Why do firms decide not to go public? : evidence from the U.K.

Cao, Qin

2008

Cao, Q. (2008). Why do firms decide not to go public? : evidence from the U.K. Doctoral thesis, Nanyang Technological University, Singapore.

<https://hdl.handle.net/10356/41854>

<https://doi.org/10.32657/10356/41854>

**WHY DO FIRMS DECIDE NOT TO GO PUBLIC?
-- EVIDENCE FROM THE U.K.**

CAO QIN

Nanyang Business School

A thesis submitted to the Nanyang Technological University
in fulfillment of the requirement for the degree of
Doctor of Philosophy

2008

Acknowledgements

This work would not have been possible without the support of my supervisor Dr. Qian Sun. He has provided me with extensive professional and personal guidance and taught me a great deal about academic research. He has left me with great space and freedom to learn and to grow.

I would like to express my deepest gratitude to my co-supervisor Dr. Shaojun Zhang. As my teacher and mentor, he has offered me priceless guidance on both academic research and life in general. He has taught me more than I could ever give him credit for here.

I am grateful to all of those with whom I have had the pleasure to work during this project. Each of the members of my Dissertation Committee, Dr. Sie Ting Lau, Dr. Nilanjan Sen and Dr. Keshab Man Shrestha, has been very supportive of my research and has provided many precious suggestions to improve my work. Two anonymous external examiners have contributed many constructive advices to this work.

I would especially like to thank Dr. Sie Ting Lau, the chairman of my committee. He has heartedly guided me on my research as well as career goals.

Table of Contents

List of Tables	iii
Abstract.....	iv
Chapter 1 Introduction	4
Chapter 2 Literature Review	6
2.1 Theories of Going Public	6
2.2 Empirical Evidence on Going Public.....	11
2.3 Theories of Capital Structure	13
2.4 Theories and Empirical Evidence on Going Private	15
Chapter 3 The U.K. Market	17
3.1 U.K. Company Law for Public and Private Companies	17
3.2 The Stock Exchanges in the United Kingdom	20
Chapter 4 Data and Methodology	23
4.1 Data Sources	23
4.2 Sample Construction.....	26
4.3 Explanatory Variables.....	29
4.4 Methodology	31
4.5 Summary Statistics.....	37
Chapter 5 The Informational Costs and Benefits of Going Public	44
5.1 Hypotheses - Large Independent Companies.....	46
5.2 Small Companies	50
5.3 Carve-Out Companies.....	50
5.4 Mergers & Acquisitions.....	50
5.5 Empirical Results.....	52
5.6 Robustness Tests.....	62
5.7 Summary	64
Chapter 6 The Effects of Ownership and Control on the IPO Decision	65
6.1 Hypotheses - Large Companies	66
6.2 Family Controlled Companies	75
6.3 Small Companies	76
6.4 Mergers & Acquisitions.....	77
6.5 Empirical Results.....	78
6.6 Summary.....	86
Chapter 7 The Comprehensive Ex Ante and Ex Post Evidence on the Decision to Go Public	87
7.1 Hypotheses.....	88
7.2 Empirical Results.....	100
7.3 Summary.....	111
Chapter 8 Conclusion.....	113
References.....	116
Appendix 1: Testable Hypotheses and Predictions.....	163
Appendix 2: Variable Definitions.....	165
Appendix 3: IPO Number Reconciliation.....	167
Appendix 4: Correlations among Ownership Variables	170
Appendix 5: Logistic Models with the Complete Samples.....	171
Appendix 6: Proportional Hazard Models with Matched Samples.....	178

List of Tables

Table 1: Descriptive Statistics	125
Table 2: Summary Statistics for the IPO and Control Groups.....	130
Table 3: Ex Ante Informational Determinants of IPO on LSE – Independent IPOs and Carve-Outs	133
Table 4: Ex Ante Informational Determinants of IPO on LSE or AIM/Ofex - The Complete Samples	134
Table 5: Ex Ante Informational Determinants of IPO on LSE or AIM/Ofex with Smaller Control Samples	135
Table 6: Ex Ante Informational Determinants of the Choices between IPO on LSE, M&A, and Remaining Private	136
Table 7: The Change of Auditors before IPO on LSE	137
Table 8: Ex Ante Determinants of IPO on LSE Related to Ownership - The Complete Samples.....	138
Table 9: Ex Ante Determinants of IPO on LSE Related to Ownership with Smaller Control Samples.....	140
Table 10: Ex Ante Determinants of IPOs on AIM/Ofex Related to Ownership - The Complete Samples	141
Table 11: Ex Ante Determinants of IPOs on AIM/Ofex Related to Ownership with Smaller Control Samples	142
Table 12: The IPO Decision of Small Family Controlled Companies.....	143
Table 13: The IPO Decision of Large Widely Held Companies	144
Table 14: Ex Ante Ownership Related Determinants of the Choices between IPO on LSE, M&A, and Remaining Private	145
Table 15: Ex Ante Determinants of IPOs on LSE – The Complete Samples	150
Table 16: Ex Ante Determinants of IPOs on LSE with Smaller Control Samples	152
Table 17: Wilcoxon Signed Rank Tests on Post-IPO Accounting Performances.....	154
Table 18: The Ownership Structures of the IPO versus the Control Groups.....	158
Table 19: Changes of Ownership Structures around IPO	160
Table 20: Selling Behavior of Initial Shareholders.....	162
Table 4b: Ex Ante Informational Determinants of IPO on LSE or AIM/Ofex.....	171
Table 8b: Ex Ante Determinants of IPO on LSE Related to Ownership - The Complete Samples....	172
Table 10b: Ex Ante Determinants of IPOs on AIM/Ofex Related to Ownership.....	173
Table 12b: The IPO Decision of Small Family Controlled Companies.....	174
Table 13b: The IPO Decision of Large Widely Held Companies	175
Table 15b: Ex Ante Determinants of IPOs on LSE – The Complete Samples	176
Table 5b: Ex Ante Informational Determinants of IPO on LSE or AIM/Ofex with Matched Samples	178
Table 9b: Ex Ante Determinants of IPO on LSE Related to Ownership with Matched Samples.....	179
Table 11b: Ex Ante Determinants of IPOs on AIM/Ofex Related to Ownership with Matched Samples	180
Table 16b: Ex Ante Determinants of IPOs on LSE with Matched Samples	181

Why Do Firms Decide Not to Go Public?

– Evidence from the U.K.

Abstract

This research investigates why the majority of private companies that are eligible for public listings choose not to do so. The choice between going public and staying private is regarded as the decision of the initial owner of a private company balancing the costs against the benefits of an Initial Public Offering. I use a comprehensive database with both accounting and ownership data of vast private companies in the U.K. to test the ex ante determinants of the IPO decision, as well as the ex post consequences.

The major tests are conducted in three steps. The first step examines the information related determinants of the IPO decision. The second step investigates the ex ante determinants of the IPO decision regarding ownership and control. The third step estimates complete ex ante models to investigate the relative importance of all the key factors affecting the IPO decision, as documented in the literature. It also examines the post-IPO performances of the IPO companies, and compares these with the performances of the matched companies that stay private.

The findings from both ex ante and ex post tests with accounting and ownership variables suggest that the main reasons that some private companies are reluctant to go public include the potential loss of control, high direct costs of listing, loss of confidentiality, and high costs of capital predicted by the pecking order theory, while the major benefits that a public listing can provide include an exit channel for the venture capital or private equity shareholders and better access to capital. In addition, the companies going public also consider the costs of agency problem and information asymmetry as well as the benefits of improved share liquidity, information spillover from the stock market, higher valuation in the “hot” market time, and better product reputation.

Chapter 1 Introduction

While going public is generally viewed as a good way to promote a company's reputation, many companies choose to stay private. In the U.S., engineering giant Bechtel, agricultural behemoth Cargill, and food colossus McCain Foods are all private. In the U.K., this research indicates that out of more than 60,000 non-financial domestic private companies that are eligible to go public, only 434 were actually listed on the London Stock Exchange in 1993-2005¹. In other countries with less developed capital markets, public companies are the exception rather than the rule. Pagano, Panetta and Zingales (1998) report 76 non-financial Italian firms going public out of the 2,181 eligible private companies. Why do so many firms not go public? If we consider this issue from the perspective of the firm owners, the fact of significantly large portion of private companies suggests the costs of IPO to the firm owners should be significantly larger than the benefits. This research investigates the reasons for staying private, by focusing on the costs of IPO while balancing those costs against the benefits.

There is a rich theoretical literature² modeling a variety of motives for going public. However, because reliable information regarding private firms is generally difficult to obtain, empirical tests of the incentives to go public is scarce in the literature. To my knowledge, only one published paper explores this area directly. Pagano, Panetta and Zingales (1998) use a large sample of Italian private companies

¹ The data source is FAME that will be described later.

² For example, Leland and Pyle (1977), Merton (1987), Welch (1989), Ritter (1991), Pagano (1993), Zingales (1995a), Mello and Parsons (1998), Pagano and Roell (1998), Chemmanur and Fulghieri (1999), Stoughton, Wong and Zechner (2001), Boot, Gopalan and Thakor (2003), and etc.

and find that firm size and the industry's market-to-book ratio affect the probability of a firm going public. However, they are unable to test the hypotheses related to ownership that are among the most important factors in the IPO decision, because IPO is essentially a way that a private company's owners sell shares to the public. In addition, the results from a relatively small market cannot be easily generalized to the global market.

Four working papers touch on the topic of the IPO decision empirically from different aspects. Helwege and Packer (2004) collect data for 155 large U.S. private companies required to file with the SEC because of their public debt issuing or large shareholder bases. Fischer (2000) uses data from Germany and tests the listing decision of technology-based firms on the Neuer Market. Rosen, Smart and Zutter (2005) provide evidence from the banking industry. Last, Boehmer and Ljungqvist (2004) examine the timing of IPOs in Germany with firm-level changes in valuations and the external market. However, all the working papers above suffer from the problems of small sample size or selection bias, and thus only capture the IPO motives of a small group of private companies. Second, the papers merely examine a specific small group of firms or over a specific short time period. Third, all the papers except Helwege and Packer (2004) lack ownership data of private companies, and thus can only provide indirect tests on ownership related hypotheses with accounting data.

This research takes advantage of the requirement that all, except very small, public and private companies in the U.K. must file their financial statements plus

additional information to the government. I use a comprehensive database compiled from the filing records to investigate the true motives behind the private companies' choice between going public and staying private. As the U.K. and the U.S. are typically categorized as part of the same Anglo-American corporate governance system (La Porta et al, 1997; 1998), the results of this study are well ready to generalize into the U.S. market, where the information on the whole of the private sector is currently not available.

This research examines the determinants of the IPO decision in three steps. Among the various hypothesized costs of IPO, the most important are information asymmetry and loss of private benefits of control. These effects will be investigated in two separate chapters (Chapters 5 and 6) to segregate their distinct effects. In addition, as the literature has documented a lot of factors that affect the IPO decision, simple models are useful to reduce the magnitude of correlations between independent variables and loss of observations generally found in large models. In the third step, Chapter 7 extends the findings from the previous two chapters and estimates complete ex ante models, incorporating most of the major factors documented in the literature that affect the IPO decision. This chapter also provides ex post evidence on the decision to go public, which assists in revealing the true motives behind the IPO decision.

