

Notions of decline in the industrial sector of the British economy have given rise to concern and debate for several decades. Here Bernard Alford considers the problems of assessing the changing role of industry and examines various hypotheses that might help explain that change. He argues that, on the basis of international comparisons, Britain has been suffering from persistent and increasingly serious de-industrialisation, even during the years of the so called 'enterprise economy'.

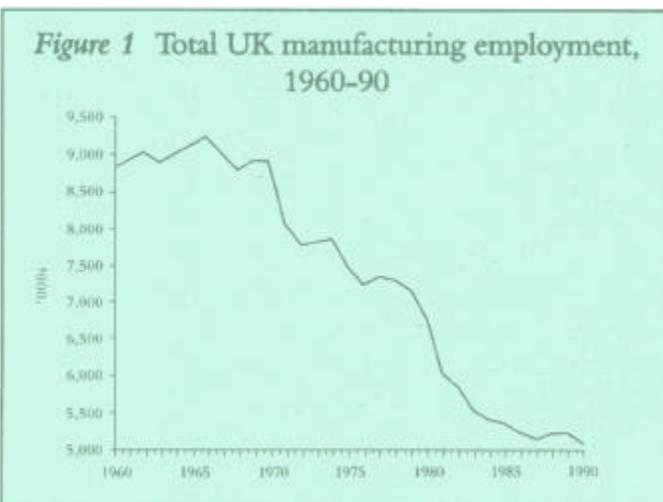
De-industrialisation

The Problem

The origin of the concept of de-industrialisation is uncertain but what is clear is that in the 1970s it became a central issue in contemporary debates about Britain's comparative international economic performance. On all the usual measures, Britain was seen to be falling behind the other advanced economies. The major exception was the United States which, like Britain, grew relatively slowly. But this transatlantic association hardly offered comfort, since levels of income and productivity in the US were still well ahead of those in Britain.

In their search for an explanation of Britain's lack-lustre performance, a number of economists came to focus on the level of employment in manufacturing industry. Relative to other sectors of the economy, employment in manufacturing had been declining since the 1950s, but what was held to be particularly alarming was that from 1965 onwards it began to fall absolutely. Figure 1 shows this downward trend.

Thus two questions suggest themselves. Was Britain experiencing a process of de-industrialisation stemming directly from a decline in manufacturing industry? Was this decline at the core of Britain's comparatively weak economic performance?



Source: Annual Abstract of Statistics

Measures of de-industrialisation

The decline in numbers employed in manufacturing was most marked from the 1970s onwards and this was reflected in its share of total employment (see Figure 2).

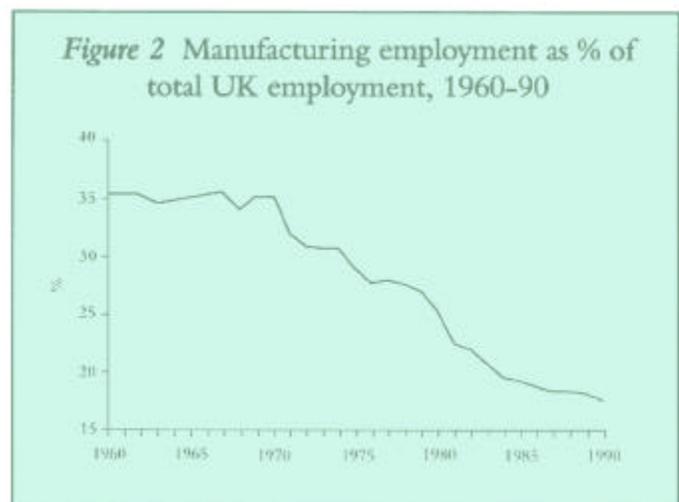
This fall was accompanied by a reduction in the share of manufacturing output in gross domestic product, though this reduction has been less pronounced than that for employment (see Table 1). Moreover, when output is calculated in constant prices manufacturing holds its share much more effectively. In other words, as output expands relative prices between manufacturing and services change because productivity tends to rise faster in industry

than in services. This pattern is common among the advanced economies.

The performance of manufacturing obviously has direct consequences for the balance of payments, particularly so for the UK since the economy is highly trade-dependent. For many, a sensitive indicator in this respect is the degree of import penetration, which measures the extent to which foreign-produced manufactures satisfy domestic demand (see Table 2). A final, overall measure of manufacturing performance can be given in terms of comparative trade shares (see Table 3).

