costs. Reduced transaction costs that resulted from the vertically integrated factory were less important than the reduction of production costs. The different developments in Aix-la-Chapelle (industrial labour markets) and Eupen (rural hinterland) indicate that factor costs have been most important. The Marglin hypothesis of "factory control" does also not comply with the evolution of the cloth factory (it is however applicable for the centralized manufactures in the eighteenth century).

The development of the international cloth markets and the developing industry of North America was an important factor for strengthening the firms' respective competitive advantages. The West Riding, for example, suffered more from competition of worsteds and cotton textiles than the fine-cloth producers of the Rhineland. If the conclusion is correct, the markets supported the tendency: (a) towards mass production of medium (and lower) quality cloth in the West Riding and (b) towards

fine-cloth production in Aix-la-Chapelle. These had already been the “typical” products of the “pre-industrial” period. The firms of both regions appear to have “preferred” moving forward on their respective historical path and competence.

III/F Women and Informal Economies in Port Cities

Chair: **Roey Sweet** (Leicester)

Sheryllynne Haggerty (Nottingham)
Women, work and income opportunities in eighteenth century Atlantic port cities

She washi off an scrubi off, she
Dragi dunga gate,
She stock it our wid half her lunch
An start fe speculate[1]

As suggested in the quote above, Miss Fan, although most probably a black Caribbean woman, in some ways represents the archetypal woman in any port. Women's income opportunities in ports were mostly entrepreneurial. At whatever socio-economic level, women had to use all their wits to start up a business, to speculate. The poverty of many women is also highlighted; half of Miss Fan's lunch represents the very small capital with which many women would have had to start their business. Female access to capital and credit, in conjunction with social mores, meant that they often had limited access to income opportunities. However, with husbands and fathers often absent at sea, women still had to fend for themselves and their families.

This paper is derived from a larger study which compares and contrasts women's work opportunities within three British-American port cites: Philadelphia, Charleston and Kingston. The fact that these cities were not only urban, but colonial ports within the British Atlantic, determined the structure of their economy. These in turn affected the legal structure, immigration, reliance on slavery and attitudes towards race and what was suitable employment for women. Living and working in a port city therefore presented women in these cities with particular problems and opportunities, and provided yet another layer of circumstances upon those experienced by women elsewhere around the Atlantic littoral.

Whilst many women in port gained an income from shopkeeping, keeping boarding houses or running inns, this paper will investigate some of the ways in which women overstepped the bounds of accepted behaviour, and became 'disorderly' in order to provide a living for themselves and their families. After all, the less fortunate still had to find other ways of securing an income. For example, Ann Smith, a free mulatto of Kingston was convicted of stealing clothes in 1781 and Margaret Cook of Philadelphia was accused of entertaining whores and vagabonds.[2] Female entrepreneurs were seen at all socio-economic levels; this paper will investigate what women did to survive at the lower-end of the socio-economic scale.

Steve Poole (West of England)
'The uncertain wages of promiscuous intercourse': disorderly women in eighteenth century Portsmouth

In many eighteenth century English towns, prostitution played at least an occasional role in the broad domestic economy of the labouring poor. But port cities supported a particularly lively market for sexual commerce, due partly to a constant supply of well-paid transitory workers and mariners in pursuit of promiscuous liaison, carousing places and strong drink, and partly too to the circles of relative social anonymity in which many migratory workers were able to move. Married men who made a living from the sea were regularly away from the domestic sphere for months at a time, and their wives and offspring accustomed by necessity to diverse strategies for 'making do'.
As a rapidly expanding naval port and garrison town, eighteenth century Portsmouth experienced urban growth on a scale that posed enormous difficulties for its administrative infrastructure. The logistical

[1] "Tun Yuh Han", verse in Louise Bennet, *Anancy Stories and Dialect Verse* (Nendeln: Kraus Reprint, 1973), p.82.
[2] My thanks to Dr Jonathon Dalby of the University of West Indies for references concerning Kingston crime; Peter Thompson, *Rum Punch and Revolution: Taverngoing and Public Life in Eighteenth-Century Philadelphia* (Philadelphia, University of Pennsylvania Press, 1999), pp. 44-45.

impracticalities of imposing authority upon the disorderly streets of the Point in particular, compromised the efforts of the Corporation to remove disorderly migrant women under the vagrancy laws and ensured a working space for prostitution and petty crime in streets crammed with cheap lodging houses and low taverns, and thronging with demobilized sailors. Taken together with a complete absence of watchmen in the old town for much of the century, the tendency for prosecutors and witnesses of petty crime to be called away to sea lowered conviction rates for petty theft and strengthened the grip of poor migrant women at the margins of the port's informal economy.

The Corporation was not entirely acquiescent, but the means by which it occasionally asserted moral authority only amplified the difficulties of policing the town effectively. A remarkable series of vagrancy examination papers in the city archive reveals a spate of raids on disorderly houses and a general rounding up of prostitutes; not in the streets of the Point in which prostitution was endemic however, but in a peripheral group of lowly lodging houses on the outskirts of town and far away from potential interventions from sailors. Despite a paucity of interference from the magistracy however, the 'uncertain wages of promiscuous prostitution', as one newspaper put it, were often hard won in the violent masculine culture of the Point. Finally then, this chapter pieces together the fragmentary biographies of some of the women who made a life for themselves in social conditions that were inseparable from the town's status as an ancient port and finds a number of them fully assimilated into a rough and physical culture that owes little to fashionable historiographical notions of sensibility. Some lasted no more than a few months, but the continuous presence of others can be traced through their frequent court appearances for disorder, theft and assault, over a number or years.

Conventional histories of the poor, often dominated by a concern with institutional quantitative evidence, have sometimes marginalized or overlooked the qualitative everyday struggles for survival of labouring women. But in this English provincial port, the survival strategies of poor migrant women reveal a great deal about the relationship between civic governance, marginal economies and the fluidity of gender norms.

Jon Murden (Liverpool)

The 1972 Kirkby rent strike: dockland solidarity in a new setting?

Since 1945 Liverpool and its dockland have changed almost beyond recognition. Devastated by war and then transformed by post-war strategies to address some of the appalling social conditions, initiatives to attract industry to the area and the registration of dockers with schemes to decasualize port employment, the economic, social and cultural life of the dockland has been turned upside down. One of the most significant changes however, has come with the attempts to tackle the enormous problem of housing. Slum clearance programmes decanted many thousands of families from dockland Liverpool to purpose built overspill estates on the outskirts of the city. One of the most significant of these outer developments was Kirkby, located at the northwest edge of the city. This was a village of around 3,000 inhabitants in 1939, which by 1961 had grown to become a new town for over 50,000. Ultimately envisaged as a self-sustaining community with its own economic, social and cultural functions, Kirkby's further expansion was ensured when in 1965 Liverpool Corporation committed itself to the clearance of another 30,000 'unfit' dwellings, mainly from the traditional dockland areas.

The growth of Kirkby was not without its difficulties. It has often been cited as a classic illustration of the failures of planning and mistaken overspill development. The image of a tough community, uprooted and placed by an uncaring local authority in a bleak estate with no facilities or services, suffering high unemployment and racked by vandalism was a caricature, but nevertheless contained elements of truth. Problems with housing in Kirkby, particularly the poor quality of design and construction combined with a long backlog of repairs, were manifest from the earliest days. On the whole women were left with the responsibility of tackling the local authority about these problems in what were predominantly family homes. Furthermore, when in the early 1970s factory closures and growing unemployment further threatened Kirkby, women on the Tower Hill estate formed a discussion and support group to help themselves and their families through the crisis. However, when the 1972 Housing Finance Act resulted in a further £1 rent rise, this brought grievances that had been

bubbling under for the previous decade to a head. The women formed an Unfair Rents Action Group and responded by organizing a 14-month long rent strike.

Kirkby therefore provides a key case study for the historian attempting to analyze the response of an ex-dockland community to re-location in an overspill estate and important evidence concerning the transference of elements of dockland life. Militant collective organization, most usually associated with rank-and-file dock trade unionists, was clearly transferred out of dockland. It no longer remained the preserve of male members of the household however. In the new setting of the overspill estate, women recognized the value of the militant tradition. Outside of the labour movement or the factory floor, women in Kirkby mobilized to forge their own solidarity and collective organization. This movement sought not only to benefit the household economy through the fight against unfair rents, but for a time would also campaign for the benefit of the whole community. Traditional dockland militancy and community solidarity had clearly evolved to remain of use in its new location.

IV/A Securities Markets

Chair: **Francesca Carnevali** (Birmingham)

Leslie Hannah (Tokyo)

The market for domestic corporate securities in the USA, UK, Japan and Continental Europe, 1900-30

Economic historians have understandably written of capital markets before the First World War largely in terms of *foreign* investment and globalization. This paper seeks to examine the contrasts in the *domestic* capital markets for business enterprises in a comparative framework.

The starting point is an estimate of the market values of outstanding corporate *non-railway* securities at the beginning of the century. Domestic *railway* securities were important in both London and New York (and to a lesser extent in Paris), but a case can be made for considering them separately. First, the dominance of state railways removed the most capital-intensive contemporary corporations from the influence of the equity markets in many continental countries, and, even in France, the capital of the private companies was guaranteed by government, so French railway companies raised a lot of fixed interest capital and only limited equities. Second, the regulatory regimes and technical and market conditions for railways were by the 1890s sufficiently distinctive that, except in America, where railroads routinely defaulted, investors sensibly treated even their equities as information-rich and quasi-safe securities.