The empirical results suggest that, when making the IPO decision, the initial owners of the private companies seriously consider informational contents, control and

liquidity issues, as well as capital structure, financial consequences and product market reactions.

The contributions of this research are fourfold. First, it is the first comprehensive empirical research that offers ex ante evidence on the ownership and control factors in the IPO decision. This study capitalizes on the requirement for all, except very small, public and private companies in the U.K. to file their financial statements and some other information to the government. The information is compiled in a database “Financial Analysis Made Easy” (FAME) by a database vendor “Bureau van Dijk (BvD)”. The database covers 2.3 million firms and spans 14 years from 1992 to 2005³, and is free from any noteworthy selection bias. More importantly, the ownership data provide a precious opportunity to examine the ownership and control issues related to the listing decision, which is not possible in other empirical studies. Specifically, the data allow for the comparison between the ownership structures of the IPO companies and those of the peer private companies, as well as the selling behavior of various types of shareholders.

Second, when it comes to the decision regarding a public equity listing, the divergence of different types of shareholders regarding control becomes especially prominent. The results of this study uncover the control preferences of various types of shareholders of private companies, whose ownership structures are generally in the dark. In particular, we find significant differences between major family shareholders and institutional shareholders.

³ The coverage varies in different versions of the database as will be discussed in details in the data section.

Third, this study examines small companies as a separate group. Small companies are interesting because the IPO literature has downplayed the participation of small firms, despite the fact that the vast number of rapidly growing small firms constitutes a significant part of the business world (Pettit and Singer, 1985). Moreover, the incentives for small firms to go public are not only important for small companies, but also provide a different means to examine the listing incentives of large companies. Because of firm size and other size related factors, the considerations of small firms seem to be quite different from those of the large firms.

Fourth, this research incorporates the factors in the IPO decision and the factors in the choice of being taken over by public firms to provide interesting insights into the information asymmetry and agency problems.

Last, the evidence in this work also sheds lights on the level of private benefits associated with control, not only in public companies but also in private companies.

The structure of this research is as follows: the second chapter reviews the related literature; Chapter 3 provides information on the U.K. market; Chapter 4 examines the data and methodology; Chapter 5 discusses the hypotheses and empirical evidence related to informational costs and benefits of going public; Chapter 6 examines the hypotheses and empirical evidence related to the effect of ownership on the IPO decision; Chapter 7 investigates all the major factors affecting

the IPO decision, and presents both ex ante and ex post empirical evidence. The last chapter is the conclusion of the whole dissertation.

Chapter 2 Literature Review

2.1 Theories of Going Public

To my knowledge, the huge body of theoretical literature related to the motives of going public can be roughly categorized into four groups. The first branch of literature deals with the informational benefits and costs related to an IPO. Because firm insiders have better information on the firm value and investment opportunities than outsiders, this information asymmetry creates the possibility that the market will not price the firm's claims correctly (Akerlof, 1970; Spence, 1973). When there is asymmetric information between managers and investors, a firm raising external capital to fund new projects faces an adverse selection problem (Leland and Pyle, 1977). Firms with less valuable opportunities can issue securities that mimic those offered by firms with more valuable opportunities, resulting in overvalued securities for low-valued firms and undervalued securities for high-valued firms. Information asymmetry also incurs costs such as IPO underpricing (Rock, 1986; Maug, 1999).

Based on information asymmetry, signaling theories view IPO as a bad signal for overvaluation when the insiders sell a large portion of the firm (Leland and Pyle, 1977). Later advances in signaling theories focus on the use of signals to reduce adverse selection problems when companies go public. The effective signals

include insiders' stakes (Leland and Pyle, 1977), leverage (Ross, 1977; Ravid and Sarig, 1991), dividend (Miller and Rock, 1985; John and Williams, 1985), venture capital (Barry, Muscarella and Vetsuypens, 1990), reputable accounting firms (Titman and Trueman, 1986; Beatty, 1989; Michaely and Shaw, 1995), and etc.

On the plus side, one function of the stock market is to have a more precise valuation of a public company that is not readily available when it is private, due to the requirement of tremendous efforts on behalf of the investors to aggregate serendipitous information (Subrahmanyam and Titman, 1999; Chemmanur and Fulghieri, 1999). Benveniste, Busaba and Wilhelm (2002) contend that there is an informational externality associated with IPOs, because private firms learn from the first movers in the IPO market. Mello and Parsons (1998) reason that going public reveals information that determines whether a sale to a new owner increases the firm value, and whether that allows the original owner to extract a larger fraction of the surplus. In addition, when information is incomplete, stock prices increase when more investors become aware of the firm's securities (Merton, 1987; Kadlec and McConnell, 1994).

The timing ability of IPO firms is also related to information divergence during an IPO. Ritter (1991) suggests that there are periods when stocks are mispriced or overvalued in the whole market. During these periods, private companies will choose to issue equity to exploit the mispricing or "windows of opportunity". Work by Mikkelson, Partch, and Shah (1997) and Loughran and Ritter (1997) show that owners are likely to time initial and secondary equity offerings to

take advantage of the mispricing resulting from the firm reaching a peak in its operating performance. It is possible that a family similarly times the sale of its shares at the peak of the firm's operating performance. Ritter (1991) contends that owners time equity sales with peaks in market optimism concerning the industry's growth prospects. Lerner (1994) and Pagano, Panetta, and Zingales (1998) provide support for this contention by showing that firms are more likely to be taken public when sectoral stock prices are higher. Baker and Wurgler (2000) report that firms often sell equity via a secondary equity offering subsequent to a year when the overall stock market has done well, and prior to a year when stock market performance declines. This research examines whether the likelihood that a firm owner sells his stake is associated with the market, industry, or the firm's accounting performance.

The second branch of the IPO literature is concerned with the ownership and control of the entrepreneur or owner of the firm. The company is viewed as the property of the owner and the owner chooses between taking the firm public and keeping it private in order to maximize his benefits. The major deterrent to a public listing is the loss of private benefits of control. The agency theory, which was formalized by Jensen and Meckling (1976), argues that the agency costs of deviation from value-maximization will increase when managers' stakes decrease and ownership becomes more disperse. This agency cost comes at the expense of outside shareholders. In addition, the "amenity potential", or non-pecuniary private benefits of control, is especially common in family run companies (Burkart, Panunzi and

Shleifer, 2003). For example, a founder may gain pleasure from having his child run the company that bears the family name. Alternatively, controlling families may have “reputational benefits” in both the economic and political markets. These two types of private benefits of control may become so large with a public listing that the company owner may prefer to keep it private. Zingales (1995a), Bebchuk (1999), and Burkart, Panunzi, and Shleifer (2003) argue that controlling owners hold on to their stakes if their private benefits of control are large.

A competing theory advocates a public listing as a monitoring vehicle to reduce the agency costs, as the firm will be subject to the regulation of the stock exchange and the scrutiny of investors and analysts. Shleifer and Vishny (1986) and Shivdasani (1993) document that the monitoring provided by outside blockholders facilitates changes in corporate control and thus public listings. Ellingsen and Rydqvist (1997) develop a model suggesting that acquiring firms can use the stock market to screen target firms under conditions of information asymmetry.

Additionally, an IPO may be used to facilitate the transfer of control, either as the first step to sell a firm (Mello and Parsons, 1998; Stoughton and Zechner, 1998), as a channel for a potential acquirer to spot a takeover target (Zingales, 1995b), or as an exit channel for venture capital, private equity or banks (Black and Gilson, 1998). The function of an IPO is to raise cash to facilitate an exit, or to have a handy public price to facilitate the valuation of a target firm, or for the design of executive compensation. In addition, going public can increase share liquidity (Booth and Chua, 1996; Mello and Parsons, 1998). Another benefit from an IPO is

risk sharing or diversification for the wealth of the owner of the firm (Pagano, 1993; Pettit and Singer, 1986; Chemmanur and Fulghieri, 1999). Last, Entrepreneurs may increase the investor base and diversify idiosyncratic risks through IPOs (Gomes, 1999).

The third branch of literature focuses on the need for a private company to raise external capital or to promote product reputation. Financial need is probably the most fundamental reason for taking a company public. Public firms have better access to the capital market, and going public is an easier and less costly way to raise additional capital for future investment when needed. On the contrary, private firms have more limited and more costly access to capital (e.g., Brav, 2005 and Leary, 2005). In addition, going public provides a firm with a relaxation in financial constraints (Welch, 1989), an improvement in the bargaining power with financiers (Pagano, Panette and Zingales, 1998), or a reduction in the cost of capital due to greater liquidity (Amihud and Mendelson, 1988). On the cost side, an IPO has direct costs of listing such as accounting, underwriting and legal fees, and costs of meeting the regulations of the stock exchanges, as well as large indirect costs of underpricing. A firm approaching an IPO may also fail to complete the listing or withdraw the offering due to low pricing, but information revealed through the book-building effort has already entered the public domain (Busaba, Benveniste and Guo, 2001).

In the product markets, going public may lead to potential improvement in product reputation (Stoughton, Wong and Zechner, 2001) and an increase in investor recognition or exposure following an IPO, which is more important for retail firms

and export firms (Merton, 1987). On the cost hand, more detailed, frequent, and accurate financial reports and disclosures of a public company increase the amount of information that public shareholders have about the state of the firm, relative when the firm is private. This risk of loss of confidentiality is a major factor when a private firm considers a public listing (Campbell, 1979; Yosha, 1995).

2.2 Empirical Evidence on Going Public

There are few empirical works to ex ante test the adverse selection problem. Pagano, Panetta and Zingales (1998) examine a group of Italian private companies and find supportive evidence of an adverse selection problem. However, their ex ante evidence only lies in firm size that may, by itself, capture other factors related to an IPO such as the fixed costs of listings.

I am not aware of any ex ante empirical tests on the signals a company uses in an IPO. A few empirical studies work on other issues related to signaling. For example, Jegadeesh, Weinstein and Welch (1993) test the degree of underpricing predicted by the management signaling hypothesis suggested by Welch (1989), Grinblatt and Hwang (1989) and Allen and Faulhaber (1989). They find supportive evidence that firms with more underpricing at IPO conduct more and larger seasoned equity offerings.

On the informational benefit side, an empirical study explores the information externality that a public company benefits from the share prices. Helwege and Packer (2004) examine the probability of an IPO of firms in the sectors with extensive public contact, such as the retail trade and transportation sectors. One

problem with their work is that their small sample size of 155 companies is far from representing the whole private sector in the U.S.

A number of researches show that private companies may time their IPOs in specific industries or over specific periods. For example, Lerner (1994) reports that companies more often go public when the sectoral stock prices are higher. Baker and Wurgler (2000) show that a secondary equity offering is more likely to take place when the overall stock market does well and before it declines.

Most empirical papers on ownership and control examine the ex post evidence on the selling behavior of the firm owners. For example, Pagano, Panetta and Zingales (1998) find significant turnover of control after IPOs in Italy. Fischer (2002) examines the IPOs on the Neuer Market in Germany and observes that the controlling shareholders keep tight control and even consolidate their stakes after floatation. Boehmer and Ljungqvist (2004) also focus on Germany, but examine the time between a firm intending to go public and actually carrying out an IPO. They find that it takes longer for a firm to go public when the controlling shareholders enjoy large private benefits of control.