Problems of interpretation

During the 1970s a de-industrialisation thesis was advanced under the polemical banner of 'Too Few Producers'. It gained considerable appeal, particularly on the right of British politics. In broad terms it claimed that insufficient resources were being devoted to those sectors that produced 'marketable output' – mainly manufacturing, mining and construction – on which the economy was based. The major cause of this shortcoming was diagnosed as the rapid growth in public expenditure which biased resources to



Source: Annual Abstract of Statistics

,non-marketable' output, mainly the service sector. Expenditure on welfare services became a major target of criticism, whilst the

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Table 1 Manufacturing Output as a Percentage of Gross Domestic Product in Current and Constant Prices, Selected Years 1950-90

Year	Current Prices	Constant Prices
1950	37	27
1955	37	28
1960	32	29
1965	33	30
1970	28	30
1975	26	29
1980	23	25
1985	22	24
1990	21	24

Source: C.S.O. *National Income and Expenditure*; J.Sefton & M.Weale, *Reconciliation of National Income and Expenditure. Balanced Estimates of National Income for the United Kingdom, 1920-1990*(Cambridge 1995), Tables A.1, A.2.2.

concurrent increase in the level of inflation and the fall in net exports of manufactures were seen to be a direct consequence of the squeeze on the 'market sector'. In short, the desirable and, maybe, the not so desirable were being allowed to 'crowd out' the essential. Few serious analyst would now accept this explanation and a brief examination of the reasons why this is so will serve to clarify some important issues in the debate.

The central flaw is that employment figures, alone, give no indication of levels of productivity, that is of output per person hour.

Table 2 Industrial Import Penetration of the UK Domestic Market, 1961-90, Selected Years. Imports as a Percentage of Domestic Sales.

1961	1965	1970	1975	1980	1985	1989	1993
10	11	15	25	26	24	27	43

Source: R.Bacon & W.A.Eltis, *Britain's Economic Problem: Too Few Producers* (1976, pp.217-31; C.S.O., *Annual Abstract of Statistics*)

For example, if manufacturing employment had not fallen between 1966 and 1974 and existing levels of productivity had been maintained, output would have been 8.6 per cent higher at the latter date. By contrast, if productivity in British manufacturing had matched the levels achieved by its French or German counterparts, output in 1974 would have been 70 per cent higher than the actual level, even with the reduction in the labour force that occurred. It was not a matter of *too few* producers but rather of *too low* producers.

The charge of too few producers rings even more hollow when employment trends are examined more closely. Much of the increase in public sector employment has been met by female employment, reflecting an increase in the female participation rate; and, particularly since the 1980s, an increasing proportion of this employment has been on a part-time basis. Moreover, there has been a rise in unemployment: from 1.4 per cent of the labour force in 1965 it rose to 3 per cent in 1975 and by the early 1990s it was averaging 10.5 per cent.

The distinction between 'producers' and 'non-producers', corresponding to 'marketable' and 'non-marketable' output, is fundamentally misleading. At one level it completely misses the point of the essential interdependence between different categories of workers- Thus the performance of manufacturing industry is critically dependent on the quality of labour (human capital) that it employs. In turn, a major determinant of the quality of human capital is the nature and level of provision for education and training, which involve occupations that fall within the so-called non-productive

Table 3 UK Comparative Share of World Exports of Manufactured Goods 1950-90 (Selected Years: %)

	1950	1960	1970	1970*	1980*	1990
UK	26	17	11	8	8	6
France	10	10	9	7	7	7
W. Germany	7	19	20	16	15	15
Japan	3	7	12	9	11	11
USA	27	22	19	15	13	12

Source: C.F.J. Brown & T.D.Sheriff, 'Deindustrialisation - A Background Paper', in F.T. Blackaby (ed.), *De-industrialisation* (1979); *GATT, *International Trade* (Geneva, various years). This latter source has the wider coverage.

sector. At another level, it ignores the fact that manufacturing firms, themselves, employ significant number of workers - such as accountants, lawyers, personnel mangers - who on an occupational definition must rate as 'non-producers'. Therefore, if there has been a process of de-industrialisation at work, the nature and quality of these inter-dependent relationships must be central to it. Significantly, there is a great deal of evidence available which demonstrates Britain's comparatively poor inter-national showing in the provision of education and training.