The market for domestic non-railway securities appears more speculative and difficult for investors to understand, yet it was much better developed in Europe than in the United States at the beginning of the twentieth century. At that time, the US GDP was about the same as Britain's and Germany's combined, but the total market value of corporate non-railway equities was $1,624m in London against only $1,064m in New York (about the same as Paris's $1,073m and Berlin's $1,016m, though bigger than Italy's $227m). New York's surprisingly small total can partly be explained by the greater importance of regional exchanges and the American preference for corporate bonds over equity. However, a major reason for the small relative size of the New York Stock Exchange was the unwillingness of the families controlling large corporations like Singer, Standard Oil, Procter & Gamble, Du Pont, International Harvester and Carnegie Steel to accept the New York Stock Exchange's listing requirements, particularly in regard to publication of accounts and the reduction in family shareholding. In continental Europe, the commercial codes, under Roman law, generally specified accounting requirements for limited liability companies, so that it was impossible for limited liability companies to preserve accounts secrecy as in the USA. In the UK, the stock exchange had already mainly persuaded quoted companies to publish accounts when the state formally required audits in the 1900 Companies Act. Most large UK quoted companies had already reduced the family shareholding to below 33 per cent, though family shareholdings above 50 per cent remained the norm in US industrial corporations in the first decade of the century. Although American corporations increasingly volunteered to accept the NYSE's accounting requirements in the first three decades of the century and thus did obtain New York listings, parallel legislation requiring publication of accounts in the USA did not occur until the 1930s. It was only then that Berle and Means in America could plausibly celebrate the divorce of capitalist ownership from managerial control that had occurred earlier and more widely in Britain and France.

The view that America and Germany pioneered professional managers in widely held firms, while France and Britain were the preserve of family owners, and that this was a major determinant of their economic performances, is a pure fable, which owes more to declinist perspectives in the latters' historiographies and triumphalist Whiggish misinterpretations in the former, than to any real differences in the development of their quoted company sectors. Britain declined, despite having the best stock exchange in the world, and America succeeded, despite starting the twentieth century off with one of the worst. Why French historians see the need to explain why their economy was less "modern" in stock exchange matters than Germany's in this period is even more mysterious, since

France's economic performance (growth in GDP per head) was better than Germany's and almost as good as America's in 1900-29.

David Chambers (Oxford)

IPOs by Tender Offer on the LSE, 1961-86: a case study in British capital market failure

In June 1961, a small property developer, Parway Land and Investment, was advised by its bankers, Kleinwort Benson, to adopt a new method of listing for its shares on the London Stock Exchange (LSE), the tender offer. This initial public offering (IPO) was a success. All shares were successfully sold and the share price rise on the first day of trading was a modest 14.3 per cent compared to an average 23.5 per cent rise on all previous IPOs year to date. The price rise in initial trading over the offer price is called "underpricing", one important benchmark of IPO market efficiency. It is a measure of how accurately the advisers to the issuing firm are able to gauge the valuation placed by public investors on its client. Shortly after this first IPO, *The Times* put the case for tender offers in preference to the traditional fixed-price offer, a case which was subsequently strengthened by the findings of the first British empirical study of IPO underpricing. Yet, despite such advocacy and the substantially lower underpricing delivered by tenders over the following years, this innovation was adopted by fewer than one in 10 firms going public over the period to the last quarter of 1986, when the last IPO of a private firm by tender offer occurred.

The debate as to how well the financial sector served industry is a long-running one in British economic history. Allegations of capital market failure include domestic investor bias before 1914 and again in the post-1945 era, inadequate financing of small firms, an inability to restructure inter-war staple industries, and, more recently, the short-termism exhibited by institutional investors. Claims of investor bias and short-termism are contentious, whilst the Macmillan gap disappeared by the end of the 1950s. Equally, the failure of banks to restructure industry has been subject to the revisionist interpretation according to which Britain had decisively committed itself to a market-orientated financial system by the inter-war period with industry dependent upon the stock exchange rather than the banking sector for investment capital. Indeed, in the case of a rapidly expanding industry such as brewing, the stock market was already providing long-term finance in greater quantities than more traditional bank debt before WW1. During the inter-war years, there emerged a growing appetite for ordinary shares on the part of a new breed of institutional investors which ultimately propelled institutional ownership of UK shares above that of retail investors by the mid-1970s. Issuing firms responded to this emerging appetite by selling ordinary shares rather than preference shares or debentures.

Against this background, the leading issuing houses, the merchant banks, were slow to switch from underwriting foreign loans and bonds to underwriting industrial ordinary share issues and did not commit to the latter business until the formation of the *Issuing Houses Association* in 1945. As IPO activity strengthened during the early 1960s, this new underwriting business became an increasingly important and profitable activity alongside merger and acquisition advice for corporate finance departments. Firms going public, however, did less well when judged by the rising degree of underpricing and the failure to adopt the tender method.

As the twentieth century progressed, the LSE adopted an increasing number of anti-competitive practices, a trend which culminated in referral to the Monopolies and Mergers Commission in 1973 and increasing pressure from the government upon the LSE to open itself up to competition. Consistent with this overall tone to LSE business, both the underpricing evidence presented here, the fixed nature of underwriting fees and the excess underwriting profits made by financial institutions draw particular attention to fact that the issuing houses were also subject to modest competitive pressures prior to the deregulation of the LSE, known as Big Bang, in 1986. As a result, the tender offer remained underutilized at a cost of £1.4 billion in 2004 prices to private firms going public in proceeds forgone. An earlier study has concluded that the government also left £1.9 billion on the table at 2004 prices by not employing the tender offer more frequently than it did. Significantly, in the post-Big Bang era, the less efficient fixed-price offer method died out and was replaced by bookbuilding, an alternative method to the tender offer, under the competitive threat from US investment banks.

The missed opportunity of the tender offer provides evidence of the difficulties faced by post-war Britain, when confronted with now familiar asymmetric information and agency problems between firms and investors, in developing a market-oriented approach to corporate finance to set alongside the well-documented problems of corporate governance and inefficiencies in the merger and acquisition process. This instance of capital market failure is as much about a lack of competition in UK investment banking as it is about information asymmetry problems. In this respect and notwithstanding a creditable overall export performance, the lack of competition and innovation in IPO underwriting by investment banks in this period was in keeping with the conclusions regarding the overall performance of British industry from the analysis of Broadberry and Crafts (2001).

IV/B Two Great Divergences

Chair: **Jane Humphries** (Oxford)

Jan Luiten van Zanden & **Tine de Moor** (Utrecht)

Girl Power: the European marriage pattern (EMP) and labour markets in the North Sea region in the late medieval and early modern period

The late middle ages have been coined as the 'golden age of the craftsmen', but perhaps it was even more a 'golden age' for women wishing to be active on the labour market. In the North Sea region, relative earnings were high, and access to the labour market was easy, although they still had serious handicaps compared with male members of the labour force. Similarly, during the twentieth century the same trends – increased relative pay and increased female participation in the labour force – were driving forces behind the process of emancipation of women, which accelerated in times of labour scarcity (during the two World Wars and during the period of rapid economic growth after 1950).

In this paper the influence of the peculiar marriage pattern that developed during the late middle ages on the divergent development of the Low Countries and England is discussed. A rather odd combination of forces – the preaching of the Catholic Church, the system of intergenerational transfers, the expansion of the labour market and the effect of the Black Death can explain why these regions developed what has been termed "the European marriage pattern" (Hajnal 1965, 1982). It was characterized by relatively low levels of authority and power – of parents over their children, and of men over women – which fits into the more general stream of 'democratic' institutions that is to some extent characteristic for the (late) middle ages, with its flowering of 'representative' institutions such as estates and city councils. The emergence of the EMP had important long-term consequences such as a dramatic change in the income transfers between generations, increasing investment in human capital and the development of institutions of social welfare.

Kent Deng (London School of Economics)

The Nanking Treaty System: the limits to institutional change and improved economic performance

Before 1840, China had a traditional economy with three inter-linked components: customary, command and market in a structural equilibrium with which the customary component dominated the economy and dictated China's growth trajectory. China's markets were fragmented, currencies heterogeneous, merchants weak, commercial capital investment small, and transaction costs high. China's foreign trade was for a long time 'silver-pulled' by the outside world.

The opium trade changed this pattern. China's foreign trade became 'consumer goods-pushed'. This did not go well with the Qing state and the Opium War was fought in 1839-40 by the British to remove China's resistance. The real victory for the West was The Treaty of Nanking (1843) which assured commercial property rights and basic market conditions for foreign traders operating in China.

During the following decades until 1894, the consequences, some un-intended, of the treaty included: (1) a new liberal ideology which identified modernization with Westernization, (2) new institutions to recognize and protect commercial property rights, (3) new agents, new networks and new investment behaviour to match a new market growth, (4) lowered transaction costs for the economy to operate with, (5) new production function to fuel the new trade growth, and (6) a new consumption pattern to cash in what the new market growth delivered.

In the end, the market component outperformed the other two components of the economy, becoming stronger.

IV/C Early Markets and Business

Chair: **tba**

Oliver Volckart (Humboldt, Berlin)

Information costs and the gold market in fourteenth to sixteenth century northern Europe

In recent years, the issue of medieval market integration has been receiving increasing attention. Usually, the relevant studies focus on markets for goods where prices have been preserved in a sufficient density, for example, grain. By contrast, the present paper examines the integration of the gold market. The aim is to determine how important information costs were in this context. The market for gold is particularly suitable for such an analysis because there was hardly any commodity which had a higher value per unit of weight. Consequently, it can be assumed that for the integration of the gold market, the relevance of transport costs was relatively small. That of information costs, however, was probably larger than for other markets, for example, those for goods such as grain, whose value per unit of weight was small.

As yet, the level and the development of information costs in pre-modern Europe has not been studied in detail. This is probably due to the fact that information is an intangible good which is difficult to pin down. To make information costs more manageable, they are here split into their constituent components, i.e. into the costs of encoding and decoding information, the costs of storing it, and the costs of transmitting it between localities. The analysis concentrates on the latter component – on transmission costs – which is of particular importance where the integration of spatially segmented markets is concerned. Measuring these costs is relatively unproblematic. The basis is provided by the civic accounts of the city of Hamburg (1350-1562) which contain year-by-year information about where civic messengers were sent and how much they were paid for their missions. These data are used to establish how the wages which messengers received developed, the analysis concentrating not on the total costs of transmitting information between specific localities, but rather on the per-kilometre wages. These wages are used as a general proxy for the costs of transmitting information. The analysis shows that in contrast to what has hitherto been assumed in the relevant literature, the development of information costs was primarily driven neither by institutional nor by technical changes. Rather (transmitting information being extremely labour intensive and very little capital intensive), the costs involved can be largely identified with labour costs and were subject to the same influences as these: The supply of labour was of decisive importance.

