IPO Waves: An Empirical Analysis of Going-public Decisions in the Netherlands, 1876-2009

Abe de Jong and Wilco Legierse[1]
Rotterdam School of Management, Erasmus University

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Abstract

This paper analyses waves in initial public offerings (IPOs) in the Netherlands over the long period 1876 to 2009. We aim to explain the clustering in IPOs using both econometric modelling and historical analysis. We find that IPO waves are partially explained by a set of characteristics of the Dutch market, which influence IPOs over the full period, such as growth of the economy, stock market return and volatility, and the development of the Amsterdam stock exchange. Although, these characteristics explain part of IPO waves, detailed historical analyses also demonstrated the relevance of factors that are unique to specific periods, such as the widespread use of technological innovations, industry-specific growth, and legal-political shifts.

JEL classification:
Keywords: going public, initial public offering, timing

[1] Corresponding author: Wilco Legierse, Rotterdam School of Management, Erasmus University, Department of Finance, Room T9-25, P.O. Box 1738, 3000 DR Rotterdam, The Netherlands. Phone: +31 10 408 2790, Fax: +31 10 408 9017, Email: wilcolegierse@ziggo.nl.

1. Introduction

The going-public decision is an important financial decision for firms to make. Going public is a real driver for a firm's development, enabling it to increase its equity while also reinforcing its structure and reputation. The public status also provides the firm with an objective valuation, as the share prices are published on a daily basis. Next to this a publicly listed firm experiences changes in the shareholder base and becomes vulnerable to a hostile takeover. Since many years it is known that initial public offerings (IPOs) cluster in time (among others Ibbotson and Jaffe, 1975; Ritter and Welch, 2002) and that IPOs are characterized by so-called hot and cold markets, with, respectively many and few IPOs.

We have constructed a data set with all Dutch initial public offerings since 1876, the year of the establishment of the *Vereniging van de Effectenhandel*, the stock market foundation, which has been in existence until the recent merger into EuroNext and subsequently with NYSE. From the observation of the distribution of the IPOs in our data set it becomes clear that these offerings are highly clustered. For example in the hot market of 1921, 46 firms went public, while in 1925 only 9 firms launched an IPO. The aim of our study is to understand why hot IPO markets occurred in the Netherlands in the period 1876-2009.

The motives for going public and the underlying causes of clustering are in the existing literature investigated from different perspectives. The first perspective takes an economic stand. In this perspective the proceeds of an IPO are used to fund investments and future growth opportunities and because these investments and opportunities vary with the business cycle, IPO volume varies with it (Lowry, 2003). In this perspective GDP growth and the level of interest rates are important. For example, firms are expected to issue debt when interest rates are relatively low, which is usually the case in economic periods of contraction (Choe, 1993). So in this perspective IPO volume is expected to be high in expansionary phases of the business cycle and low in periods of economic contraction.

A second perspective focusses on the distribution of IPOs per industry, in particular in hot versus cold markets. According Helwege (2004) there is not much difference between the dominant industries in hot and cold markets, indicating that IPO clusters are driven by overall market

conditions. On the other side however there is literature that demonstrates that hot markets are dominated by a specific industry. According Pagano (1998) do firms issue an IPO in times when the market-to-book ratio of listed firms of the same industry is high and Lowry (2003) who suggest that the positive sentiment among investors for IPOs is more valuable for firms in the same industry. Technological developments do normally not arrive at a constant pace and are not distributed equally over all industries. This causes according Pàstor (2005) that IPOs in technology-related industries cluster in time since IPOs are meant to finance innovations.

The third perspective is a life cycle perspective. Going public is in this perspective a logical step in the life cycle of a firm. In this perspective a listing could be used to make it easier for a potential acquirer to spot a potential takeover target (Zingales, 1995), to allow more dispersion of ownership (Chemmanur, 1999), to create an exit for the founders of the firm or for a venture capitalist (Lerner, 1994), or to obtain the currency for acquisitions.