Another major problem of interpretation concerns the distinction between *shares* of gross output and absolute *levels* of output. In the early 1970s, between 1979 and 1982, and again in the early 1990s, gross domestic product actually declined; correspondingly, these were periods during which unemployment increased sharply. This suggests that, at higher levels of output and employment, a decline in *the share* of manufacturing in total output is not inconsistent with its maintaining or even increasing its absolute *level* of output. Thus it will be necessary to consider below whether a decline in manufacturing is part of a general shortfall in economic performance, rather than as something specific to itself or something which results from some transfer of resources to other sectors.

The link between manufacturing and external trade presents a further set of problems. One such problem relates to import penetration. This measure may well convey the impression that the rate of its increase is a direct indication of the retreat of manufacturing. But this is to ignore the fact that the powerful dynamic in post-war international trade has been the exchange of manufactured goods between advanced economies based on differing comparative advantages. An increase in import penetration is thus a natural consequence of the growth in world trade. The question then becomes the difficult one of deciding at what point this index ceases to be a positive indication and, instead, signifies that the economy is failing to maintain its relative position in world trade.

For Britain there is an added complication. The discovery of large reserves of oil in the North Sea was seen by many contemporaries as a new Eldorado, the gains from which would re- invigorate the British economy. But the extent to which this led to resources being switched from other activities into oil production, and the degree to which revenues from oil exports fed into the balance of payments and thus into disposable income, could well have had structural effects on the economy. The consequences could be as follows: there would tend to be a reduction in domestic produced manufactures for both home consumption and export; imports of manufactures would tend to rise accordingly; these trends would be accentuated to the extent that the petro-currency effect would cause the sterling exchange rate to appreciate. Since productivity (in terms of output per person employed) in oil production is higher than in manufacturing, the combined effect of these changes could be a significant reduction of employment in manufacturing. Such a reduction should be discounted against any broader calculation of the extent of de-industrialisation, since it would represent an effective re-allocating of resources in response to changes in comparative advantage. just how significant these effects were will be considered on page 7.

Explanation

In a major study of de-industrialisation and foreign trade, two economists, Rowthorn and Wells, have specified three possible theses, or hypotheses, which might explain changes in sectoral employment in Britain (or elsewhere) during the period. Together these provide an excellent framework for our analysis.

The first is the **Maturity Thesis**. It holds that once an economy reaches a certain (high) level of development (maturity) as measured by income per head, it will experience a decline in the proportion of employment accounted for by industry, since an increasing proportion of income will be spent on services in which labour productivity rises more slowly than in industry. In the initial stages labour might be drawn into services from agriculture, but eventually it will come from industry and, particularly, from the manufacturing sector within it. It follows that the change in labour force shares will be accompanied by a varying adjustment in the absolute number employed in industry depending on whether total employment is falling, static or growing; and on the rate at which it is falling or growing. Total employment is determined by a combination of demographic change, hours of work and the participation ratio. The last measures the proportion of those in the working age groups who offer themselves for employment and it is particularly sensitive to female employment.

The second possibility is the **Specialisation Thesis**. It focuses on the distribution employment in relation to the pattern of external trade. Thus, during a given period, trading conditions might force an economy to concentrate heavily on manufacturing in order to pay for necessary, and maybe costly, imports of primary products and raw materials. But over time conditions might change: it may prove possible to develop comparative advantage in the export of certain services; new technologies or discoveries may bestow a comparative advantage in the supply of certain nonmanufactured goods; relative prices might change significantly

Table 4 UK Comparative Employment in Manufacturing Industry as percentage of civilian employment, selected years 1960-1990

	1960	1968	1974	1983	1985	1990
UK	38.4	36.4	34.6	26.2	25.0	22.2
France	27.3	26.8	28.3	24.3	23.2	19.8
W. Germany	34.3	35.7	35.8	32.1	32.3	30.2
Italy	24.2	27.0	28.0	25.0	23.2	22.4
Japan	21.3	26.1	27.2	24.5	25.0	24.1
Canada	24.6	24.4	21.7	17.6	17.5	15.9
USA	26.5	27.5	24.2	19.8	19.5	18.6
Average	27.2	28.6	27.5	23.1	22.7	20.9

Source: OECD, *Historical Statistics* (Paris 1995), Table 2.11.

maybe as a result of a sharp increase in world output of primary goods -so that less manufactured goods are needed to pay for imports. Any one or a combination of these will cause a swing in employment away from manufacturing since the economy will become less specialised. By the same token, this is a dynamic process which at any time might move in the opposite direction.