Next, the integration of the Northern European gold market is studied. This is done by examining gold prices in several cities with which Hamburg traded, and by applying the approach common in integration studies: It is asked whether and how far the Law of One Price held for gold. As most gold was traded not in the form of bars or ingots, but rather in that of coins, gold-silver ratios are used as proxies for gold prices. They are established on the basis of exchange rates of gold for silver on the one hand, and of information about the bullion content of the coins which changed hands on the other. In this way, it is possible to determine how the local gold-silver ratios changed over time and how far they deviated from the ratio valid in Hamburg, large deviations indicating market imperfections, while small ones show that the market was well-integrated.

Finally, these deviations are related to the level of information costs. As gold prices are expressed in silver units, the analysis is based on silver wages per kilometre. In order to make the results of the regression more robust, panel data are used (the analysis makes a distinction between per-kilometre wages paid to several types of messengers; these types define the groups in the panel). Also, a number of additional variables are included, among which the existence of a currency union linking Hamburg and some neighbouring cities and the quality of the infrastructure between the cities (having access to the sea is used as an indicator of good communications) are most important. Results indicate that being a port city and a member of the currency union with Hamburg tended strongly to decrease deviations between local gold-silver ratios. In other words, the gold market was better integrated where the same currency was used and where sea transport could be employed. More importantly, the regression also shows that, just as expected, higher messenger wages per kilometre

were strongly and significantly (at one per cent) correlated with larger deviations between local gold-silver ratios. Hence, the costs of transmitting information had a strong impact on the integration of the gold market: high costs impeded integration, while low costs favoured price convergence. Thus, the analysis fully confirms the hypothesis which the study set out to test.

Helen Paul (St Andrews)

The South Sea Company and the Royal African Company's combined slaving activities

The South Sea Company is known primarily for giving its name to the South Sea Bubble of 1720. Its role in restructuring the National Debt has received attention from financial historians. However, its slaving activities are less well known. It had a monopoly right to trade slaves to Spanish America under the *Asiento* contract. Many historians have assumed that this trade was negligible or that the company was not interested in carrying on the trade. There are two main reasons why the company's slaving activities have been overlooked. Firstly, the South Sea Company's own books were largely destroyed. Secondly, many myths have been built up around the South Sea Bubble which financial historians have countered with evidence from the stock market itself. Aspects of the South Sea Company's existence which do not directly involve the stock market or the Bubble period are not given the same degree of attention. The company did ship thousands of slaves to Spanish America and used another British joint-stock company, the Royal African Company, as a provider of slaves.

The Royal African Company's history has been well documented up until the *Asiento* contract. The Royal African Company's monopoly on sales of slaves from part of the West African Coast had been rescinded at the end of the seventeenth century. It faced competition from other English traders. It has often been assumed that the Royal African Company simply gave way to the South Sea Company or to other traders around the time of the *Asiento*. In fact, the Royal African Company did not wind down its operations until the middle of the eighteenth century. This paper puts forward evidence that the South Sea Company and the Royal African Company cooperated to furnish slaves to the 'New World'. The main sources used are the Royal African Company's own minute books and Eltis *et al*'s database of transatlantic slaving voyages. Contracts and receipts which passed between the companies provide a great deal of information regarding the trade. They shed light on the workings of the two companies, the scale of their operations and the level of cooperation involved. This evidence counteracts the assumption that both companies were relatively inactive in slaving during the first decades of the eighteenth century.

IV/D Law and Economics

Chair: **tba**

Matthew Badcock (Central England)
Electoral distortion? Disproportionality and bias in the British electoral system, 1832-1910

The period between the First Reform Act in 1832 and the outbreak of World War One saw significant changes to the British electoral system. Legislation expanding the franchise, introducing the secret ballot and seeking to curb the levels of corrupt expenditure among candidates was accompanied by the growth in importance of the of 'the party' within British politics. Although each of these areas has attracted a large degree of interest within British political history, the electoral system itself has been particularly neglected. As the mechanism through which the democratic sentiment of the electorate could be expressed, this paper argues that the operation of the electoral system – and the impact of all these changes upon it – deserves to be examined more fully as part of the history of political reform in nineteenth-century Britain.

The principal argument of this paper is that the British electoral system treated, firstly, the votes of electors and, secondly, the parties, disproportionately and differently. In 1832 both the Conservative and Liberal 'parties' received a share of seats in parliament that was virtually equal to the share of the vote they achieved. By the 1886 general election, however, there was an increasing disparity between vote and seats shares: the 45 per cent share of the vote recorded by the Liberals translated into only 29 per cent of the seats; at the following election, in 1892, an increase of 0.1 per cent in their vote share resulted in 41 per cent of the seats in parliament.

While the first part of this paper reviews the basic quantitative evidence for disproportionality in the operation of the electoral system, the second, main section presents an analysis of the degree of bias inherent within it – that is, the extent to which the system favoured one party over another. Using a method developed by Brookes (1959; 1960), and subsequently applied to post-World War Two British general election results by Johnston, Rossiter and Pattie (1999), it is possible to calculate what the situation would have been if the two main parties had achieved the same number of votes, as well as the sources of this bias. Based on the results of each individual county contest between the 1832 and December 1910 general elections, constituencies that are commonly perceived to be the electoral base of the Conservative party during the nineteenth century, this analysis finds that the electoral system strongly favoured the Liberal party. In 1868, for example, if the two parties had achieved equal shares of the votes cast, the Liberals would have had at least 20 seats more than the Conservatives. By the end of the nineteenth century, however, the degree of bias had decreased significantly, a trend that ran counter to the increasing disproportionality of the votes to seats relationship.

In sum, this paper offers three main arguments. Firstly, the nineteenth century electoral system produced disproportionate results, with parties failing to achieve the same share of parliamentary seats as they did votes. Secondly, the same share of the votes cast could result in substantially different shares of the seats. Finally, and most significantly, the electoral system operated in such a way as to favour the Liberal candidates over their Conservative counterparts.

Dan Bogart & **Gary Richardson** (California, Irvine)
Law and economic development in Britain: new evidence from acts of Parliament, 1600-1815

How did the central government, and in particular Parliament, contribute to economic growth in Britain during the seventeenth and eighteenth centuries? Economic historians have approached this question from many perspectives. Some have taken a 'macro' approach by focusing on changes in taxation and the security of property rights following the Glorious Revolution of 1688-89 (O'Brien, 1988; North and Weingast, 1989). Others have taken a 'micro' approach by focusing on particular legislation, such as Enclosure Acts, Incorporation Acts, and Turnpike Acts (Allen, 1992; Harris, 2000; Bogart, 2005). There is no study, however, which examines all legislation related to the economy.

There are several studies documenting the tremendous growth in legislation during the eighteenth century. For example, Julian Hoppit (1996) has shown that 564 Acts were passed between 1660 and

1688 in comparison to 1,752 Acts between 1689 and 1714, and 8,351 Acts between 1760 and 1800. Hoppit also assigned each Act to separate categories and found that most fit into the Personal, Economy, and Communications categories. Hoppit did not examine in detail how these Acts influenced the economy, but he suggested they were of fundamental importance for understanding Britain's economy.

In this paper, we build on Hoppit's work by analyzing the changes in economic legislation between 1600 and 1815. We have collected a data set of the titles of all Acts of Parliament between 1500 and 1900, but our initial analysis focuses on the period between 1600 and 1815. To analyze the trends we assigned each Act to 10 mutually exclusive categories: constitutional, government finance, foreign, domestic regulation, religion, criminal, personal, enclosure, statutory authority, and miscellaneous. Constitutional Acts related to the authority of the Crown, Parliament, courts, or county and local governments. Government finance Acts related to taxation and public debt. Foreign Acts dealt with colonies, trade, and other countries. Criminal Acts changed the criminal code. Domestic regulation Acts created or altered regulations in manufacturing, finance, transport, agriculture, or other sectors. Religious Acts pertained to the rights of religious groups. Enclosure Acts divided and enclosed common fields, pastures, marches, and wastes in parishes. Statutory Authorities Acts created organizations that provided public goods or services by levying user-fees and other taxes. Personal Acts changed the rights of individuals, particularly with respect to their estates.

Some Acts are difficult to assign to a category, however, in most cases the subject matter can be easily identified from the title. For example, enclosure Acts have a standard format in which they state the parish where lands will be enclosed. Personal Acts are also standard in that they name an individual and the specific change in their rights.

Our analysis confirms there was a tremendous growth in legislation during the eighteenth century. Specifically there were 1,796 Acts in the seventeenth century versus 12,851 Acts in the eighteenth. The evidence also reveals a sharp increase in legislation following the Glorious Revolution of 1688-89. There were 715 Acts passed between 1660 and 1690, compared to 2,004 Acts between 1691 and 1720. Legislation also expanded after 1750 when the economy began to grow more rapidly. The number of Acts increased from 2,060 between 1720 and 1749 to 5,046 Acts between 1750 and 1779. The peak occurred between 1800 and 1809, when 3,860 Acts were passed in this decade alone.

We also show that personal, enclosure, and statutory authority Acts were the most numerous categories and accounted for more than half of the growth in legislation. Personal, enclosure, and statutory authority Acts comprised 53 per cent of all Acts in the seventeenth century versus 69 per cent in the eighteenth. The rise in personal Acts was especially dramatic just after the Glorious Revolution. Personal Acts comprised 43 per cent of legislation between 1660 and 1690, while they accounted for 53 per cent between 1691 and 1720. Statutory authority Acts also increased after the Glorious Revolution, but they grew most rapidly after 1750. They accounted for 13 per cent of Acts between 1691 and 1749 versus 29 per cent between 1750 and 1800. Enclosure Acts were rare before 1720. They had the highest growth rate after 1750 and comprised 22 per cent of all Acts between 1750 and 1800.

After personal, enclosure, and statutory Authority Acts, the next most numerous categories were government finance, domestic regulation, and foreign, which accounted for 12 per cent, 6 per cent, and 5 per cent of legislation between 1600 and 1800 respectively. All three of these categories grew most rapidly between 1776 and 1815.