The only ex ante evidence on ownership is Helwege and Packer (2004) who exploit the SEC's requirement for private firms with either public debt or a large number of shareholders to make public disclosures. They find that the presence of an outside equity block raises the probability of a successful IPO, and that IPO is not an initial step in the ultimate sale of the company. However, it is natural to worry about the severe sample selection bias towards large and highly levered companies as a

result of the data source. What's more, the whole sample only contains 155 companies including 42 IPOs.

More related empirical studies will be discussed in the hypothesis development section.

2.3 Theories of Capital Structure

The decision about going public is also closely related to the literature on capital structure. Going public is basically a financing option by issuing public equity, and private companies would seriously consider the impact of public offerings on their capital structure. It is natural to observe that similar to the literature on going public, the theories on capital structure also focus on agency problem and information asymmetry. The agency models argue that capital structure is determined by agency costs, i.e., costs due to conflicts of interest between debtholders and equityholders or between equityholders and managers. These models predict that leverage is positively associated with firm value (Hirshleifer and Thakor (1989), Harris and Raviv (1990a), Stulz (1990)), default probability (Harris and Raviv (1990a)), extent of regulation (Jensen and Meckling (1976), Stulz (1990)), free cash flow (Jensen (1986), Stulz (1990)), liquidation value (Williamson (1988), Harris and Raviv (1990a)), extent to which the firm is a takeover target (Hirshleifer and Thakor (1989), Stulz (1990)), and the importance of managerial reputation (Hirshleifer and Thakor (1989)). Also, leverage is expected to be negatively associated with the extent of growth opportunities (Jensen and Meckling (1976),

Stulz (1990)), interest coverage, the cost of investigating firm prospects, and the probability of reorganization following default (Harris and Raviv (1990a)).

In information asymmetry theories, firm managers or insiders are assumed to possess private information about the characteristics of the firm's return stream or investment opportunities. In one set of approaches, choice of the firm's capital structure signals to outside investors the information of insiders. This stream of research began with the work of Ross (1977) and Leland and Pyle (1977). Ross (1977) predicts a positive correlation between leverage or value and bankruptcy probability, while Leland and Pyle (1977) predicts a positive correlation between value and equity ownership of insiders. In another set of approaches, capital structure is designed to mitigate inefficiencies in the firm's investment decisions that are caused by the information asymmetry. This branch of the literature starts with Myers and Majluf (1984) and Myers (1984), whose work implies that leverage increases with the extent of informational asymmetry.

A third branch of literature on capital structure examines the linkage between the market for corporate control and capital structure. These papers exploit the fact that common stock carries voting rights while debt does not. The first models to exploit the differential voting rights of debt and equity are those of Harris and Raviv (1988) and Stulz (1988). These two models generate a relationship between the fraction of the equity owned by a firm's manager and the value of outside equity. This relationship follows from the dependence of firm value on whether the firm is taken over and, if so, how much is paid by the successful bidder. The manager's

equity ownership is determined in part by the firm's capital structure. Thus, capital structure affects the value of the firm, the probability of takeover, and the price effects of takeover.

Last, some research papers developed capital structure models based on product/input market interactions. These theories have explored the relationship between capital structure and either product market strategy or characteristics of products/inputs. The strategic variables considered are product price and quantity. These strategies are determined to affect the behavior of rivals, and capital structure in turn affects the equilibrium strategies and payoffs (e.g. Brander and Lewis, 1986). Models involving product or input characteristics have focused on the effect of capital structure on the future availability of products, parts and service, product quality, and the bargaining game between management and input suppliers (e.g. Titman, 1984).

More relevant to the going public decision, there are two competing hypotheses on capital structure in the literature. Myers and Majluf's (1984) pecking order theory posits that because of the information asymmetry in a public offering, a private firm prefers internal finance, and that if external finance is required, the riskiness of the firm determines the type of funds raised. On the other hand, the static tradeoff theory holds that an optimal or target capital structure determines a firm's financing decisions.

2.4 Theories and Empirical Evidence on Going Private

The decision to go public is closely related to the literature on the going private transactions. Recently, more and more studies focus on the decision to go private.

Many studies on going private focus on the free cash flow which is regarded as one of the most important motives of going private. Lehn and Poulsen (1989) predict the effects of free cash flow in going-private deals that are opposite to the going-public transactions. They find evidence that companies with more free cash flow are more likely to go private, and that free cash flow increases the amount of premiums in going-private transactions. More recently, Renneboog et al. (2007) investigate the impact of private equity investors, incentive realignment and undervaluation on the going-private deals in the U.K. They find that the main sources of the shareholder's wealth gains from the public-to-private transactions are the undervaluation of the pre-transaction target firm, increased interest tax shields, and incentive realignment. In opposition to the results by Lehn and Poulsen (1989), they conclude that the reduction of free cash flow does not determine the premiums.

Other motives of going private are related to control. DeAngelo, DeAngelo and Rice (1984) contend that minority shareholders benefit from going-private transactions by using the voting rights and the threat of litigation. They find supportive evidence from a sample of 81 going-private transactions between 1973 and 1980. Leuz et al. (2006) extend the literature and examine the motives of going "dark", i.e. to stop reporting to the SEC by deregistering their common stock, but continuing to trade in the over-the-counter market. Their empirical results suggest

that the reasons to go dark include the private benefits of control and the firm's diminishing future prospects.

There are also works focusing on specific types of going-private deals such as MBO/LBO activities. Halpern, Kieschnick and Rotenberg (1999) argue that there are two types of poorly performing firms going private through a LBO: firms closely controlled by managers, and firms with insignificant managerial ownership. Their evidence shows different motivations for the two groups of firms. Andres, Betzer and Hoffmann (2004) examine the market reactions following going-private announcements in the European markets. The findings indicate that abnormal returns generally accrue to the companies with large agency costs or bad share performance, or those undervalued relative to their industry peer group.

Last, some studies examine other aspects related to the going-private transactions. Engel et al. (2007) focus on the going private deals in response to the passage of the Sarbanes-Oxley Act of 2002 (SOX). Their empirical evidence suggests that SOX has affected firms' decisions to go private.

Chapter 3 The U.K. Market⁴

3.1 U.K. Company Law for Public and Private Companies

The United Kingdom has adopted a system of company registration since 1844. Current company registration matters are covered in law by the Companies Act 1985 and the updating legislation contained in the Companies Act 1989. All

⁴ The information is obtained from the Companies House website and some other websites.

limited companies in the U.K. are registered at Companies House, an executive agency of the Department of Trade and Industry. There are more than 1.8 million limited companies registered in Great Britain, and more than 300,000 new companies are incorporated each year.

There are four main types of companies: private company limited by shares - members' liability is limited to the amount unpaid on shares they hold; private company limited by guarantee - members' liability is limited to the amount they have agreed to contribute to the company's assets if it is wound up; private unlimited company - there is no limit to the members' liability; and public limited company (PLC) - the company's shares may be offered for sale to the general public and members' liability is limited to the amount unpaid on shares held by them. Public companies must have a minimum share capital of 50,000 pounds before they can commence business, but there is no minimum share capital requirement for private companies. The most important distinction between private and public companies is in their ability to raise funds from the general public. A public company has an unrestricted right to offer shares or debentures to the public, but such offerings are prohibited for a private company. Since only public companies can issue shares to the general public, only they are eligible to be listed on a stock exchange. These are called "public quoted companies". So a public limited company or PLC is not necessarily a public quoted company, in contrast to the meaning a PLC in the U.S. In the U.K., the PLC not listed on any stock exchanges is called a "public not quoted company". It can be regarded to be at a transition stage between a private company

and a public listed company. There are various reasons for a company to be in this transition stage, such as tax and disclosure considerations. In this study, because a “public not quoted company” does not list on any stock exchanges and is not active in the financial markets, it is regarded as a private company. Robustness checks excluding this group from the private company group reveal no significant deviation from including them, as the size of this group is very small relative to the huge number of private companies. As such, this study refers to the “public not quoted company” as a public company, to be consistent with the definition of a “public” company in the U.K.

Prior to 1967, only public companies were required to file their financial statements with the Registrar of Companies House. The Companies Act of 1967 required all companies, private and public, to file their financial statements annually with the Registrar. The 1981 Companies Act modified this provision, allowing “small” and “medium-sized” companies to protect their financial affairs from public scrutiny by reporting only abridged financial statements. Under the Act, to be classified as “small” (or “medium”) a company must fulfill two of the following criteria for two consecutive years: (i) the annual turnover must not exceed 2.8 (11.2) million pounds, (ii) the book value of total assets may not exceed 1.4 (5.6) million pounds, and (iii) the number of employees may not exceed 50 (250). Small companies are required to submit only an abbreviated balance sheet and no profit and loss account. Medium companies are required to submit an abbreviated profit and loss account, which need not disclose sales. This practice may reduce the sample size greatly, as sales are an

important variable in all the tests. However, in the FAME database, the vast majority of the profit and loss accounts do disclose sales and other major accounting information.

The financial statements of private (public) companies must be filed within ten (seven) months of their fiscal year. Failure to file is a criminal offense. All the financial statements must be prepared in accordance with U.K. accounting standards, whether the firm is public or private. The financial statements must be audited if the company's annual sales exceed 1,000,000 pounds. The U.K. tax laws likewise do not discriminate between public and private firms. The London Stock Exchange listing rules require additional disclosure for public companies, but the rules do not mandate accounting standards for financial reporting, and in particular, do not address the calculation of earnings. In all important respects, the U.K. regulatory regimes governing financial reporting for public companies and all but the very small private companies are equivalent.

3.2 The Stock Exchanges in the United Kingdom

3.2.1 London Stock Exchange (Official List)

The Main Market of the London Stock Exchange (hereafter LSE) which is also known as the Official List or the Full List, is the major stock exchange in the United Kingdom. The size of U.K. companies listed on the Main Market varies from a market capitalization of £1 million to £150 billion. The Main Market has more than 1,300 companies.

In order to gain admission to the Main Market, a company will need to comply

with the Listing Rules which are issued by the U.K. Listing Authority (UKLA), and the Admission and Disclosure Standards which are issued by the London Stock Exchange. The admission requirements to the Full List include: (i) an obligation for 25% of the shares to be held by persons unconnected with the company, (ii) a three year trading record (however Chapter 25 of the Listing Rules permits companies with less than three years' track record to join on satisfaction of certain criteria), (iii) a minimum market capitalization of £700,000, and (iv) the admission document to be approved by the UKLA.

Furthermore, a company listed on the Main Market must already be a “public limited company”, where the term “public limited company” has a different meaning from the common practices in most other countries. In the U.K., a public limited company is a company which is registered as such and it must comply with several requirements. The quantifiable requirement includes an authorised share capital of at least £50,000.

3.2.2 Alternative Investment Market (AIM)

AIM opened in 1995. It is operated by the London Stock Exchange and is directed at young companies and growing companies. Typical market capitalization ranges between £2 million and £100 million. Since it opened, over 1,300 companies have used it as a vehicle for growth.

AIM companies are not bound by the full Listing Rules of the U.K. Listing Authority. Nevertheless companies wishing to have their shares admitted to AIM must comply with relevant legislation (such as the POS Regulations) and adhere to the AIM

Rules. The entry requirements for AIM, and continuing obligations after admission, are less stringent than those for the Main Market. There are no formal restrictions on the type of business or company that can apply to be admitted to AIM. Companies can be start-ups or established trading entities. There is no minimum level of shares that needs to be held by the public. There is also no trading record requirement or minimum market capitalization (subject to practical considerations).