The fourth perspective describes an opportunistic approach in which firms benefit from postponing or accelerating their IPO over a relatively short period to time their IPO to coincide with favorable market conditions (among others Çolak, 2011). The motive for an IPO is in this perspective not relevant; firms use a window of opportunity to receive the highest pay-off. In this perspective it is more likely that firms issue an IPO in times when equity valuation in general is high (Lerner, 1994 and Banerjee, 2012), the sentiment among (retail-)investors is positive (Lowry, 2002), market return has low volatility (Choe, 1993; Pàstor, 2005) and analysts are (over-)optimistic about earnings and long-term growth prospects (Rajan, 1997). That the market conditions are favorable for IPOs is not always clear to the issuer since the information of previous IPOs is private. But the fact that a firm goes ahead with his IPO does convey meaningful information to observing firms which can conclude that market conditions are favorable for next IPOs and also decide to issue an IPO, creating a herding wave[2] (Nelson, 2002). The opportunistic perspective assumes information asymmetry between issuers and investors.

[2] Note that since the IPO process is time consuming, there will also be a lag in time for issues although these firms are at the same time in need for new capital or respond to a market variable. This can also lead to a high first order autocorrelation of IPOs, falsely indicating that herding has taken place.

Our observation of the existing literature is that IPOs do cluster in time but that the causes of this clustering are hotly debated and that researchers studying IPOs often discuss motives for going public as determinants of clusters. We agree with Brau (2010) that the motives for going public and the clustering of the IPOs, though related, are separate questions. As Ritter (2002) we distinguish non-financial and financial motives but although non-financial motives can add value to a firm (Maksimovic, 2001), we think that these motives play a minor role in the clustering of IPOs. Our stance towards the causes of clustering of IPOs in our investigated period is that no single explanation exists and that there is a combination of recurring financial (economic and opportunistic) and unique explanations. We also expect unexplainable clusters. This has major implications for the empirical approach.

In this paper we first build a time series regression model based on determinants of IPOs from literature based on the four before-mentioned perspectives and empirical data, aiming to explain the clustering in time of firms going public in the Netherlands between 1876 and 2009. In a second step we test via in-depth historical analysis whether hot markets from our data set that do not coincide with the hot markets from our model, are driven by unique institutional determinants or are dominated by a specific industry. As Morck (2011) describes, for this we will take the historians' approach and infer the causes of these hot markets via a detailed description of the context and check on consistency.

In our time series model we include four variables: (i) interest rate, (ii) stock market index, (iii) growth in gross domestic product and (iv) the total numbers of listed funds per million inhabitants of the Netherlands. While the interest rate and the stock market index capture the costs of debt financing and the relative equity valuation, growth in GDP proxies economic growth. The total numbers of listed funds per million inhabitants is an indicator of the importance of the Amsterdam stock exchange for capital markets in the Netherlands (Rajan, 2003). Using our time-series regression model we calculate the predicted number of IPOs per year and compare the clustering of IPOs from our model with our data set. We follow the method of Helwege (2004) and define a hot market as a period where the three-year average of the number of IPOs is in the highest quartile of our data set and check if these hot markets coincide with the hot markets predicted by our model.

We do find evidence that recurring economic and opportunistic determinants explain clusters in IPOs. Growth in GDP, stock market return and volatility are drivers for the clustering of IPOs in general but we also find evidence that the widespread use of technological innovations, industry-specific growth, and legal-political shifts are also important unique determinants for clustering. In the economic history literature IPOs have often been studied, but typically in a specific time frame (among others Fohlin, 2010; Burhop, 2011). In the finance literature, IPO waves have been studied in relatively short periods (among others Lowry, 2003) and for the markets as a whole. We contribute to the economic history literature and the finance literature by studying the causes of IPO clusters for the market as a whole and for industries over a period of more than 130 years, using recurring and unique determinants.

The remainder of this paper is organized as follows In the next part we give an overview of literature that describes determinants that influence the decision and timing of going public. In the third part we give an overview of the evolution of financial institutions in the Netherlands and in the fourth part we describe our methodology. In the fifth part our time series regression model is presented and in the sixth part we investigate via in-depth historical analysis hot markets and check if hot markets that do not coincide with the hot markets from our model are driven by unique determinants or specific industries. Discussion and conclusions are offered in the part seven and eight.

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