We also assigned each Act into sub-categories in order to get a more narrow classification, especially for personal and statutory authority Acts. Personal Acts included estate, marriage, name, divorce, naturalization, and a miscellaneous group. The most numerous were estate Acts which in many cases enabled an individual to sell property within an estate. Our initial analysis suggests that estate Acts were necessary because they removed or altered entailments that prevented the property from being sold. We argue that these Acts were significant for the economy because they changed property rights in land.

Statutory authority Acts created organizations that provided public goods or services by levying user-fees or other types of taxes. The sub-categories include turnpikes, canals, harbours, river

navigations, bridges, courts of conscience, urban utilities, churches, workhouses, jails, and drainage. Turnpike Acts were the most numerous of this group followed by urban utilities and canals. We argue that statutory authority Acts also had a significant effect on the economy because they created organizations and a set of rights which contributed to infrastructure investment.

Our evidence yields new insights on the relationship between law and economic development in Britain. The main conclusion is that the great surge in legislation significantly changed property rights. In particular, personal Acts gave individuals the right to sell land within their estate; enclosure Acts eliminated common property rights in agriculture; statutory authority Acts created new organizations with the right to finance infrastructure by charging user-fees. The growth in legislation also appears to be linked with the Glorious Revolution in 1688-89 as well as the expansion of the economy after 1750.

IV/E British Industry

Chair: **Jim Tomlinson** (Dundee)

Peter Scott & **Anna Spadavecchia** (Reading)

Did the reduction in working hours following the First World War damage Britain's industrial competitiveness?

Some analyses of Britain's poor economic performance during the 1920s have placed considerable weight on the impact of government concessions to organized labour in the immediate aftermath of the First World War. In particular a number of commentators, following J.A. Dowie, have highlighted the introduction of an eight-hour working day in 1919 (reducing the average working week by an estimated 13 per cent) as a major factor eroding Britain's international competitiveness.[1] For example, Stephen Broadberry has argued – using aggregate time-series data on labour productivity and real wages – that the hours reduction represented a major 'supply shock' to the British economy.[2]

This paper seeks to re-examine the impact of the hours reduction on Britain's international competitiveness over the inter-war period. It first addresses a major factor not taken into account in the above studies – the fact that a substantial reduction in the working week, to around 48 hours for industrial workers, was evident throughout most industrialized nations. A new international data set on working hours in around 1913 and over the inter-war years for the major industrial nations is being compiled from a variety of contemporary sources. This demonstrates that Britain's 1919 hours reduction was significantly smaller than that for most of its industrial competitors (which had substantially longer working hours in 1913) – as was appreciated by contemporary British policy makers. Furthermore, the data show that Britain's improved hours differential, relative to 1913, persisted over the rest of the inter-war period.

It will also be demonstrated that British policy-makers perceived that, as Britain's stance on maintaining the eight hour day was seen as of pivotal importance to securing international cooperation in this field, other countries would have been unlikely to maintain their 1919 hours reductions if Britain reverted to its pre-war norms. Instead, working hours would have become another arena for the type of 'beggar thy neighbour' international competition – witnessed for example in tariff and exchange rate policy – which undermined the stability of the international inter-war economy. Despite the fact that British government support for international cooperation in this field was impeded by opposition from some domestic employers' organizations, Britain's retention of the 1919 hours reduction underpinned the new 'international hours standard' – with a much more positive outcome for British competitiveness and growth than the government's much greater efforts to preserve the international gold standard.

The next section examines contemporary empirical evidence on the productivity impact of the move to a 48 hour week. The introduction of the eight-hour day was influenced by new research from industrial fatigue and time and motion studies (partly stimulated by the need to maximize output during the First World War), which revealed that the productivity loss from shorter hours was at least partially offset by improved hourly productivity. Gains were derived from a number of sources – a reduction in fatigue, the more efficient organization of working (including the elimination of substantial periods during the shift when workers were inactive in some sectors), and greater hourly effort in industries where workers had a significant amount of discretion over their input of effort. Under situations of particularly long hours, the literature also indicates that an hours reduction was generally accompanied by a reduction in absenteeism and sick-leave. The extent of such an efficiency-offset was found to vary substantially by sector, according to factors such as the 'heaviness' of the work involved and the extent to which workers had discretion over production norms. Both the general productivity offset and its

[1] See, for example, J.A. Dowie, '1919-20 is in need of attention', *Economic History Review*, XXVIII (1975), pp.429-50.

[2] S.N. Broadberry, 'Aggregate supply in interwar Britain', *Economic Journal*, 96 (1986), 467-81; idem, 'The emergence of mass unemployment: explaining macroeconomic trends in Britain during the trans-World War I period', *Economic History Review*, XLIII (1990), pp.271-82.

variability will be explored – using industrial fatigue and similar studies conducted in Britain, the USA, and several European nations.

The paper then goes on to explore Broadberry's argument that the substantial fall in labour productivity in 1919 and 1920 can be largely attributed to the introduction of the eight hour day. This analysis will use sectoral time series data on output per shift – measured in terms of volume, rather than value, to examine whether this trend is fully reflected in changes in physical productivity. Data on the magnitude of the hours reductions in these sectors will also be used to estimate the extent of the productivity offset arising from hourly productivity improvements.

This is very much a work in progress paper and the above conclusions are, necessarily, provisional. However, by the time of the conference we expect to be able to present evidence for all sections of the paper.

Stefan Schwarzkopf (Queen Mary, London)

Classes to masses? How advertising agencies responded to the challenges of mass market in inter-war Britain

A number of authors, such as Hamish Fraser (1981) for the case of the United Kingdom, Wolfgang König (2000) for Germany and Richard Tedlow (1990) for the United States have argued that the coming of the mass market was triggered by both new forms of mass production as well as a growing demand for mass-produced goods in the fast-moving consumer goods sector and in the "white" consumer goods sector. In this narrative, the triumph of the unified mass market and its cultures of mass consumerism were heralded by advertising agencies which acted as efficient multipliers of the sales messages of producers and as skilled stimulators of mass demand for new products.

In my paper I compare the response of British and American advertising agencies in the United Kingdom to the challenges set by the emerging mass market. British agencies were well adapted to a system in which the manufacturer's agent was paid for buying space in newspapers and for rendering additional services such as writing copy, designing advertisement layouts and co-ordinating outdoor campaigns. In terms of early twentieth century British market and consumer cultures, UK advertising agencies were adapted to a fragmented market with strong differences between social classes, class-dominated regions and between cities and rural areas. Advertisement designers addressed consumers as *readers* of different types of publications rather than as a potentially uniform mass of *consumers* of standardized products. This system was challenged in the early 1920s by the rising influx of American consumer goods and American agencies into Britain: unlike their British competitors, who often subconsciously favoured the middle classes, American marketers focused their campaigns (for example, Libby's Tinned Fruit, Palmolive Soap, Sun-Maid Raisins) on the working class as mass consumers.

In order to compare the marketing strategies chosen by British and American agencies for like goods, this paper uses the example of the American agency J. Walter Thompson (JWT) and its London branch since 1919 vis-à-vis its British competitors S.H. Benson's, T.B. Browne and Mather & Crowther. In the mid-1920s, these agencies began to lose accounts (for example, Horlicks, Rowntree) to JWT. While JWT employed the latest market research methods in order to find the most effective approach to address consumers as a *mass* of similar individuals with similar needs, most UK agencies still claimed their knowledge of the *class* structure of the British market as a clear performance differential over their American competitor agencies operating in London. In the paper I argue that the emergence of the mass market in Britain was not only influenced by the suspicion of British manufacturers and British advertising agencies alike of the simplification and standardization of product lines. Moreover, the analysis presented here suggests a close connection between the question of mass marketing and the politics of class. The slow and belated discovery of the working-class mass consumer by British marketing experts was in part the outcome of what Ross McKibbin (1991; 1998) has described as the marginalization of the working class by inter-war British political culture.

This paper forms part of my research on the politics and cultures of advertising in early twentieth century Britain. It draws on hitherto unexplored archival material, such as the records of British advertising agencies at the History of Advertising Trust Archive (HAT), Norwich, and the records

relating to the British operations of JWT International at Duke University's Hartman Centre, North Carolina.

IV/F Cultural Economy

Chair: **Roger Middleton** (Bristol)

Avner Offer (Oxford)
The challenge of affluence: self-control and well-being since 1950

Economic welfare does not map straightforwardly onto well-being. Across developed nations, when GDP per head rose over a quarter of USA levels, there was no further gain in reported well-being or in social indicators. Over time, reported subjective satisfaction stagnated despite threefold-plus rises in income per head. In contrast, some forms of misery have expanded: crime, incarceration, marital breakdown, teenage births, abortion, youth suicide, mental disorder, lung cancer, heart disease, obesity, alcoholism and illegal drugs.

Social explanation is dominated by rational choice theory. The liberal order is premised on the 'invisible hand' assumption that private choice maximizes social welfare. Rational action, however, imposes stringent requirements of consistency and information. Choice over time is more important, and more demanding, than ranking choices for immediate delivery. At the chosen discount rate, the exponential discounter is indifferent between the present and the future. Only exponential discounting is consistent with rational choice. But the psychological realism of this normative procedure is doubtful. In the alternative model of hyperbolic discounting ('myopic choice'), immediate rewards are valued highly, and the discount rate declines with delay. Together, bounded rationality, time-inconsistency, cognitive biases and emotional ones undermine the capacity for rational choice over time.

Myopia implies impatience. If the present is compelling, then commitment to the future becomes difficult. A long-term, 'cold' interest might wish to lock the immediate, 'hot' interest into distant goals. But there is no objective equilibrium for the two to converge on. In practice, people have fallen back on proven solutions, which society provides 'off the shelf'. These 'commitment technologies', or 'commitment devices' have taken long to evolve, and are costly to use. Think of education, marriage, constitutions, courts. Commitment devices are pervasive, and constitute the fabric of civilization. They help individuals achieve self-control.

Since commitment is costly, at any point in time, the *private* capacity for commitment varies with private resources. But over time under affluence, the *social* capacity for commitment appears to have fallen, despite rising wealth. Affluence reduces both the incentive for commitment, and the capacity for commitment. If rising wealth delivers diminishing returns, then it reduces the incentive to save. It might even induce dissipation. These processes are demonstrated in sexual initiation at the micro level, and national savings at the macro level, during the post-war period.