3.2.3 PLUS (previously known as “Ofex”)

PLUS is an independent and self regulated U.K. market which sets its regulation to meet the needs of both investors and growing companies. It was founded in 1995 by Ofex plc, an independent U.K. provider of equity market services that is authorized and regulated by the Financial Services Authority and owned by PLUS Markets Group plc. It is not a Recognized Investment Exchange. Its primary market (also known as and hereafter “Ofex”) specializes in smaller companies, both domestic and international, representing a wide range of sectors and all stages of development. The stock market currently trades over 800 small and mid-cap company shares, representing a combined market capitalization of over £120 billion.

Ofex imposes no formal restrictions on the type of company that can be admitted, and a company can be an established trading company or a start-up business. Either type of company will be eligible provided it meets Ofex’s entry requirements. The costs of listings on Ofex are much lower than listings on the LSE Official List.

An offer of shares to the public will generally be subject to The Public Offers of Securities Regulations 1995 (POS Regulations) and the company will need to

publish a prospectus in accordance with those regulations. There are many exemptions listed in the POS Regulations which permit a company to make its shares available to the public without having to comply with the POS Regulations (e.g. if the offer is to no more than 50 persons). However, even where exemptions do apply under the POS Regulations, consideration still needs to be given to the financial promotion regime in the Financial Services and Markets Act 2000.

Chapter 4 Data and Methodology

4.1 Data Sources

4.1.1 Accounting Data

The data in this paper are obtained from several sources. Balance sheet, income statement and cash flow statement information come from the Financial Analysis Made Easy (FAME) database⁵. The database contains up to 2.3 million U.K. and Irish public and private companies, 1.3 million of which are in a detailed format with up to 14 years of information in my sample (1992-2005)⁶. The database includes 99 major accounting items in the income statement, balance sheet, cash flow statement, and some other basic information of the firms. The data are compiled from records filed at Companies House in Cardiff, London and Edinburgh, and are supplemented with information taken from the London and Edinburgh Gazettes. The database covers almost all except the smallest companies in the U.K. and Ireland. Leaving out the very

⁵ Another working paper De Albornoz and Pope (2004) examine the determinants of IPO in the U.K. and use the same database as this study. However, they do not consider the ownership and control issues and only include a few major accounting variables. Lacking some of the most important data, their tests on the determinants of the IPO decision are not complete.

⁶ Different versions of the database have different coverage, as will be discussed in later parts.

small companies does not introduce severe survivor bias, because very small firms do not have stable accounting profits and are far from satisfying the listing requirements of any stock exchange. Hence they are not likely to go public. Further, firms with sales of less than £350,000 are exempt from audit, and their accounts are not reliable enough to be qualified to enter the control sample.

There are two main categories of variables in FAME: static and annual. When a variable is annual (primarily accounting data), the values of the variable are reported for each accounting year-end date. FAME includes data for both active and dead firms, but it only keeps data for up to ten years for each firm. When a variable is static, the database only reports its value one year before the updating date.

The database has CD/DVD and online versions. This analysis uses several DVD versions of the database, and covers the period from 1992 to 2005. Older DVD versions are checked for the static variables.

4.1.2 Ownership Data

There are three different sets of ownership data in the FAME database: shareholders from BVD, shareholders from registry, and shareholders from annual return. The first set of data is the most precise and has been verified by the BVD staff. However, it only contains the major shareholders with the focus on institutional shareholdings, especially holding companies. Moreover, the percentage of shareholdings is missing for most of the companies, with a lot of instances of whole ownership (100%). The shareholding from the registry covers the most details, including the bulk of public shareholders. But this source only covers the listed

companies. Last, the shareholding from the annual returns contains data for both listed and unlisted companies, and covers most of the companies. When there is more than one set of ownership data in one year for a company, I use shareholders from annual return to maintain consistency, because the most important sample is the private companies. If the shareholders from annual return are not found, then the BVD shareholding is used. For listed companies, I choose the shareholding from the registry because it is the most detailed source with the bulk of public shareholders.

For the IPO firms, I supplement the ownership data with the shareholding immediately before and after the listings from IPO prospectuses. Again, to maintain consistency, I use the ownership data from the shareholding from annual return in the FAME database whenever possible.

The list of firms backed by venture capital or private equity is obtained from Private Equity Insight⁷, which is a business sector under the European-based firm Incisive Media PLC. The Incisive Media PLC is a specialist business information provider, which specializes in venture capital and private equity information throughout the world with the focus on Europe. It covers essential market data for over 35,000 European investments and 1,500 global institutions. The database indicates 2,037 firms backed by venture capital or private equity, with 177 exiting through listings.

I supplement the data with the member lists of the British Venture Capital Association (BVCA) and European Venture Capital Association (EVCA). I have

⁷ More information can be found at their home page: www.privateequityinsight.com.

detected 1219 firms and 4746 firm-years backed by VC/PE, among which 144 firms are IPO firms on LSE, AIM or Ofex for the sample period.

4.1.3 The IPO and M&A Lists

Apart from the FAME database, I use several other data sources. To identify IPOs, I avoid using the SDC Platinum that contains incomplete IPO records. Instead, I use the detailed listing information from the website of the London Stock Exchange that covers the IPOs on LSE since 1998, and all the listings on AIM from its initiation in 1995. The list of IPOs on the LSE before 1998 is obtained from one of the authors of Goergen, Khurshed and Mudambi (2006) that investigate the U.K. firms' strategy of going public. Their data source is KPMG New Issue Statistics section. The IPO list is checked against SDC, Zephyr and OSIRIS to match with the FAME database. The detailed IPO sample reconciliation is shown in Appendix 3.

The M&A target list is obtained from SDC Platinum. Only U.K. private and non-financial targets are extracted. The list is then merged into the FAME database by company name, with manual error checking. Out of the 22,137 observations, 10,601 are matched to the FAME database.

I complement the data with information from datastream, IPO prospectuses, IFS, Worldscope, and some company websites.

4.2 Sample Construction

The IPO sample is confined to be British companies listed on LSE, AIM or Ofex from 1993 to 2005. The FAME database includes every incorporated entity in the U.K., including those that became inactive. For my analysis I restrict the sample

in several ways. First, considering the situation in the U.K., I exclude the following company types: public investment trust, unlimited, guarantee, limited liability partnership, Royal Charter, Economic European Interest Grouping, and “other” companies as classified in the database. Then the sample comprises of the private limited, public not quoted, public quoted OFEX, public quoted AIM, and public quoted (i.e. listed on LSE) companies. Second, I exclude financial companies (6000 SICs), as their accounting data are essentially different from the other companies. The public sector (9000 SICs) and the regulated utility industry (4900-4939 SICs) are also excluded as they are regulated in the sample time period. Third, I exclude the subsidiaries of foreign public companies, as this research focuses on the U.K. domestic IPOs in order to bar the influence of overseas listings. Fourth, since all companies, public or private, with annual sales exceeding £1,000,000 after June 2000 or £350,000 before June 2000 must be audited, I exclude the companies failing to satisfy the auditing requirements, and those with no auditors in the database (around 7.6% of the sample), as their accounts are not reliable or comparable with other companies.

As a result of manual filings⁸ and its large size, FAME has some potential problems of data error. One systematic way to deal with this problem is to truncate or winsorize the extreme values from the raw data. However, this method may introduce significant bias against the listed companies, since they generally have large sizes and comprise the higher end of the business universe in terms of firm size. Due to the huge

⁸ Refer to Ball and Shivakumar (2005).

number of companies in the database, even a truncation of 0.1% out of one million will reduce the number of the listed firms significantly. I deal with this problem by removing at each extreme 1% of the accounting ratio variables such as ROA, leverage ratio and export scaled by sales. To further adjust some extraordinary values, I also conduct a 0.1% truncation on the non-ratio accounting variables within different company types, and for IPO and control firms respectively. Thus only the extreme values within the specific company group are adjusted, which eliminates the potential bias against one of the groups. I also manually adjust the data in several consistent ways. For example, I delete the firm-years with negative total assets and negative total liabilities.

For the ownership data, I exclude the extreme values when total recognized ownership is greater than 400% or smaller than 5%. These comprise around 1% of the sample at both ends. The total recognized ownership may be greater than 100% because the exact dates of shareholder recording do not coincide with the dates of reporting the balance sheets when I use the issued capital to identify the percentage of shareholdings annually. Therefore, I adjust the ownership values by dividing the percentages by the total recognized ownership, when the total ownership is found to be greater than 100%. When there are more than one shareholders within the same family, I treat the family as a single shareholder. Last, I exclude the trustee or nominee companies which comprise a large portion of the shareholders for listed companies.

To avoid the influence of potential major acquisitions, restructurings or divestments, I follow Ball and Shivakumar (2005) and exclude the firm-years where

the book value of total assets changes by over 30% from the previous year. Lastly, I exclude all firm-years in which the fiscal year was not exactly 12 months.

I differentiate the large and small company groups by the listing requirements of the LSE official list. The quantifiable admission requirements to the LSE include: (i) a minimum market capitalization of £700,000, (ii) a three year trading record, and (iii) already a PLC (a minimum equity of £50,000). Because many small companies fail to satisfy the listing requirements of the LSE and are not comparable to the companies who are eligible to list on the LSE, I investigate their IPO decisions on AIM or Ofex, the second-tier stock exchanges of the U.K. That is, I compare the decision of large companies to list on the LSE and the decision of small companies to list on AIM or Ofex. The control groups are all the private companies satisfying the listing requirements on the two types of stock exchanges respectively. Note that there are no explicit requirements to list on AIM or Ofex, so I use all the companies with feasible data as the control group for IPOs on AIM or Ofex.

4.3 Explanatory Variables

The explanatory variables are defined in Appendix 2. Specifically, for the variable high-tech indicator, I use a broad definition of high technology companies following Walcott (2000)⁹.

The FAME database does not contain the percentage of shares for each shareholder. I use the multiplication of the number of shares and the issue price to

⁹ The sources of definitions will be available upon request.

derive the value of the shares, and then divide this by the issue capital of the same year to obtain the percentage of shares for each shareholder.

Except in very few cases, the database does not distinguish between the types of shareholders. Managerial ownership is identified by matching the shareholder's name with the list of company directors. I follow La Porta, Lopez-de-Silanes and Shleifer (1999) to define a family shareholder as a shareholder that is a person or a family member. The family indicator is 1 if the controlling shareholder is an individual or family, and 0 otherwise. A controlling shareholder is the shareholder with the largest share, and where the stake is no less than 20% of the total share of the company.

The VC/PE ownership is identified by matching the shareholder's name with the list of venture capitalists or private equity providers. The sources of the VC/PE list are described in the data source section. The VC/PE indicator is determined in two ways. First, it is set to 1 if the shareholder with the largest share is venture capital or private equity, and the stake is no less than 20% of the total share of the company. Second, if the database of Private Equity Insight indicates that a company is backed by VC/PE, the VC/PE indicator is also set to 1. The institutional ownership is determined by extracting the ownership of the shareholders that are institutions but are not also identified as VC/PE.