There remains the **Failure Thesis** which is a direct indictment of poor economic performance. Output and employment in manufacturing are judged to have failed to achieve their potential as measured by comparative international performance. De-industrialisation has been the result.

These three explanations are not mutually exclusive. The task is to disentangle whether, and to what extent, each has played a part in British economic history since the Second World War.

On the basis of comparative data there is clear evidence of a maturity effect at work among the advanced economies, including Britain (see Table 4). The general pattern has been one of an increase in the share of manufacturing employment followed by a decline which became marked from the late 1970s onwards. But the timing of the initial onset has varied significantly. An important element in this variation has been the size of the agricultural sector, which in such major economies as Germany, France and Japan was still large at the beginning of the period; the shares in total employment in 1950 were 22 per cent, 28 per cent and 48 per cent respectively. In contrast, British agriculture accounted for only 5 per cent of the total. As production and incomes continued to rise these large reserves of agricultural labour were siphoned off and there came a point at which, as in the case of Britain, services could only increase

Their share of employment at the expense of manufacturing. As noted earlier, however, the timing and rate of these sectoral changes were affected by the rate of growth of the total labour force.

The Maturity Effect is far from being unlimited, however. Increases in real incomes will lead to higher demand for manufactured goods as well as for services, even though it will be less than proportionate; and it is impossible for an economy the size of the UK to meet this demand through imports financed by services income alone: the potential demand for invisible exports could never be adequate. It was estimated in 1978, for example, that a one per cent fall in the UK share of world exports of manufactured goods would require the UK's share of world trade in services to rise by 33 per cent. In sum, whilst the maturity effect may lead to a shift in UK employment away from manufacturing and to some fall in the share of manufacturing in total output (though when measured in constant price, the fall might be quite small), in a growing economy the absolute level manufacturing output should continue to grow.

The **Specialisation Thesis** has been examined in detail by Rowthorn and Wells. Immediately after the war and continuing into the early 1950s, Britain had a heavy deficit on non-manufacturing trade, mainly accounted for by food and raw materials. In 1950-2, the deficiency amounted to 13.3 per cent of GIMP. In order to close this gap, Britain was heavily reliant on exports of manufacturing, since its service exports had suffered both from the effects of the war and

longer term changes in demand, whereas manufacturing industry remained more intact than its former competitors in western European economies and Japan, and thus faced a sellers' market. In the following period up to the early 1970s, the balance of trade on non-manufactured goods changed dramatically as a result of a combination of falling world prices, increased domestic output of agricultural products, the growing use of synthetic alternatives to natural raw materials and an improvement in invisible trade. The combined effect of these changes was a less specialised trading pattern and a

reduction in the deficit on trade in non-manufactures to 3.4 per cent of GDP by 1970. In turn, Britain's export dependence on manufacturing declined with corresponding effects on its share in total employment. Furthermore, this more diverse composition of trade facilitated a greater two-way flow of manufactured goods, which was an element in the rise in import penetration.

Within this context of changing trading patterns the impact of North Sea oil was of secondary importance. Before the oil came on stream, the decline in domestic coal production, increasing imports of oil and gas and the enormous rise in oil prices imposed by the OPEC cartel in 1973, exerted a pressure for larger exports of manufactured goods. But once the revenues from domestic oil production began to flow, the pressure was eased. More broadly, the improvement in the non-manufacturing balance (excluding oil) between 1950 and 1983 was equivalent to 11.5 per cent of GDP at the latter date, which was far larger than the improvement of 2.4 per cent due to oil. Furthermore, it has been estimated that half the improvement in the fuel balance between the late 1970s and the mid 1980s was the result of poor growth in the economy.

Whilst there is, therefore, clear evidence of a (de)-specialisation effect, as with the maturity thesis, it does not follow that the proportionate decline in manufacturing output should necessarily be accompanied by a fall in the Level of manufacturing output or even by a zero or low rate of growth of output. The determining element is the overall performance of the economy, and this leads directly to the third hypothesis, that of failure.