The model explains the emergence of detriments, and also why they stabilized and declined. If a problem persists for long enough, society develops the means to cope, the upper-middle first, then the rest. Hence the reversal of smoking, heart disease, crime, divorce, and the avoidance of war over long periods. But when environments change, existing adaptations become obsolete. The technologies of commitment are challenged and offset by hedonic technologies. In environments of constant innovation, novel pathologies emerge repeatedly. Market competition promotes hedonism and myopic bias, since hedonic reward is easier to identify, package and sell than commitment. Hedonism is habituating, and jaded consumers make eager seekers for the next novelty. Novelty stimulates myopic bias, individualism, narcissism, and disorientation. Individualism reduces the need to take account of others, but makes it more difficult to lock in the future. Rapid innovation raises the psychic cost of long-term commitment. That is the challenge of affluence.

Albrecht Ritschl (Pennsylvania)
Drang nach Osten: The Malthusian roots of Nazi imperialism

Conventional wisdom views Nazi imperialism mostly as a radicalized version of traditional Prusso-German imperialism dating back to the nineteenth century. Along the same lines, the ideology underlying Nazi imperialism has been regarded as no more than a hotchpotch of imperialist ideas,

enriched by crude Social Darwinist jargon. This paper follows recent research on Nazi racism and eugenics that has argued for a more serious look at Nazi ideology as a blueprint for its actual policies. Analyzing the economic content of Nazi pamphlets and policy speeches, including *Mein Kampf*, a deeply Malthusian discourse about land and labour emerges. The paper analyzes how this discourse is linked to an interpretation of the results of World War I and how it shapes policy decisions in the 1930s. Viewing Nazi *Lebensraum* policies in occupied Eastern Europe as related to a Malthusian discourse sheds new light on the Nazi exploitation of Eastern Europe for its war economy. It also seriously undermines recent work that has interpreted the Shoa, as well as Nazi occupation policies in Eastern Europe, as brutal but economically rational decision making. The results of this research also run counter to the current mainstream of viewing German occupation and extermination policies as a cumulative, largely accidental process of successive radicalization. Instead, they suggest a reversal to an older interpretation that viewed the dictatorship as an unfolding realization of a stringent ideological dogma laid out already well before 1933.

V/A Business and Finance

Chair: **tba**

Nicholas Dimsdale (Oxford)

British staple industries and foreign competition, 1880-1913

This paper summarizes results which have been obtained from an analysis of time series for three major British industries in the late Victorian era. The industries which are included are: cotton, coal and iron and steel. Each industry has an extensive literature, much of which is concerned with evaluating industrial performance in a period of growing competition in world markets. The industries have good sources of time series data for the chief variables. In fact the quality of the industrial data is rather higher than what is available at the macro level, where major series are dependent upon a considerable amount of interpolation. The series have been examined by economic historians who have mainly been concerned with commenting on the course of individual variables.

The aim of this study is to assemble the time series for each industry using a multivariate approach. A small econometric model is estimated and simulated for each industry. The project can be regarded as an extension of Hatton (1990) which analyzed the demand for British exports in this period by major industry. This paper extends his work by adding a supply side for each industry and modelling domestic demand, where this is feasible. It can also claim descent from Tinbergen's (1952) modelling of the output of consumption and capital goods in his pioneering model of British business cycles 1870-1914. These sectors are closely related to the cotton and iron and steel industries.

The time series analysis uses an Autoregressive Distributed Lag (ADL) approach to modelling time series modelling and also uses the Engle Granger two step technique. The structure of the models is basically Marshallian in that demand and supply relationships are estimated for each industry. For example, the cotton industry model consists of equations modelling the demand for exports of cotton manufactures, demands for inputs of raw cotton and labour. There is a price equation, which includes capacity constraints and inputs prices, enabling the price of exports in the export equation to be determined within the model.

A similar but more complex model is estimated for the iron and steel industry. In both models, the data set has been improved by the construction of new series for export volumes and prices. For iron and steel an index of imports volume and a price index have been calculated. This enables the impact of changes in import competitiveness to be studied. The issue of import penetration has been much discussed in the literature, but this may be the first time that it has been examined empirically.

The coal industry model draws on the work of AJ Taylor, Mitchell and Church to provide a statistical picture of the industry during a period of rapid but fluctuating growth. The model aims to summarize the main features of the industry in a set of equations.

The upshot of these studies is to suggest that there was a wide variety of experience between industries, making generalizations about economic performance inappropriate. The cotton industry progressed in a relatively regular way despite the underlying international threat to its comparative advantage, which was to surface after 1914. The iron and steel industry, while growing rapidly, was subject to severe competition in export markets and also growing import penetration of its domestic market. The coal industry had low price elasticity of demand at home and in export markets. It enjoyed sustained growth in demand and employment, accompanied by wide fluctuations in coal prices and wages. The growth of output in this period was associated with declining labour productivity. The fortunes of the coal industry were closely linked to industrial growth in Britain and in European markets. International competition was not yet a problem, so that increasing costs of production could be passed on to the consumer without checking the growth of demand.

The three industries played an important, if not a dominant role in British exports, during the period. This analysis of their performance illustrates in a striking way the dynamics of Victorian industry. This work is part of a wider study of the British economy since 1880. The results indicate the usefulness of time series methods in examining Victorian industries.

Carsten Burhop & **Christian Bayer** (Münster)

Corporate governance in the German Empire

One of the great institutional innovations of the industrial revolution was the rising importance of joint-stock companies. One feature of such companies is the separation of ownership and management, a classical example of a principal-agent relationship between shareholders (principals) and managers (agents). Since the aims of shareholders and managers do not necessarily coincide – for example, managers might be interested in a high income and low work effort, whereas shareholders are interested in high profits – the owners should motivate and control the managers.

Managers could be motivated via a share in the profits of the managed company. However, only measuring a correlation between firm profits and manager's income is not sufficient to infer incentive-based compensation from firm level data since more able managers should lead to better firm results. Yet, a major reform of Germany's corporate governance codex in 1884 can be used to differentiate between equilibrium and incentive components of the pay-performance correlation. In a recent paper, Christian Bayer and Carsten Burhop (2004) show, for a set of nine large German joint-stock credit banks for the years 1871 to 1910, a decline of the pay-performance sensitivity of about 50 per cent after the corporate governance reform of 1884. The reform of the Joint-Stock Companies Act, which significantly improved corporate governance institutions in Germany, reduced the necessity of monetary motivation of managers.

In addition, the 1884 reform improved corporate control: before the reform, the relationship between management turnover and firm performance was random, whereas after the reform a significantly negative relationship between management turnover and short-term firm performance emerged in Germany's banking industry, see Bayer and Burhop (2005).

So far, only Germany's large joint-stock credit banks were included in the empirical investigation. The current paper extends the research to a set of about 90 industrial and mining firms. We collected balance sheet, profit, stock market, and management turnover data for these firms covering a time period from the late 1870s until World War I. The pay-performance and management turnover-performance relationships are investigated for these firms. Furthermore, the impact of the major reform of the joint-stock companies act in 1884 and the minor reform in 1900 on these relationships are evaluated.

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V/B Human Capital

Chair: **tba**

Paul Auerbach (Kingston) & **Richard Saville** (Coutts & Co)

Education and social capital in the development of Scotland to 1750

Key words: Renaissance learning; education; economic development; Scotland.

> 'Seeing that God hath determined that his Church here in earth shall be taught not by angels but by men; and seeing that men are born ignorant of all godliness, and seeing also [that] God now ceaseth to illuminate men miraculously, suddenly changing them, as that he did his Apostles and others in the primitive church: of necessity it is that your honours [in the Scottish Parliament] be most careful for the virtuous education and godly upbringing of the youth of the realm' (John Knox, *The Book of Discipline* in Dickenson, ed., 1949 Appendix viii, pp.295-6).

Scotland emerges in the period after 1750 as a striking example of a poor but successful developing economy which might well have maintained itself at a level of comparably poor nations in eastern Europe. Its resource endowment, for instance, with little timber and a thin agriculture, was difficult to exploit in the centuries before the industrial revolution, except in a patchy and localized way. Yet Scotland managed to distinguish itself in a range of activities such as banking and finance, science and technology, and law, at a world class level, all of which contributed to its economic development. The key to Scottish development was the cultivation of both human and social capital, elements generally recognized as central to the process of economic development (Sianesi and Van Reenen, 2003). The precise linkages between education and economic development are often difficult to locate, since the beneficial effects of education are often manifest with a considerable lag (Easterlin, 1981).

In contrast to contemporary times, in which human capital development is identified with broad-based education of the population, in the early modern period, the key role for education was for the training of an elite capable of fulfilling the commercial and administrative tasks confronting them (Mitch, 1990). Of most relevance were grammar schools, colleges and universities. The detailed programme for this learning was already well tried in French provincial grammar schools and in Italy and Switzerland. The syllabus involved a thorough grounding in grammar and Latin, and, for higher classes, the study of Greek and Roman authorities, with the addition of study on the Geneva bible. Scots thus benefited from the rigour of daily hours of grammar and Latin, together with meditation on Calvinist thought in addition to the classical authorities for governance, social welfare and economic activity. This religious thought and philosophy drew inspiration and example from the Old Testament, and was thus an especially good background for reflection on volatility and cyclical behaviour, instilling the idea of permanent uncertainty bestowed by a periodic vengeful God, with inherent risk to agriculture and trade. The marginal notes of the Geneva bible, and works such as John Knox's *Book of Discipline*, being focused upon the common experience of the people, are ideally suited for thought on governance. The ancient authors embraced the creativity and critical thought of the Roman world, much of which was relevant to early modern European elites, both for the detail of everyday business and household management, and for common action in government and in burghs.