I follow Morck, Shleifer and Vishny (1988) and define the segmented managerial ownership as follows:

$$\begin{aligned} \text{pct_man_l} &= \text{pct_man} && \text{if } \text{pct_man} < L \\ &= L && \text{if } \text{pct_man} \geq L \end{aligned}$$

$$\begin{aligned}
 \text{pct_man_m} &= 0 && \text{if } \text{pct_man} < L \\
 &= \text{pct_man} - L && \text{if } L \leq \text{pct_man} < H \\
 &= H - L && \text{if } \text{pct_man} \geq H \\
 \text{pct_man_h} &= 0 && \text{if } \text{pct_man} < H \\
 &= \text{pct_man} - H && \text{if } \text{pct_man} \geq H
 \end{aligned}$$

Short and Keasey (1999) show that the entrenchment effect occurs in 12% to 40% of ownership in the U.K. Following their study, I choose the ownership thresholds L and H to be 0.1 and 0.4 respectively. Different thresholds are used for robustness check, and the results are statistically similar.

4.4 Methodology

4.4.1 Ex Ante Determinants of the IPO Decision

This study analyzes the ex ante determinants of the IPO decision using Cox proportional hazard model. Introduced by D.R. Cox, the proportional hazard model was developed in order to estimate the effects of different covariates influencing the times-to-failure of a system. It is widely used in survival analysis. The IPO decision is similar to a circumstance in survival analysis in the following ways. The IPO samples in this study are censored observations when the dependent variable relates to the time to a terminal event, and the duration of the study is limited in time. More importantly, the Cox proportional hazard model is especially attractive because no assumptions are made about the nature or the shape of the underlying failure distribution. Hence this method is particularly suited to the prediction of discrete events in a panel setting. In a similar context, the Cox proportional hazard model is

used by Pagano, Roell, and Zechner (2002) to examine why European companies list abroad. They used similar methodology as this research and looked at the time-series accounting measures and some time-independent variables to study the ex ante cross-listing motivations. Similarly, Boehmer and Ljungqvist (2004) track 330 German private companies and incorporated outside valuations and private benefits to investigate their decisions to go public with hazard analysis.

The Cox proportional hazard model relates the hazard rate $h(t)$ (i.e., the probability of listing at time t conditional on not having listed yet) to a set of explanatory variables X_i :

$$h(t) = h(t|X) = h_0(t) \exp(X_1\beta_1 + \dots + X_p\beta_p) \quad (1)$$

where the term $h_0(t)$ is called the baseline hazard. It is the hazard for the respective individual when all independent variable values are equal to zero. β 's are the coefficients for the explanatory variables. The predictors, $X_1 \dots X_p$ are assumed to act additively on $\log h(t|x)$, and $\log h(t|x)$ changes linearly with the β 's. This semi-parametric estimator assumes that the hazard ratio $h(t)/h_0(t)$ is constant over time, and requires no assumptions about the baseline hazard. The exponentiated coefficients can be immediately interpreted as the effect of a unit change in the explanatory variable on the hazard ratio $h(t)/h_0(t)$.

I also conduct logistic regressions on the probability of going public rather than remaining private. The results are quite similar to the proportional hazard models and reported in Appendix 5.

In the tests of the ex ante determinants of the IPO decision, the IPO group is

private companies that choose to list on the LSE or AIM/Ofex during the time period in the study. The control group is private companies satisfying the listing requirements on the respective stock exchanges, but who choose to stay private during the time period in the study. Companies not observed to go public in the sample period are treated as right censored. The dependent variable is 1 for the IPO group and 0 for the control group. The set of determinants X , includes the explanatory variables and the control variables. The major variables such as total assets are adjusted for inflation by dividing the values by the CPI index of the same year.

In each model, I control for the important factors documented in the literature that affect the IPO decision, such as firm age, the previous year's values of total assets, sales growth, return on total assets, the leverage ratio, profitability and capital expenditure¹⁰. Eight industry dummies are used to control for the industry fixed effects.

To alleviate the potential problem that the motives to go public may revolve over time, I include a highly time-variant variable, the median market-to-book ratio of all the public traded companies each year. The MTB ratio is also among the most important time-variant factors affecting the decision to go public.

To address the potential inflation of significance introduced by the large control sample volume relative to the IPO group,

There is a potential bias problem in choosing the control sample. As Palepu (1986) points out, "the use of non-random, equal-share samples in the model

¹⁰ As free cash flow is highly correlated to ROA, the two variables are included separately in pairs of models.

estimation, without appropriate modification to the estimators, leads to inconsistent and biased estimates of the model parameters and the acquisition probabilities” (analog to the IPO probability in this study). Palepu’s (1986) remedy is to construct a group of firms that approximate the population over which the model will be used in a realistic forecasting application. He estimated the Conditional Maximum Likelihood Estimator (CMLE) as proposed by Manski and McFadden (1981) by randomly selecting 1/6 of the whole control sample. I follow the CMLE methodology and improve this method by repeatedly selecting random samples (or bootstrapping) to obtain more precise estimates. Repeated sampling is also necessary because my control sample is very large. Considering the large size of the control sample, I do 10,000 times 1/100 random sampling for the large company group and 2,000 times 1/20 random sampling for the small company group, and obtain 25% trimmed means¹¹ of the coefficients and p-values for each model. This approach generates similar results as using the full control sample for the majority of the tests.

Second, following the common practice in the literature, I also use a control sample matched by industry and size. The results are reported in Appendix 6. I select from the control sample the companies in the same industry and within 0.1 percentile (0.1%) in terms of total assets in the same year. For the group of small companies, because there are more missing values, I determine the matched control group in the same industry and within 0.5 percentile of size. For both cases, the resulting matched control sample volume is less than 5 times the IPO group size. I believe that this

¹¹ 25% trimmed means are the means after trimming 25% of the sample from each side.

matching method is more appropriate than one-to-one matching, because it mitigates the potential bias introduced by a few special cases, given the huge number of private companies with great diversity. In a similar study, Rosen, Smart and Zutter (2005) use a similar method and select up to 5 control firms for each IPO company. Pagano, Panetta and Zingales (1998) do not use matched control groups at all and report the results of 66 IPO companies with 5,284 control firms.

Last, I have checked the correlations between the independent variables. For accounting variables, no significant correlations are found except between profitability and free cash flow. Between accounting and ownership variables, no significant correlations are found except between Big 4 dummy and the family indicator. However, many ownership variables are highly correlated due to the small number of possible values. As such, several models are run for each test, where I separately include one of the few highly correlated variables. The correlations among the ownership variables are reported in Appendix 4.

4.4.2 Ex Post Performance

A common practice to examine post-IPO performance is to compare the post-IPO performance of newly listed companies, with the pre-IPO information from their IPO prospectuses. However, as is well known, earnings management around the public listings is pervasive. For example, Teoh, Welch and Wong (1998a) and Teoh, Wong and Rao (1998b) found that firms report positive unexpected accruals prior to IPOs, and a reversal of unexpected accruals following IPOs¹². On the other hand, Ball and

¹² Refer to Healy and Wahlen (1998) for a literature review on earnings management.

Shivakumar (2006) document conservative earnings reports in the IPO prospectuses. Consequently, the results solely using information from the IPO prospectuses should be considered with caution. Fortunately, the FAME database provides consistent information of private companies since long before the listings and across the listing processes. Only in the few cases with missing values, I have complemented the database with information from the IPO prospectuses. Furthermore, the database allows the comparison of post-IPO performance not only with the values just before the IPO that may be polished, but also with the average performance when the company was in the dark. The latter can serve as a robustness test to the evidence of the performance revolution after the IPO.

I use the Wilcoxon signed rank tests to detect the evolution of the accounting performance and ownership changes after the IPO. For the accounting variables, I compare the values after the IPO with the values one year before the IPO for each variable and for each company. To compare the IPO companies with the peer private companies that stay private, the tests are also conducted on both the companies going public and those staying private. The differences between the two are tested by the Student's *t* scores. To show a picture of the revolution of ownership structure around the IPO, I report ownership structures and the changes of ownership structure respectively before and after the IPO. The benchmark is the ownership structure one year before the IPO for the same company.

For the accounting measures, I also follow Pagano, Panetta, and Zingales (1998) and investigate the ex post performance by estimating fixed-effects regressions

in which a firm before the IPO is used as a control for itself after the IPO. To correct for the sample selection problem introduced by compulsory listing requirements, I include variables that capture the effect of meeting the listing requirements. The equation is

$$y_{it} = \alpha_0 + \alpha_1 f_i + \sum_{j=0}^5 \beta_j IPO_j + \sum_{j=0}^4 \gamma_j QUOT_j + \varepsilon_{it} \quad (2)$$

where f_i denotes a firm-specific effect, IPO_j are dummy variables equal to one, if year $t-j$ was the IPO year, IPO_5 is a dummy variable equal to one if the IPO took place more than five years before, and $QUOT_j$ are dummy variables equal to one if company i satisfied the listing requirements in year $t-j$.

To eliminate the fixed effects, I difference both sides of the equation, so that the specification becomes:

$$\Delta y_{it} = \sum_{j=0}^5 \beta_j \Delta IPO_j + \sum_{j=0}^4 \gamma_j \Delta QUOT_j + \eta_{it} \quad (3)$$

To control for other variables that may affect the dependant variable, I also estimate richer reduced-form models where the list of regressors also includes lagged values of the dependent variable and other accounting variables that might be relevant.

The results of the regressions are statistically similar to the results of the Wilcoxon signed rank tests. Thus, to limit the length of the essay, the regression results are not reported.

4.5 Summary Statistics

4.5.1 Accounting Variables

Tables 1 and 2 report the summary statistics of the relevant accounting variables for the sample which is eligible to go public, or which is already listed on one of the stock exchanges in the U.K. More information on the accounting data in the entire FAME database can be found in Ball and Shivakumar (2005).

Panel A.1 of Table 1 shows that the median total assets of the eligible and listed sample, which is £2,402,684, is much higher than the listing requirement of the LSE which is at least £700,000. The median equity is 15 times the equity requirement of listing on the LSE, which is at least £50,000. The third listing requirement of at least 3 years of trading records is also not difficult to meet, as the median company has an age of 17 years. As shown in the Panel A.1 of Table 2, 61,732 companies (around 67% of the eligible sample of private companies) satisfy all the listing requirements of the LSE. Furthermore, a lot more companies are eligible to list on AIM or Ofex, as there are no explicit minimum requirements to list on these two markets. As such, why so many companies eligible to go public do not do so calls for detailed investigation.

The descriptive statistics in Panel A.1 of Table 1 suggest that firm size measures are significantly skewed to the right. This validates the use of Cox's proportional hazard models instead of probit regressions, because the Cox model does not assume any underlying distribution such as normal distribution.

The median QuiScore is 54, which is in the middle of its range from 1 to 100. This suggests that the QuiScore generally spreads evenly across the companies.

In Panel A.2, the total assets of the LSE listed companies are much larger than those of private companies. Relative to the private group, the LSE listed firms have higher long-term debts, indicating the better ability to issue long-term debts. The slightly higher QuiScore supports this observation. The capital expenditure, growth and profitability are not significantly larger for LSE listed companies than for private companies.

Panel A.3 shows that the companies listed on AIM or Ofex lie in between the LSE listed companies and private companies, and are closer to the private group in terms of most of the accounting variables. This group is relatively young and less profitable, but spending intensively and in need of funding.

Panel A.1 of Table 2 shows that, as mentioned earlier, only 336 companies¹³ out of the 61,732 eligible non-financial private companies actually went public in the sample period. The private companies choosing to go public have larger sizes, leverage, growth, and capital expenditure, but lower credit scores and significantly lower ages compared to the peer companies staying private. The median age of the IPO companies is only around 4.8 years, while the median age of the companies staying private is around 21.4 years. The median sales growth of the IPO companies is 26.93%, over 9 times that of the peer private group.