Various measures of British economic performance since the

Table 5 UK Comparative GDP per head 1950-92
(International Dollars/UK=100)

	1950	1973	1992
UK	100	100	100
Austria	54	94	109
Belgium	78	99	109
France	76	108	114
W. Germany	63	110	123
Italy	50	87	103
Netherlands	85	106	107
Norway	73	85	111
Sweden	98	113	108
Switzerland	131	150	134
Japan	27	92	123
USA	140	138	137
Arithmetical Average	81	107	115

Source: Derived from A. Maddison, *Monitoring the World Economy 1820-1992* (Paris OECD, 1995), p.23.

Second World War tell a similar story. There has been an improvement on pre-war levels but Britain has steadily fallen in the world league, so that it is now near the bottom (see Table 5). There is, currently, a hotly debated issue as to whether there has been some catching up of lost ground during the very recent period though this is not something we need to consider here. The general picture is that throughout the period productivity growth was weak and from the 1970s onwards there was a rising level of unemployment.

The productivity performance of manufacturing industry during the 1980s superficially appears quite impressive against the longer-term pattern, and there were undoubtedly improvements in many sectors of manufacturing. But a large part of the overall gain resulted from marginal and less efficient units in a range of industries going out of production. Between 1978 and 1983 manufacturing output fell in real terms by 9.6 per cent and it did not recover to the earlier level until 1987. Gross real fixed investment in manufacturing fell by a massive 31 per cent between 1979 and 1983, and it did not match the former level until 1988. Investment rose until 1989 but by 1992 it had fallen again by 21 per cent to a level comparable to the poor years of the 1970s. Between 1979 and 1992, employment in manufacturing fell from 7.1 m. to 4.4 m. On this record, manufacturing failed to match potential with performance by quite a wide margin. But the indictment of it can hardly be more severe than that against the economy as a whole.

There is, therefore, firm evidence that a stronger economic performance, as measured in comparative international terms and against the wide margin of unemployed resources, would have resulted in higher levels of manufacturing output during the period. Some of this increase would have been used to pay for imports of non-manufactures but, also, there would have been a substantial rise in imports of manufactures on the basis of comparative advantage in

their production. Other ways of achieving balance could have included an addition to foreign exchange reserves (which were often under acute pressure), increased foreign investment and more expenditure overseas on defence and aid. This lost output which, on a crude comparison with the average level of income per head for broadly comparable OECD countries, amounted to something of the order of 10 per cent in 1992, is a rough measure of de-industrialisation Britain.

The impact that a higher level of economic activity would have had on the share of manufacturing employment is far less clear. A significant improvement in productivity performance – in part facilitated by higher levels of investment – could have produced substantial gains in output with little or no increase in employment, whilst employment in non-manufacturing sectors would have risen both relatively and absolutely. In other words, there would have been a trade-off between productivity growth and employment growth, with the likelihood of a higher absolute level of employment in manufacturing but one which accounted for a declining share of the total.

Conclusion

At the outset of this survey the point was stressed that employment shares are a treacherous guide as to whether the British economy has experienced de-industrialisation. Similarly the share of manufacturing in total output in current prices can easily be misinterpreted. The surer test is one based on an examination of the performance of industry within the wider framework of the development and performance of the whole economy. Within this approach we have considered three hypotheses. Some part of the relative decline in manufacturing can be explained by the maturing of the economy and some by the changing pattern of specialisation within it in relation to external trade. But these effects are largely the benign consequences of economic change and development. If the UK is to remain successful, these effects can never reduce the role of manufacturing to a minor position. Manufacturing will always be central, even though it will remain proportionately less important than in the past. The truly serious consequences are those which stem from poor economic performance. Precisely how this is measured is open to argument, but international comparison are the most obvious and most widely accept yardsticks. On this score, Britain has been suffering from persistent and increasingly serious de-industrialisation. It is perhaps ironic that a particularly acute phase of the process occurred during the years of the so-called enterprise economy.

Further reading

F. Blackaby (ed.), *De-industrialisation* (London 1979).

R.E. Rowthorn & J.R. Wells, *De-industrialization and Foreign Trade* (Cambridge 1987).

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