Attributes of Scots thought and discipline thus engendered would include long time horizons, a focus on the repetition of detail and on the sequencing of work, all of which are essential for bookkeeping, accounting, and the wide range of early modern management. With this platform for learning, those who wished to study and work in London and on the continent could do so with relative ease, with ideas absorbed readily adopted back home. The prominence of Scottish-trained lawyers in England was a reflection on the Latin curriculum and the methods of learning in Scotland. For example, in the hands of Lord Mansfield, educated first at Perth grammar school, almost the whole of English trade law and the law of negotiable instruments was recast and modernized. Scots education and the attitudes engendered by hardship were also robust in coping with industrial bottlenecks in mining, linen manufacture, metallurgy, coal chemistry and a host of obstacles which required often years of attention for little reward.

The development of social capital is also central to Scotland's economic development. Like other societies on the peripheries of Europe, Scotland was characterized by poverty and warfare. The dire consequences of famine and civil war after 1636, and the fighting and mayhem under Charles II and James VII was a feeble platform for economic progress. But a characteristic of the Calvinist ideology pervasive in Scotland was that it produced a proselytizing elite that felt that it was its duty to impose an ideology of work, saving, discipline and sobriety on the general population. This ideology, combined with the rigorous educational development specified above, also meant the emergence of a juridical system as well defined as any in Europe, factors which promoted the development of financial and commercial enterprise. Our contention is that this mixture of Calvinism and Renaissance learning was strong enough to generate a potential for economic development in Scotland that was exceptional for such a poorly endowed European country.

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Dorothee Crayen & **Joerg Baten** (Tuebingen)

New evidence and new methods to measure human capital inequality before and during the Industrial Revolution: England, Ireland, France and the US in the eighteenth and nineteenth centuries

Recent models of Industrial Revolution argued that the relatively modest initial inequality in England might have been an influential factor in creating a modern market for consumer goods (and, perhaps, the motivation for an industrious revolution). It is, however, very difficult to measure inequalities before and during the Industrial Revolution period. This study employs the set of methods that developed around the phenomenon of "age heaping", i.e. the tendency of poorly educated people to round their age erroneously – they answer more often "40", if they are in fact 39 or 41, compared with better educated people (Mokyr 1983).

In a related study, Crayen (2005) found that the relationship between illiteracy and age heaping for LDCs after 1950 is extremely close. She calculated age heaping and illiteracy for not less than 270,000 individuals that were organized by 416 regions, ranging from Latin America to Oceania. The correlation coefficient was as high as 0.7, even if only the age bracket of 23-42 year-olds was taken into account. Compared to the PISA results for numerical skills, the correlation was as high as 0.85 (see also the working paper on U.S. census manuscripts and other sources by A'Hearn/Baten/Crayen 2005).

The crucial advantage of those age heaping methods is that they are widely available for the early modern period, because many people were asked for their age in a more or less standardized way, when entering the military voluntarily, when they married etc. In addition, they reflect numerical skills even more than literacy skills, which could be important for technical, commercial and craftsmen activities in the production process. We apply those methods to a wide sample of countries for which data are available. We assess the quality of the data carefully, by scrutinizing the institutional framework, selection processes, and the type of age questions asked in different situations, as far as this can be reconstructed.

One interesting sample, is the data set of the French army that was originally collected by John Komlos and his French collaborators. This data set is large enough to reconstruct numeracy even in relatively small regions of France since the late seventeenth century. We created maps of French numeracy for several periods of the eighteenth century that give hints about regional inequality of

human capital formation. From the degree of heaping and some anecdotal evidence we can be sure that soldiers were actually directly asked for their age (no birth certificates were demanded, or comparisons with other sources done by the registrators). One advantage of this data set is the inclusion of anthropometric variables, so that we can assess the relationship between net nutritional status and human capital formation. Other interesting sources come from the registration of convicts and freed slaves in the U.S. We countercheck those data sets with census data where possible.

Moreover we use different units to assess inequality: we measure inequalities between regions, inequality between taller and shorter individuals (reflecting their nutritional status and perhaps social stratification), differences between occupations of middle/upper versus lower social status.

The results are mulit-faceted, as the history of inequality has always been. One particularly interesting result is that height was a good predictor of numeracy in all four countries: the taller half of the height distribution displayed much lower age heaping tendency, and hence higher numeracy. Moreover, the size of the difference varied by country and region. The largest inequality of numerical human capital was visible in the exceptional case of Paris, followed by Ireland. Southern and Western France had high inequality of numeracy. In contrast, the more protein-rich Northeastern France resulted in only modest inequality. In England and the Northern United States, age heaping and inequality of numeracy was much lower than in France and Ireland. If the low inequality – growth relationship postulated by recent theoretical models would hold, we would expect the earliest industrial development in England, the Northern U.S. and the Northeast of France – and that is where it took place.

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V/C Business and Family

Chair: **Alan Booth** (Exeter)

Christine Jackson (Oxford)

Entrepreneurship and the family business: the fluctuating fortunes of clothmaking dynasties in Reading and Newbury, c.1500-1650

It is a commonplace of British business history that few family businesses survive beyond three generations and that entrepreneurial expansion normally occurs in the first or second generation. By the third generation the business has almost invariably been sold off or wound up, or is destined to decline. Taking the findings of research into the business activities, achievements and motivation of leading family businesses in the nineteenth and twentieth centuries as its starting point, this paper explores the factors facilitating, sustaining and curtailing entrepreneurial activity in family clothmaking businesses in early modern Reading and Newbury.

Over the centuries the family business has contributed significantly to the pace and direction of economic development. Its role in the expansion of English clothmaking during the sixteenth century is particularly visible in specialist clothing towns such as Reading and Newbury where the scale and profitability of industrial entrepreneurship were exceptional because the towns produced fully rather than semi-manufactured cloths. Evidence from a range of sources is utilized to examine the concept and structure of the family clothmaking business in the two towns and the timing, scale and success of entrepreneurial activity across the generations. The paper focuses upon the leading clothmaking families of the period and examines the management and organization of their individual businesses, the progress of vertical and horizontal integration and the extent and impact of their financial success. Bankruptcy occurred in a few of the families studied, but was not necessarily terminal, and most avoided it. The training and deployment of sons and other close family members in the family business or in related trades in the two towns or in London was crucial to the longterm success and survival of the family business but clothiers also entrusted considerable responsibility within their businesses to former apprentices. Wives and daughters not only played an important part in conveying business capital, premises and skills between clothing families but, in a number of families, contributed directly to the running and preservation of clothmaking businesses.

Entrepreneurs typically emerge when new or highly advantageous economic opportunities occur and when the commercial environment is ripe to exploit them. Clothiers in Reading and Newbury were well placed to take advantage of high levels of demand for their products in overseas markets during the early and late sixteenth century. They enjoyed considerable locational advantages, which enabled them to resist the advance of rural competition in other regions until the early seventeenth century, and the long tradition of clothmaking in the area provided a skilled nucleus for an expanded clothing workforce. Those with entrepreneurial aptitude and access to the requisite expertise and capital invested in vertical and horizontal integration by increasing the size and output of weaving or clothworking shops and by centralizing several stages of manufacture on one site and buying or leasing a fulling mill. A small number of Reading and Newbury clothiers experimented with the development of the proto-factory.

The motivation for entrepreneurial drive and vision in the period was complex and can only be deduced indirectly from the known activities, expenditure and achievements of Reading and Newbury clothiers and from the provisions made and sentiments expressed in their wills. In the clothmaking dynasties studied, the attainment of financial security and a comfortable life-style were clearly significant initial goals for pioneer entrepreneurs, but once a modest degree of success had been achieved and adequate provision made for dependants, other factors kicked in, including: the desire to emulate the trading and social success of relations and competitors, the ambition to exercise political power and influence, the aspiration to secure social advancement, and for some, the enjoyment of exceptional occupational success *per se*. It is noticeable that a number of second and third generation clothing entrepreneurs passed through life-style changes, moving from a life devoted to profit

maximization to one with free time for conspicuous consumption, public service and even recreation or hospitality.

Despite enjoying sustained periods of success and profitability, few, if any, of the family clothmaking businesses studied appear to have survived longer than 80 years and most flourished and declined over a rather shorter life-cycle. The paper looks beyond advantageous and adverse national and local manufacturing and trading conditions to explore the evolving business ethos of the clothier. It examines the demands placed upon clothmaking entrepreneurs by the drive to generate wealth, the opportunities for organizational and product innovation, the pressure to provide employment, the pursuit of personal ambition and the need to diversify investment, and places them within the context of contemporary religious teaching and social mores. It considers the objectives and scope of business succession planning and investigates how far succession strategies were successfully implemented in a period when early death, the failure to produce sons and the occupational preferences and competence of successive generations conspired with the lure of conspicuous consumption, the drive to achieve upward social mobility, the influence of Puritan beliefs and the desirability of philanthropic impulse against the survival of the family business.

Nigel Goose (Hertfordshire)

How saucy did it make the poor? The straw plait and hat trades, illegitimacy and the family in nineteenth century Hertfordshire

It was in the late nineteenth century that Arthur Young offered the oft-quoted judgment that the straw plaiting industry made the poor 'saucy', and made it hard to procure field hands or domestic servants. But the view that the industry created unwelcome opportunities for female independence, caused them to neglect their household responsibilities and also had more dire consequences by encouraging both early marriage and promiscuous behaviour remained prominent into the mid-nineteenth century, and such views featured prominently in a variety of parliamentary reports, and are echoed in some historical accounts of the trade. Such views have, however, never been properly tested. This paper will examine contemporary views of the moral impact of the industry, and test those views through an examination of illegitimacy ratios and rates in nineteenth century Hertfordshire, contrasting areas where the industry was prominent with those where it was not, and will also examine the opportunities for female independence and early marriage that is created. The data does not bear out contemporary views, for while there was indeed a small difference between straw plait areas and non-straw plait areas, a more substantial difference is evident between urban and rural areas.