¹³ The actual number of IPOs is larger because a few observations lack usable data in the database. Refer to Appendix 2 for detailed reconciliation.

Panel A.2 of Table 2 shows that, for the small company group, only 127¹⁴ out of the 51,747 eligible non-financial private companies chose to list on AIM or Ofex in the sample period.. The firm size, age, and leverage of the IPO group are all similar to those of the control group. However, the median total assets are much larger than the control group. The age is lower than the control group, but at a lower magnitude than the IPO companies choosing to list on the LSE. Compared with the companies staying private, the companies going public have worse profitability, lower growth, and higher capital expenditure.

4.5.2 Ownership Variables

As the ownership data in this paper are quite novel in the literature, I provide the descriptive statistics for the whole sample with the ownership data available, in addition to the private companies eligible to go public¹⁵ and the listed companies.

Panel B.1 of Table 1 shows the descriptive statistics of the ownership variables for the entire sample with ownership data. The sample size is very large with 395,177 observations for various types of percentages of shares, and 548,822 for the number of directors. These cover 131,062 and 165,250 companies respectively, or around 66% and 83% of the entire sample of non-financial companies. Around 98% of the observations are for private companies. These indicate that the coverage of the

¹⁴ The total number of IPOs on AIM/Ofex is much larger than 127 in the sample period. The observations are reduced because of the following reason. First, both the IPO and control groups here exclude the companies eligible to list on LSE, that is, companies with at least total assets of £700,000, equity of £50,000, and 3 years old. Second, many observations are not matched with the FAME database partly because the small firms' names change frequently or have various forms. Third, many matched observations do not have valid or complete data for the major variables. Refer to Appendix 2 for detailed reconciliation.

¹⁵ The eligible sample is smaller than the whole sample because some private companies don't have accounting data comparable to the other companies due to missing or extreme data, or because they are not eligible to go public.

database is extensive.

The total percentage of the recognized shareholders is quite high, which is 97% at the first quartile. The managerial ownership is around 28.68% at the median and 99.9% at the 3rd quartile indicating that around one fourth of the whole sample is fully held by managers. This is due to the large number of private companies that are closely controlled by managers-owners. Around a half of the companies are controlled by an individual or a family, as shown by a median of 46.45% and the 3rd quartile of 100%. The VC ownership is significantly skewed to the right, suggesting that relatively few of the companies, mainly private companies, are able to obtain funds from venture capital or private equity. The average non-VC institutional ownership is 43.91%. But the median non-VC institutional ownership is only 6.98%, much lower than the managerial ownership. Hence the U.K. companies are more closed controlled by insiders than by external institutions.

In addition, they are mostly controlled by one significant shareholder. The evidence shows that the major shareholder's ownership is above 50% for around three quarters of the companies. Further, less than a half have only one shareholder, and more than a half have no recognized second largest shareholder. The median company is fully held by block shareholders, that is, shareholders with at least 10% shares.

On average, the companies have four directors and two shareholders. The number of shareholders is skewed to the right, caused by the large number of public shareholders of the listed companies. The median numbers of managerial, non-VC institutional and block shareholders are all one, which confirms that the companies are

mostly closely controlled by one or two shareholders. Last, most of the companies do not have multi-class shares.

Panel B.2 of Table 1 reports the summary statistics of the ownership variables for the eligible and listed sample. The eligible and listed sample consists of all the private companies with data available that are eligible to list or already listed on any of the three stock exchanges in the U.K. It comprises one third of the whole sample¹⁶. The statistics for the eligible and listed sample are similar to those for the entire population in Panel B.1. One exception is that the 99th percentile of the number of shareholders is higher in the eligible and listed sample. This is caused by the exclusion of a relatively large number of companies with a lot of missing values on the lower side. Hence, the number of shareholders as well as the numbers of various types of shareholders is less skewed to the right.

The median company in the eligible sample has 49.15% shares in the hands of managers, and 76% shares in the hands of a single controlling shareholder. The median number of shareholders is two with one managerial shareholder and one institutional shareholder on average.

Panels B.3-B.5 show the ownership data by company type. The companies listed on the LSE have lower percentages of different types of stakes, but larger numbers of various types of shareholders. This is consistent with the more diverse shareholder bases for public companies. The total percentage recorded is much lower than for private companies because a significant portion of the shares are held by large

¹⁶ The remaining two thirds of observations are excluded because they are not eligible to go public, contain extreme values which are identified as outliers, or have major missing variables.

investment companies under the “street names” and thus excluded, and the turnover of shareholders is very fast. The managerial ownership is as low as 2.65% for the median company, in contrast to 33.21% for private companies. Similarly, the median family ownership is only 7.87%, much lower than for the whole sample. The major shareholder’s share is around 10% on average, which is 80% lower than for private companies. The 99th percentile and 3rd quartile of non-VC institutional ownership are higher than those for the private companies, because public companies have fewer holding companies. The number of block shareholders is zero for the median company and one at the 3rd quartile, suggesting that the companies listed on the LSE have a diversified shareholder base. Last, the LSE traded companies seem not to use any multi-class shares to segment shareholders.

The companies listed on the second-tier stock exchanges lie in between the companies listed on the main market and the private companies. The managerial ownership, non-VC institutional ownership, block shareholding and controlling shareholding are all higher than for LSE listed companies. However, the VC/PE ownership is similar for the two groups. Like the LSE traded companies, the companies listed on the second-tier stock exchanges do not segment shareholders with multi-class shares.

As shown in Panel B.1 of Table 2, the group eligible to list on the LSE composes around 70% of the eligible control sample. The managerial ownership and controlling shareholding of the companies choosing to list on the LSE are lower than the other eligible private companies. On the other hand, the number of directors and

the number of shareholders are higher for the IPO companies. These suggest that the companies with looser control will go public. Consistent with the finding, the family controlled companies are less likely to move toward IPOs. Companies going public are also more involved in venture capital.

Panel B.2 of Table 2 compares the statistics of the sample eligible to list on the second-tier stock exchanges and the control group. There is no clear pattern for the managerial ownership, or family ownership. The institutional ownership and controlling shareholding are lower for the IPO companies. Additionally, the IPO companies have a larger number of directors and a larger number of shareholders.

Compared to the companies choosing to list on the LSE, the companies choosing to list on AIM or Ofex have a lower chance to obtain the support of financial intermediates such as a VC/PE. However, for both groups, the IPO companies have better abilities to get the support compared to the respective control samples.

Chapter 5 The Informational Costs and Benefits of Going Public

When a former private company steps into the sight of the public, an important change is the information about the company. On one hand, the private information about the company will be revealed to the public. On the other hand, the company may receive information feedback from the market. This chapter focuses on the empirical tests of the hypotheses on the informational costs and benefits of going public. The costs include adverse selection problem and costly signaling while

the benefits include timing ability and informational spillover as documented by Chemmanur and Fulghiere (1999).

Among the few empirical tests on asymmetrical information related to an IPO, many examine the ex post consequences of an IPO, or focus on indirect tests based on indicators such as IPO underpricing (e.g. Dierkens, 1991; Jegadeesh, Weinstein and Welch, 1993). This research extends their works by offering ex ante empirical evidence, and by incorporating the informational costs into this framework and weighing the benefits and costs.

In addition, this work provides direct and robust evidence on the IPO decision by comparing two special groups of companies. The first group is a team of small companies. Because small businesses suffer from more severe problem of information asymmetry than large companies (Pettit and Singer, 1985) and often find it challenging to signal their business prospects (e.g., McConnell and Pettit, 1984; Becchetti and Trovato, 2002), it is of particular interest to situate the analysis of the IPO decision within the context of small companies. At the other end is a group of subsidiaries of the public companies, or carve-outs that have no significant information asymmetry problem when going public. Consistent results on various groups of firms will assist in the understanding of the sources of the information asymmetry problem.

Last, being taken over by a public company is another feasible way to acquire many of the benefits of IPO such as access to public equity and debt, change of capital structure, and improving share liquidity. However, the information

asymmetry problem is not as severe as in public listings. The examination of the acquisition and IPO decisions will provide more insights into this issue. As such, I conduct logistic regressions on the choice of being acquired by public companies versus IPOs and versus remaining private as robustness check.

5.1 Hypotheses - Large Independent Companies

5.1.1 Informational Asymmetry

Adverse Selection

A major cost of going public is the information asymmetry between the firm insiders and external investors if the management and shareholders are separate. When there is asymmetric information between managers and investors, firms raising external capital to fund new projects face an adverse selection problem (Leland and Pyle, 1977). Firms with less-valuable opportunities can issue securities that mimic those offered by firms with more-valuable opportunities, resulting in overvalued securities for low-valued firms and undervalued securities for high-valued firms. Because firm insiders have better information on the firm value and investment opportunities than outsiders, this information asymmetry creates the possibility that the market will not price the firm's claims correctly (Akerlof, 1970; Spence, 1973).

This adverse selection problem is more severe for young firms and small firms (Chemmanur and Fulghieri, 1995). Firm age and size are also indicators of good reputation, which is helpful in reducing the degree of the information asymmetry problem (Diamond, 1989). Furthermore, the information asymmetry

between investors and stock issuers affects the magnitude of the IPO underpricing (Rock, 1986; Maug, 1999) which is negatively related to firm age and size. Thus, the probability of going public would be positively related to firm age and size.

Second, a higher degree of underpricing directly resulting from information asymmetry is typical for high-tech firms for which the value uncertainty and asymmetric information between the management and external investors are high. Thus, high-tech companies may be more reluctant to go public.

H1.1: Young companies, small companies and/or high tech companies are less likely to go public.

Signaling

While anecdotal stories see an IPO as a good signal of a firm's quality, as the firm is willing to be exposed to stringent listing regulations and investor scrutiny, researchers have looked at this problem differently. Based on the information asymmetry, signaling theories view an IPO as a bad signal of overvaluation when the insiders sell a large portion of the firm (Leland and Pyle, 1977). Later advances in signaling theories focus on the use of signals to reduce the adverse selection problem when companies go public. The effective signals include leverage (Ross, 1977; Ravid and Sarig, 1991), dividend (Miller and Rock, 1985; John and Williams, 1985), reputable accounting firms (Titman and Trueman, 1986; Beatty, 1989; Michaely and Shaw, 1995), and etc. This research uses a dividend paying indicator, a dummy variable indicating an auditor of a Big 4 accounting firm, and leverage to

test the signaling effect. I will examine the effect of leverage with caution, bearing in mind that it may relate to other factors such as the financial need.

H1.2: Companies paying dividends, audited by a Big 4 auditing firm and/or having high leverage are more likely to go public.

5.1.2 Informational Spillover

While the information asymmetry incurs great costs to the companies attempting IPOs, several studies investigate the benefits of informational spillover during public listings. Benveniste, Busaba and Wilhelm (2002) contend that there is an informational externality associated with IPOs because private firms learn from first movers in the IPO market. Investment bankers resolve this externality by using their access to investors to influence going-public firms to share information gathering costs. Mello and Parsons (1998) claim that going public reveals information which determines whether a sale to a new owner increases firm value, and that allows the original owner to extract a larger fraction of the surplus. In addition, when information is incomplete, stock prices increase as more investors become aware of the firm's securities (Merton, 1987; Kadlec and McConnell, 1994). Last, Van Bommel (2002) advocates that companies may revise their investment plans upward and increase their primary portion when the market assessment is positive.