V/D Society and Status

Chair: **Mark Overton** (Exeter)

Mark Rothery (Exeter)

English landed gentry men and cultures of manliness in late nineteenth and early twentieth century Britain

Over the past twenty years there has been a substantial growth in historical research and literature on male gender identities and relations. Most historians of the nineteenth and twentieth centuries have concentrated, understandably, on the middle-classes and the increasingly dominant bourgeois ideals of manliness framed around a culture of domesticity with a focus on internalized male virtues such as self-control, discipline and thrift. The hegemony and centrality of bourgeois values of manliness have been linked to broader patterns of middle-class dominance of elite British society from the later eighteenth century onwards. In an inverse sense, the decline in the so-called 'aristocratic ideal' of manhood, commonly identified as the dominant code in the earlier eighteenth century, has been associated with the broader 'decline of the landed classes' as the national elite. This focus on middling manliness has often been tempered with the knowledge that more analysis is required of the effect of variations in social status on cultures and ideologies of masculinity. A particular emphasis has been laid on the need for more knowledge of the everyday functioning of masculinity as a social construction and a gendered relational ideal.

This paper services these several areas in the history of male gender identities, and the history of landed society, by examining the involvement of English gentry men in the shifting notions of manliness and masculinity of modern British society. The first part comprises a discussion on the level and nature of public school education and club membership amongst the gentry men of Devon, Hertfordshire, Lincolnshire and Lancashire, between 1800 and 1939. Both public schools and clubs had been very popular amongst gentry society throughout the nineteenth century, in contrast to the habits of the landed classes of the eighteenth century. However from the mid-nineteenth century onwards an increasing proportion of gentry men attended or were members of such institutions. By the 1900s these central institutions of elite male society were a regular and vital feature of gentry life. This brief statistical survey will be followed by an examination of the impact of this type of secondary socialization on the outlook and behaviour of gentry men. The correspondence between young gentry men at boarding school and their parents reveal the attitudes and experiences of both parties and the more precise details of public school education amongst the gentry. There will also be a comparative micro-study of the background, upbringing, perceptions and behaviour of Sir Ralph Furse, the eldest son of a gentry family, in Devon, and of Edward Marsh, the son of a medical professional and a Cambridge Don with aristocratic connections through his mother's family. Both men served as senior civil servants in the Colonial Office during the early twentieth century. Their views on the acceptable parameters of gentlemanly behaviour and status were recorded on a day-to-day basis in their desk-diaries whilst they served, at different times during their careers, as recruitment officers dealing with senior posts in the Colonial Service. Ralph Furse and Edward Marsh were of different social and economic backgrounds and they differed slightly in their definitions of the elite male and in their visualizations of 'the perfect colonial gentleman.' However, the diaries show that both Ralph and Edward formed their professional judgements around closely comparable and shared notions of 'the gentleman.'

Overall, despite relative declines in the monopoly of wealth and power enjoyed by landed elites during this period, it is argued that gentry men were gradually acculturated to changing forms of gender and status and were an active part of elite culture into the twentieth century. This was achieved partly through an intensified level of involvement in all-male associations and homosocial institutions during the nineteenth century. Whilst they adopted the central tenets of modern manliness and became a minority group within a broadening social elite, the landed gentry were central agents, along with other groups, in the construction of accepted forms of elite thought and behaviour. This shows that, rather than constituting a 'victory' of middle-class ideals or a linear decline of landed values, modern

concepts of manliness reflected the way that men of the upper sections of the middle-classes and the lower rungs of landed society continued to accommodate each other within a core definition of masculinity, which was merely fractured by slight variations in social origins, upbringing and status.

Alexandra Shepard & **Judith Spicksley** (Cambridge)

Perceptions of worth and social status in early modern England

This paper will present preliminary findings from an ESRC funded project currently underway on perceptions of worth and social status in early modern England. The project aims to recover and analyze new data relating to the distribution of wealth and the language of social description in England between c.1550 and c.1750. It is based on the responses of witnesses in the church courts to the commonly asked question of how much they were worth with their debts paid. This question was included in strategies to test witnesses' creditworthiness and potential bias in a wide range of cases, and witnesses were often additionally asked to comment on how they made a living. A range of biographical details were recorded for witnesses, including their ages and migration histories as well as details of socio/occupational status (for men) and marital status (for women), enabling investigation of the links between wealth, social status and the life cycle. The statements of worth that resulted from such questioning cover a far broader social reach than either probate records or tax lists, and include responses from witnesses who deemed themselves worth little or nothing. It is therefore expected this material will provide new insights into the distribution of poverty as well as wealth, and the language of *self*-description, in early modern England.

Witnesses' responses to the question of their worth most frequently involved monetary estimates, principally with reference to the value of their movable goods. These monetary estimates were generally given in round numbers, rather than detailed to the last pound, shilling and pence (40*s*., £5, £10, £20 and £40 were the most common), suggesting that such amounts functioned to designate broad wealth categories in relation to the social order. They were possibly also related to the processes of assessment for central taxation and parish rates. This is suggested by the fact that some witnesses gave monetary estimates of the value of their land, while others gave details of subsidy payments and/or their contributions to parish rates. Many witnesses, however, answered in qualitative and ethical terms – for instance by describing themselves as 'poor', 'painstaking' or 'honest', or 'worth nothing but the clothes on their back'. Married women generally also declared themselves worth nothing, in line with the dictates of coverture that on marriage a woman's property was transferred to her husband. While some witnesses refused to reveal their worth, very few responded that they did not know what they were worth, suggesting that it was common in early modern England for people to have a concrete sense of their worth albeit in a range of terms.

This paper will outline the variety of responses given by witnesses, before assessing the quantitative and qualitative significance of the most common category of response – that is monetary statements of worth based on the value of a witness's goods. A particular challenge that we face with this project is gauging the degree to which such statements actually corresponded to witnesses' material worth. Some light is shed on this issue by the few cases in which deponents were asked to assess each other's worth as well as their own, and in the cases when a particular witness's self-assessment was disputed by others. But a broader assessment of this issue can be attempted by comparing monetary estimates of worth (in goods) through record linkage with probate accounts surviving for the same witnesses. This paper offers a preliminary analysis of data collected from Kent where the survival of both depositions and probate accounts is particularly good. We will investigate whether linkage with probate accounts reveals anything about the accuracy of monetary estimates of worth declared by witnesses. To what extent did such statements offer a genuine assessment of the material wealth of witnesses as opposed to a qualitative assertion of relative rank, and what can they tell us about the links between wealth and status in early modern England?

V/E Competition in Manufacturing

Chair: **Catherine Schenk** (Glasgow)

Giuliano Maielli (Queen Mary, London)

Can historians now prove what economists could not prove at the time? Competition in the EC car market, 1966-80

The paper addresses competition within the car industry in the aftermath of the abolition of tariffs between member states of the European Community (EC) in 1970. During the 1980s, it was suggested that for at least 10 years after the abolition of tariffs between EC member states, there had been no evidence of price competition. In particular, two elements attracted the attention of economists: a) for most of the 1970s, in some of the EC countries the price of output tended to increase much more quickly than the price of input; b) for most of the 1970s, the level of capacity utilization remained rather low throughout the EC car industry.

The combination of these two elements led some researchers to put forward the hypothesis that pricing in the EC car industry during the 1970s was driven by implicit collusive behaviours between EC car manufacturers. Nonetheless, the evidence produced at the time remained inconclusive. This paper corroborates the "collusion hypothesis" through internal evidence from the Italian car manufacturer Fiat.

As far as the Italian market is concerned, the economist Francesco Silva tried to test the hypothesis of collusion by analyzing the movement of prices in the Italian market.[1] However, his methodology and results implied a number of assumptions that could be proved only by collecting information from within firms. Such information could not be collected at the time, so his analysis remained not entirely convincing.

Firstly, Silva showed that during the 1970s the price of output of the Italian car industry increased much more quickly than the price of input. As a result, after 1975 the Italian industry reversed the trend towards decreasing contribution margins experienced since the mid-1960s. Secondly, Silva showed that each time Fiat increased prices in the Italian market, 80 per cent of competitors did the same more or less in the same period. Nonetheless, Silva's study had two major limitations. Firstly, it did not consider that some competitors might have preferred to maximize per-unit revenues rather than expanding market shares. Although this counter-scenario was questionable due to low levels of capacity utilization throughout the European industry, it was still possible. Secondly, Silva assumed that in each national market within the EC the market-share leader was the first one to increase prices each time an increment in prices occurred across the whole range of competitors. In Italy, the leader was Fiat. Silva implied the sub-assumption that the pricing behaviour of competitors could be predicted by the leader and actually affected the leader's decision to push prices upward.

Silva's set of assumptions involved circularity in the argument. Collusion could be demonstrated only by assuming the existence of a collusive price setter and collusive price followers in each national market within the EC. Nonetheless, the low level of capacity utilization in the industry remained a strong element pointing towards the hypothesis of collusion. Thus, Silva's hypothesis was worth further investigation. Based on internal documents discovered in the Fiat Archives, this paper shows that:

a) During the 1970s Fiat was the first to increase prices in the Italian market each time an increase of prices occurred across the whole range of competitors. It is implied that a similar role of price setter was played by the market-share leader in each national market within the EC.

b) Fiat could predict the competitors' response to an increase in Fiat prices in the domestic market. Actually, Fiat's management expected competitors to increase their prices within two months after Fiat increased its own prices.

[1] F. Silva, M. Grillo, M. Prati, *Il mercato italiano del'auto nel contesto europeo* (Milano, 1982). See in particular pp.106-60.

c) Fiat's pricing behaviour in the 1970s cannot be considered as induced by a dominant position in the national market. In fact, the utilization rate of Fiat lines was low and the stock of unsold cars was huge throughout the period considered.

On the whole, the evidence revealed in this paper supports Silva's assumptions and the argument that implicit collusion effectively replaced tariffs during the 1970s.

Peter Howlett (London School of Economics)
British exports in the 1950s: some institutional and geographic considerations

This paper examines UK exports in the 1950s. It argues that a major problem facing UK exports in the post-war period, as trade liberalization took hold, was that they were spread across too many markets that were too far away, especially compared to the main competitors of the UK. The table below offers some preliminary evidence for this: in 1950 the UK is clearly an outlier compared to its major competitors. Furthermore, the UK was facing increased competition in many of its markets: in Latin America from the USA (aided by the weakening of the UK position during the war), West Germany in Africa, and Japan in Asia. This position will be set in historical perspective by considering the situation in 1913 and in the inter-war period.