A testable hypothesis can be developed from Subrahmanyam and Titman (1999) who argue that investors can acquire "serendipitous information" about the firm that insiders lack and this information improves the firm's investment decisions. Their model suggests that companies in industries with extensive public contact may

go public to capitalize on the additional information exhibited in the stock prices. The degree of extensive public contact can be captured by a dummy variable for the retail trade, transportation, and service sectors. A similar proxy is used in Helwege and Packer (2004).

H1.3: Companies in the retail, transportation, and service industries are more likely to go public.

5.1.3 Market Timing

Last, the IPO companies may also benefit from the information revealed in the capital markets by “timing” their listings. The “hot” market in which IPOs cluster is well documented in the IPO literature (e.g. Ritter, 1987). Ritter (1991) suggests that there are periods when stocks are mispriced or overvalued. During these periods, private companies will choose to issue equity to exploit the mispricing or “windows of opportunity”.

Consistent with Pagano, Panetta and Zingales (1998), I will use the industry median Market-To-Book ratio to capture the effect of clustering in “hot” industries¹⁷. In addition, I predict a direct relationship between the median MTB of each year and the timing ability for the IPO companies to take advantage of “hot” market time. This variable will be used together with the industry median MTB to uncover the timing ability according to industry overvaluation versus overall market overvaluation, after controlling for other factors related to the IPO decision.

¹⁷ Timing according to company performance is best captured by the profitability evolution around IPO, which will be discussed in Chapter 3.

H1.4: The probability of going public is positively related to the industry median MTB and/or the median MTB of each year.

5.2 Small Companies

Small firms have more severe information asymmetry problems than large firms, because the quality of their financial statements varies (Pettit and Singer, 1985). Hence the adverse selection problem is more serious for young companies and small companies (Chemmanur and Fulghieri, 1995). Furthermore, small companies often find it challenging to signal their business prospects (e.g., McConnell and Pettit, 1984; Becchetti and Trovato, 2002). Consequently, the results on adverse selection and signaling are more significant for small companies.

5.3 Carve-Out Companies

Carve-out firms have no significant information asymmetry problem when they come to IPOs. Because their parent companies are already exposed to the examination of the public, the information, and hence values of the carve-outs, are well known to the public before their IPOs. Therefore, the effects related to information asymmetry (i.e. adverse selection and signaling) are expected to be insignificant for the carve-outs, compared to independent companies.

5.4 Mergers & Acquisitions

Takeovers by public companies are an important alternative method for private companies to move to public ownership. This approach can achieve similar results as IPO since the private companies gain through the process access to public funds, liquidation for owners, and significant changes in ownership structure. The

target companies also bear most of the costs of public listings such as loss of confidentiality and loss of private benefits of control. Hence the choice of takeovers by public companies over remaining private should be driven by similar factors as the IPO decision.

However, Brau, Francis, and Kohers (2003) document a “valuation premium” of 22% for IPOs over acquisitions. Why do the M&A targets not do IPOs instead? The extent of information advantage possessed by firm insiders is different across the two exit alternatives. Leland and Pyle (1977) argue that insiders who sell large portions of their firm in the IPO send a signal that the firm is overvalued. These negative signaling effects are less likely in takeovers, since acquiring firms may face fewer information asymmetries relating to the target firm’s value. Potential acquirers can be expected to be well informed by virtue of their industry expertise about the viability of alternative business models in the product market. Thus, takeovers offer selling insiders the ability to divest the firm by selling to an existing public company that may not interpret the divestiture as a negative signal. This means that depending on IPO market conditions, the valuations of many firms in an acquisition may be lower than their valuations in an IPO.

On the informational benefit side, favorable IPO market conditions may encourage a private company to IPO as the “hot” market overvaluation may more than compensate for the more significant information asymmetry costs in an IPO. Second, the information spillover from the capital market is more obvious for a

public listing when the IPO company conveys more information during the more transparent and strict listing process.

This research tests the information transfer in the choice of takeovers by public firms over IPOs. The higher costs of adverse selection and signaling in an IPO would encourage the takeover activities while the timing ability and importance of external relationship may call for IPO efforts. The factors driving the companies to takeovers by private companies instead of IPOs, and to takeovers by public or private companies rather than keeping private are also examined as robustness check.

5.5 Empirical Results

5.5.1 Listings on the London Stock Exchange

Models with the Whole Control Sample

The results on the whole control sample in Table 3 show that bigger firms, younger firms, and firms with higher growth, higher capital expenditure, higher leverage, lower free cash flow and/or higher exports are more likely to list on LSE.

The results on the firm size, growth and capital expenditure are consistent with the findings by Pagano, Panetta and Zingales (1998). Larger firms suffer less from the problem of information asymmetry between firm insiders and public investors, and hence can tap the public equity market more easily without incurring extra costs. Thus the positive coefficient on firm size is consistent with the prediction of the hypothesis of adverse selection. High growth and high capital expenditure signal the need for funds, which is further confirmed by the negative coefficient on free cash flow.

However, in contrast to the findings by Pagano, Panetta and Zingales (1998),

companies with higher leverage are more likely to go public in the U.K., while the evidence is not significant in Italy. This finding, together with evidence on firm age, size, growth and capital expenditure, is consistent with Helwege and Packer (2004) who examine a small group of U.S. private companies that have the intention to go public. These suggest that the accounting dimensions of the companies going public relative to the peer group staying private in the U.K. are closer to those of the companies in the U.S. than in other European countries. The result is expected, considering that the U.K. and U.S. are both part of the same Anglo-American corporate governance system (La Porta et al, 1997; 1998). The significantly positive sign on leverage suggests that it is plausible that the IPO companies use leverage to signal their values, by subjecting themselves to potential financial distress.

The second difference with Pagano, Panetta and Zingales (1998) lies in the firm age. They reported an average age of 33 years for Italian IPO companies, around 10 years older than the companies remaining private. In sharp contrast, the average age of the U.K. IPO companies is remarkably lower than the peer companies staying private. The median IPO company is only around 4.8 years old, while the peer private companies are 16.7 years older on average. These figures also differ from the average age of 40 years for European IPO companies reported by Hogholm and Rydqvist (1995), but are more in line with the U.S. average value of 5 years for venture-backed IPO companies¹⁸ reported by Gompers (1996).

¹⁸ As more than one third of the companies doing IPO on LSE in the U.K. are backed by venture capitalists, these figures are comparable to those in the U.S. In my sample, the median age of the VC backed U.K. IPO firms is 3.6 years, while the median age of the non-VC backed U.K. IPO firms is 6.1 years.

Young companies lack enough historical records and good reputation to effectively reduce the information asymmetry between firm insiders and public investors, and the potential underpricing is high. Thus the result does not agree with the prediction of the hypothesis of adverse selection. However, the result on the age itself may not be the sole consequence of adverse selection. A better test on the high-tech indicator will provide more insights regarding this hypothesis, as will be discussed later.

The coefficient on profitability is only slightly significant, and becomes insignificant if using smaller control samples as reported in Table 5. This suggests that while good profitability is important for IPOs, the IPO companies are no better than those remaining private.

The export activity is positively correlated to the probability of going public, indicating an incentive to enhance the reputation of a private firm's quality through an IPO.

Coming to the non-control variables which are the major concerns of the tests, high tech companies are reluctant to list on the main stock exchange in the U.K., which is consistent with the prediction of the theories related to information asymmetry, and specifically, adverse selection. The evidence is strengthened by the positive sign on the firm size, but mitigated by the negative sign on the firm age, as discussed earlier. To probe into the information asymmetry problem in more depth, I will discuss further evidence on two special groups of companies: the carve-outs and small companies in later paragraphs.

The Big 4 indicator enters the model significantly, which supports the use of more reputable and stringent auditors as a signal of firm value to the public investors. The IPO firms also effectively use dividends as a signal, and leverage perhaps.

Conducting businesses in the retail, transportation, and service industries significantly increases the probability of listing. These types of companies are more concerned about public relations, so the evidence proves that gathering “serendipitous information” from equity prices or information spillover is an important incentive for public listings. The finding is further confirmed by the positive coefficient on growth, as the information from outside of the company is most valuable for growing firms.

Pagano, Panetta and Zingales (1998) find that the median market-to-book ratio for a specific industry is among the two most important factors in the IPO decision. However, Table 3 shows that a high market-to-book ratio for a specific industry does not significantly encourage IPOs in that industry, if including the yearly MTB ratio for the overall market. This suggests that the companies time IPOs with regard to the time period more often than to the valuation industry of the industry.

Independent IPOs vs. Carve-Outs

The 2nd and 3rd columns of each model in Table 3 also show large discrepancies between independent IPOs and carve-outs. The most prominent difference is that the variables related to the information asymmetry problem become less significant or insignificant for carve-outs. This makes good sense, since the parent company is already listed on the LSE, and hence the large costs of adverse selection and signaling that are common to a private company seeking a listing disappear. This

finding strongly supports that information asymmetry indeed causes large costs to the companies carrying through an IPO.

Second, the leverage of carve-outs becomes highly significant compared to the independent IPOs. If combined with the finding that the profitability is much more significant than for independent firms, the evidence indicates that the parent companies primarily sell the highly levered subsidiaries to reduce their own debt burdens when the profitability of the carve-outs is good. They may be timing the carve-outs regarding profitability. Note that the significance on leverage greatly reduces after excluding carve-outs, although still significant at 10% level. Thus the signaling effect using leverage is not much supported. However, leverage may capture some other factors such as riskiness, capital structure, and etc. The results on the carve-out sample highlight the effect of financial needs that leverage may carry.

The results also suggest that, apart from being able to reduce the leverage level, product reputation and information spillover from the stock market are also important benefits for carve-outs. They are important especially when the product market of the carve-out is segmented from that of its parent company.

As the listing motivations for the independent IPO companies and carve-outs differ significantly, only independent companies will be included in the following tests.

Models with Smaller Control Samples

To address the potential inflation of significance introduced by the large control sample size relative to the IPO group, this study also uses smaller randomly selected control samples. Bootstrapping method is applied to generate consistent

results. I do 10,000 times 1/100 random sampling for the large company group and 2,000 times 1/20 random sampling for the small company group, and obtain 25% trimmed means of the coefficients and p-values for each model. The models using control samples matched by industry and size are attached in Appendix 6. The number of controlling company-year observations is 520 in Model 1 of Table 5 for LSE listings, which is around 3.3 times the number of IPO companies. The number of control firms should be smaller than the number of company-year observations. In the test of the small company group in Table 5, the number of controlling company-year observations is around 3.6 times the number of IPOs.

The results on IPOs on the LSE in Table 5 show statistically similar results to those with the complete control samples for most variables. The significance levels are reduced for some variables such as high tech and dividend paying dummies, which are expected with a much smaller control group.

One major difference is that the leverage becomes more significant and exhibits 5% significance in Model 1. Companies with higher debt ratios are more likely to choose to list on LSE rather than keeping private. This shows that leverage could be used as a signal of good quality when the firms come to IPO.

5.5.2 Listings on Alternative Investment Markets or Ofex

Models with the Whole Control Sample

Table 4 compares the results on the groups of large and small companies to show further insights into the hypotheses discussed earlier, especially those related to the information asymmetry issue.