Traditionally, the argument about the weakening UK export performance in the immediate post-war decades has focused on the 'soft colonial markets': the idea that UK exports were over-committed to markets where the UK had an unfair political advantage. The problem for the UK, it is argued, was that in this period those markets were either slow growing or, because of the granting of independence, ones in which the former political advantage was to become a disadvantage.[2] Thus, one question the paper will address is to what extent the 'over-commitment' of the UK, in terms of the number of export markets it serviced, was a result of colonialism.

Spread of export markets in 1950

	UK	**FRA**	**ITA**	**GER**	**JAP**	**USA**
No. 1 export market	AUS	ALG	UK	NED	USA	CAN
- as % of total exports	12.2	12.8	12.8	14.8	23.3	23.6
Concentration	Number of markets					
> 50 %	10	6	6	6	6	6
> 75 %	22	12	14	12	14	14
> 90%	37	18	24	23	23	24
> 95 %	48	22	29	30	28	30
> 99%	64	30	36	40	37	39
Total number of export markets	80	46	41	48	47	46

Notes: *Concentration* shows the cumulative sum of export markets (when ranked from the largest to the smallest) that account for x % of total exports. AUS is Australia, ALG is Algeria, CAN is Canada, NED is the Netherlands.

V/F Reading and Leisure

Chair: **Chris Wrigley** (Nottingham)

Matthew Adams (Hertfordshire)
Furnishing the colonial mind: book ownership in British India, 1780-1850

[2] A neat summary of this is provided by a quote from Foreman-Peck: 'In each period the UK producers lost potential exports by concentrating their efforts on countries that either had below-average growth rates or had adopted import-substitution policies' (in NFR Crafts and N Woodward (eds), *The British economy since 1945* (1991), p.146).

This paper seeks to explore the ownership, use and meaning of books amongst the British colonial elite in India. Though the book was one of the most significant material objects in the maintenance and development of knowledge and culture in Britain, attempts to develop accounts of ownership and readership that extend beyond very short periods, or very narrow groups of individuals, have been frustrated by limited sources. A remarkable series of probate inventories housed in the Oriental and India Office Collections of the British Library, however, makes an assessment of ownership patterns within the three Presidencies possible over a long period, while the epistolary habits of the colonial population allow an early sketch of the social and emotional contexts that informed reading practices to be made.[3] While probate accounts are notoriously difficult sources of information on consumer culture, disproportionately representing mature men of property, this is less of a problem in the colonial context: the majority of the Anglo-Indian population were men of property anyway, while high mortality rates on the subcontinent ensured that these men died in substantial numbers throughout the life cycle.

Despite stereotypical representations of the British nabob, whose consumer habits were understood to extend no further than the table, the bottle, his dress and the *nautch*, trade statistics suggest a vigorous market for books within colonial India. This evidence is both supported and nuanced by examination of probate data. The paper will seek to place this data within a British context: to a large extent, the market reflected the metropolitan profile outlined in William St Clair's *The Reading Nation in the Romantic Period*.[4] However, it will also seek to demonstrate the particularity of the colonial situation, particularly in the development of a broad range of texts dealing with Indian languages. Of course, language study already formed the core of education for men and women of the British elite; this was inflected by an enhanced interest in the English language, as epitomised by the popularity of Johnson's *Dictionary* (1755), and by the fashion for Oriental knowledge and culture.[5] In British India, however, these existing influences were further inflected by the imperatives of colonial rule, the peculiarities of the Anglo-Indian population, and the distinct natures of the three Presidencies. Essential to the East India Company's day-to-day functioning, these texts were an important element of the process by which India was made legible to its new rulers, while also casting new light upon European languages and language study.[6] Perhaps most significantly, the vibrant second-hand market in books, and particularly language texts, helped make British and European culture increasingly intelligible to propertied Indians, while the activities of colonial printers helped stimulate a burgeoning literature in various Indian languages.

At once material texts and imaginative contexts, the books that furnished the Anglo-Indian mind under colonial rule were integral components of British imperialism. They functioned as key sites of imperial sociability, helping to form, consolidate and regulate the colonial elite while maintaining emotional and intellectual contact with kith and kin in Britain. They provided mechanisms for the articulation of national identities, promoting particular visions and narratives of Englishness, Scottishness and Britishness able to withstand and explain the experience of Indian otherness. Finally, they were central to the British imperial mission itself, providing the ideological weaponry required by colonialism.

Carina Gråbacke (Gothenburg)

[3] This paper is based on the research done during an ESRC-funded project, 'Colonial Possessions: Personal Property and Social Identity in British India', and is derived from an article, 'Furnishing the Colonial Mind. Books and Their Readers in British India, c. 1780-1840', co-written with the Principal Investigator, Margot Finn, and now submitted for consideration to *The Historical Journal*.

[4] William St Clair, *The Reading Nation in the Romantic Period* (Cambridge, 2004).

[5] Samuel Johnson, *A Dictionary of the English Language ... To Which are Prefixed, A History of the Language, and An English Grammar* (London, 1755), 2 Vols.

[6] Bernard Cohn, 'The Command of Language and the Language of Command', in his *Colonialism and Its Forms of Knowledge: The British in India* (Princeton, 1996), pp.16-56; Thomas R. Trautmann, 'Dr Johnson and the pandits: Imagining the perfect dictionary in colonial Madras', *Indian Economic and Social History Review*, 38, 4 (2001), pp.375-97.

Organized leisure for the working class: European popular travel and leisure organizations in the inter-war period

This paper is intended as a contribution to the research concerned with the working class and leisure during the inter-war years. There has been a limited interest in the collective organizations that were formed in almost all European countries during this period. These organizations focused on different ways of organizing the leisure time of common people. Initially, they were focused on travel arrangements, but gradually as travel conditions deteriorated when the Second World War drew closer, their interest turned towards leisure activities in general.

I will argue that the logic behind these organizations can be explained by an understanding of how the working class in each country was organized. Moreover, these organizations can be understood in terms of some kind of paternalistic consensus-model, which implied that the leisure time of workers *had* to be organized. As well, there were often genuinely entrepreneurial interests behind the formation of travel organizations. The leisure industry expanded rapidly, creating business possibilities at the same time as the labour movements provided ample and organized markets for "red entrepreneurs".

In the democratic states, the reformist labour movement initiated "leisure organizations". These organizations took a number of different, but related forms. In undemocratic states, the state formed the leisure organization. Two of these popular travel organizations from the inter-war years are quite well known: Dopolavoro in Italy and Kraft durch Freude in Germany.[7]

However, their counterparts in the democratic states are not as well known. Focus will be on the Swedish organization, where the knowledge is derived from extensive archival research. Efforts to highlight what is known about other democratic countries' popular travel and leisure organization will also be made, as well as a comparison between the different organizations in general.

[7] De Grazia, V. (1981) *The Culture of Consent. Mass Organization of Leisure in Fascist Italy*. Cambridge; and Baranowski, S. (2004) *Strength through Joy. Consumerism and Mass Tourism in the Third Reich*. Cambridge.

Economic History Society Annual Conference

30 March – 1 April 2007

University of Exeter

Call for Academic Papers

The 2007 annual conference of the Economic History Society will be hosted by the University of Exeter from 30 March to 1 April.

The conference programme committee welcomes proposals in all aspects of economic and social history covering a wide range of periods and countries, and particularly welcomes papers of an interdisciplinary nature. Preference may be given to scholars who did not present a paper at the previous year's conference. Those currently studying for a PhD should submit a proposal to the New Researcher session; please contact Maureen Galbraith (ehsocsec@arts.gla.ac.uk) for further information.

The committee invites proposals for individual papers, as well as for entire sessions (3 speakers, 1.5 hours duration). The latter should include proposals and synopses for each paper in the session, although the committee reserves the right to determine which papers will be presented in the session if it is accepted. If a session is not accepted, the committee may incorporate one or more of the proposed papers into other panels.

For each proposed paper, please send (preferably by e-mail) a brief c.v. and a short abstract (including name, postal and e-mail addresses) of 400-500 words to:

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For full consideration, proposals must be received by 18 September 2006. Notices of acceptance will be sent to individual paper givers by 17 November 2006.

Should your paper be accepted, you will be asked to provide the following:

- A brief non-technical summary of your paper for the 'Media Briefings' section of the Society's website (by 3 January 2007).
- An abstract of the paper for inclusion in the conference booklet (by 3 January 2007).
- An electronic copy of your full paper, or a web address where the paper is available for consultation (by 5 March 2007).

It is the normal expectation that speakers who submit a proposal for a paper to the Conference Committee should be able to obtain independent financial support for their travel and conference attendance. However, a very limited support fund exists to assist overseas speakers who are unable to obtain funding from their own institution or from another source. Details of this fund and an application form can be obtained from the Society's administrative secretary, Maureen Galbraith (ehsocsec@arts.gla.ac.uk). It is important that a completed application form is included with the paper proposal and the brief c.v. which are submitted to the conference committee for the September deadline. Only in exceptional circumstances will later applications for support be considered.

Economic History Society Annual Conference

30 March – 1 April 2007

University of Exeter

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The session will be held on the afternoon of Friday 30 March 2007. Those wishing to be considered for inclusion in the programme at Exeter must submit a synopsis by 4 September 2006. This should provide a firm title, a succinct summary of the principal themes and methodology of the paper, and an outline of probable conclusions.

The synopsis should be of not more than 500 words. It must be accompanied by a clear statement of the progress of research, intended date for submission of thesis, and a statement of support from the supervisor. Please note that proposals from researchers at an early stage of their work will not normally be accepted.

Those selected for inclusion in the programme will be asked to submit a paper, 2,250-2,750 words in length, by 3 January 2007 for circulation in the conference booklet. Each new researcher will have the opportunity to speak for twenty minutes, followed by ten minutes of discussion. The student's supervisor will normally be expected to chair the session. Two prizes of £250 will be awarded for the best papers presented at the Conference by new researchers. The procedure for judging papers will be circulated to all participants.

The Economic History Society is able to offer limited financial support to enable new researchers to attend the Conference when this is not available from their institution.

Synopses, in MSWord, (including name, affiliation, postal and e-mail addresses) and any enquiries should be directed (preferably by e-mail) to:

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