The findings on the IPOs on the second-tier stock exchanges are strikingly different from those on the IPOs on the main market. The most profound discrepancy lies in the firm age. In sharp contrast to the fact that significantly younger companies choose to list on the LSE, older companies choose to list on AIM or Ofex, at a significance level of lower than 0.0001. As we know, one of the most important reasons for generally few smaller businesses going public is down to the problem of information asymmetry between the firm insiders and external investors. However, older companies have a long historical record to effectively reduce the level of information asymmetry and guarantee a better selling price (Diamond, 1989). The track record is especially important to small businesses, because they suffer more from asymmetrical information problems than larger companies do. Thus, the result on firm age strongly supports the hypothesis of adverse selection.

The second major difference from listings on the LSE is that the companies with relatively low leverage list on the second-tier stock exchanges. This indicates that high leverage may not be an effective way to signal the values of small companies. Rather, leverage may carry very different meanings for these listings. For instance, firms choosing to list in AIM/Ofex are smaller and less profitable in terms of ROA and dividend payout. Investors might take leverage as more of a reflection of financial health than a monitoring device for these firms. Hence, only financially healthier (lower leverage) firms could be listed in AIM/Ofex. This further implies that smaller companies face more remarkable information asymmetry problem.

Third, the profitability turns negative, which is opposite to the results for IPOs

on the LSE. One may wonder how the less profitable and small size company is able to go public. The company's size, age, leverage and credit rating (which is positively significant as will be shown in Chapter 6) help to explain this case. With a relatively large size, a reputation established over a long time, low leverage and a good credit rating, the soundness of the small company is not jeopardized by the low profitability. Instead, the lack of decent profits, together with the high capital expenditure, highlights the needs for funds. Actually, the capital expenditure dominates the other variables, with hazard ratios above 6.

Last, growth becomes negative, in contrast to the highly significantly positive sign for listings on the LSE. This is likely because older companies generally grow more slowly. It also suggests that the ultimate goal of an IPO may be meeting current large capital expenditure to fund future growth, when the current profitability and growth are relatively low.

Combining the results on the major variables, the pattern is clear: large firms, old firms, unprofitable firms, and firms with low leverage, significantly large capital expenditure and/or moderately low growth choose to list on the second-tier stock exchanges compared to the companies remaining private. These are probably a group of established companies that desire to expand or improve profitability by intensive capital expenditure when their borrowing abilities are limited. In contrast, large companies, young companies, profitable companies, and companies with high leverage, large capital expenditure and/or high growth are more likely to list on the main market relative to the firms keeping private.

The insignificance of the big 4 dummy shows that signaling by costly auditing practice is less effective for small IPO companies than for large listing firms. Perhaps they are more reluctant to invite the scrutiny of more stringent auditing practices, and hesitate to pay the higher auditing fees.

There is less significant evidence on the year median MTB ratio, and insufficient evidence on the industry median MTB ratio. This means that small IPO companies are less able to time their IPOs to exploit temporary mispricing in the market. Their abilities to time profitability are even more limited. The reason for this lack of timing ability may be that small companies are more confined by the serious information asymmetry problem and by their financial needs to fund their large capital expenditures.

The results on the other variables and hypotheses are statistically similar to the findings on listings on the LSE.

Models with the Matched Control Samples

Table 5 shows the models with smaller control groups. There are only a few differences with the results with the complete sample. The yearly median MTB ratio becomes insignificant in the models. Small companies cannot time their IPOs regarding the market valuation or their profitability, as suggested by the insignificant result on yearly MTB and the negative coefficient on profitability. Second, the growth becomes insignificant. The small IPO firms do not grow faster than the peer group remaining in dark.

5.5.3 Mergers & Acquisitions

Table 6 shows the factors influencing the choices between IPO, acquisition by public companies, acquisition by private companies, and remaining private. Notably, in Model MA1_IPO, the coefficient on high tech and big4 indicators become opposite to the previous tables, and are highly significant. The findings strongly support the prediction that companies choosing takeovers by public firms over IPOs face less problem of asymmetrical information and have less incentive to signal. Potential acquirers have industry expertise and can value the private firm much better than the investors in the IPO market. In addition, the acquirers may not interpret the divestiture by insiders as a negative signal. Thus, the information asymmetry problem fades away in great extent when it comes to M&A. This finding in turn strengthens the hypotheses stating remarkable information asymmetry that IPO firms encounter.

Second, the industry_pub also reverses the previous positive signs and suggests that companies more valuing information spillover prefer IPOs to acquisitions by public firms. The result on export further confirms this finding. Third, the yearly median MTB and industry median MTB are both negatively significant, consistent with better timing ability of the IPO firms. The control variables show that takeover targets are smaller, growing more slowly, with lower capital expenditure, and older. Profitability, again, is not significantly different for the two groups.

Model MA2_IPO tests the factors leading to the choice of acquisitions by private companies over IPOs. The results are similar to those in Model MA1_IPO.

As shown in the last model MA1_MA2, comparing with takeovers by private firms, takeovers by public firms value information spillover better, have larger capital requirements (capex), and more cluster in certain time periods (year_MTB). These are because takeovers by public firms could tap the public capital markets and are more influenced by the wave of these markets.

Models MA1_PRI and MA2_PRI show that comparing with firms remaining in dark, takeover targets also face some information asymmetry problem and the need to signal, and they appreciate the benefit of information spillover during the process of M&A. They are also younger, more profitable and may have large capital expenditure or leverage, which are consistent with their attraction to the acquirers and their demand for new capital.

5.6 Robustness Tests

There is a potential endogeneity problem in the inclusion of the big4 dummy variable. One may wonder whether a firm would pick a Big 4 accounting firm as its auditor when the firm has a plan to go public. In the robustness test, I will examine the change of auditors before IPO on LSE and contrasting with the control group. Only LSE listing companies and the eligible firms are included because the big4 indicator is only significant for the tests of this group and it's more likely for large companies to choose big 4 auditors.

Table 7 reports the change of auditors 1 year and 2 years before IPO on LSE. Panel A shows that opposite to our expectation, actually the control group change their auditors more often than the IPO firms do 1 year before their listings. The

changes between non-big4 accounting firms and big4 auditors are not statistically different for the two groups. Panel B shows that 2 years before IPO, the divergence between the two groups enlarges. And the control group is more likely to change from non-big4 to big4 auditors than IPO firms. Actually the mean and median of the variable indicating the change from non-big4 to big4 auditors are both zero for the IPO group. The above findings suggest that the endogeneity problem does not result in the significance of the big4 indicator in the previous models.

This paper also checks some characteristics of the control samples such as industry concentration and the eligibility of the control firms in extended period of time. The unreported results show some concentration of the control sample in the manufacturing, wholesale, and services industries. However, as mentioned in the section of Summary Statistics, the control sample represents a majority part of all the companies not too small and with valid data, while the IPO sample comprises a very small section. In some sense, the industry concentration reflects the industry distribution of the economy.

The examination on the change of eligibility of the control firms shows that except those attempting IPO in the sample period, all the other control firms remain eligible until end of 2007 without getting listed. The results apply to both the large and small company groups. This outcome is not surprising considering the fact that the listing requirements are not difficult to satisfy for many private companies. It is very likely that once a company satisfies the listing requirements, it will remain

eligible for a long time, as the market capitalization, equity and years of trading record will generally not decrease significantly within a short period of time.

5.7 Summary

This chapter examines the informational benefits and costs related to the IPO decision. Asymmetrical information between the firm insiders and external investors causes great costs to the inside shareholders in terms of adverse selection, costly signaling and underpricing. On the other hand, the companies going public may benefit from the information spillover from the public equity market to the firm insiders. Last, the literature suggests that the companies going public can time the issuing to explore the maximum benefits from the market's overvaluation of public companies.

This chapter tests the ex ante information related determinants of the IPO decision. The information asymmetry problem is further examined with two special groups of companies. The first group of small companies suffers from a severe problem of information asymmetry because of their small size. Thus, the effects related to information asymmetry are expected to be more prominent for this group. On the opposite side, the second group of carve-out companies has no significant information asymmetry problems when they go public, because of the publicity of their parent companies. Therefore, the effects related to information asymmetry are expected to be insignificant for the carve-outs compared to the independent companies. In addition, evidence from the choices between acquisitions by public

firms, acquisitions by private firms, IPOs and keeping private sheds more light into the information related determinants of the IPO decision.

I find that the information asymmetry strongly affects the IPO decision. Specifically, the companies are reluctant to go public due to the costs of adverse selection or the need to signal. The benefits of an IPO are primarily from the information spillover from the stock market, or from the timing ability. The evidence shows that companies time their IPOs according to the valuations for the overall equity market more often than to the valuations for specific industries.

Chapter 6 The Effects of Ownership and Control on the IPO Decision

Ownership and control are among the most important factors in the decision to go public as the public listing is essentially the decision for the initial owners to sell stakes to the public investors. This chapter will focus on the empirical tests of the hypotheses related to ownership and control.

The choice between going public and staying private is essentially the decision of the initial owner of a private company, balancing the costs against the benefits of an IPO. Various theoretical works model the motives related to ownership and control behind an IPO decision (e.g. Zingales, 1995a; Mello and Parsons, 1998; Stoughton and Zechner, 1998, Black and Gilson, 1998). However, because it is generally difficult to obtain reliable and comprehensive data on the ownership structures of private companies, empirical evidence on the theories above is scarce. This work fills this gap by providing direct evidence on the ownership and

control issues related to the IPO decision. Further, in a similar vein to Chapter 5, Chapter 6 extends the tests by comparing the decisions of large and small firms whether to go public and isolating the effect of firm size and other factors related to size.

Additionally, in an attempt to segregate the effects related to agency problems or private benefits of control, this study examines two relatively extreme cases. At one end are small companies controlled by families. These firms are generally owned and managed by the same family members, and hence have little agency problem. At the other end, the large widely held companies with no single significant shareholders suffer from a divergence of interests between the management and the shareholders. The management team is very likely to extract private benefits of control, at the expense of the investors. The evidence on these two special cases will illuminate the effect of agency problems or private benefits of control, as well as the control preference of family shareholders.

Last, the factors affecting the choices of being taken over by public firms over doing IPO or keeping private are also examined as robustness check. Being acquired by a public company is another feasible way to obtain many of the benefits of IPO such as access to public equity and debt, change of capital structure, and improving share liquidity. However, the control issues such as agency problem are different from public listings. The investigation of the acquisition and IPO decisions will offer more insights into this issue.

6.1 Hypotheses - Large Companies

6.1.1 Control

Loss of Private Benefits of Control

There are two types of private benefits of control: non-pecuniary and pecuniary private benefits of control. Demsetz and Lehn (1985) suggest that non-pecuniary private benefits of control, or “amenity potential”, are the benefits to the firm owners that do not come at the expense of profits. Jensen and Meckling (1976) describe an owner-manager’s “utility generated by various non-pecuniary aspects of his entrepreneurial activities such as the physical appointments of the office, the attractiveness of the office staff, the level of employee discipline, the kind and amount of charitable contributions, personal relations (“friendship,” “respect,” and so on) with employees, a larger than optimal computer to play with, or purchase of production inputs from friends”.

The “amenity potential” is especially common in family run companies (Burkart, Panunzi and Shleifer, 2003). For example, a founder may gain pleasure from having his child run the company that bears the family name. Also, controlling families may have “reputational benefits” in both the economic and political markets. The reasons for the preservation of family control suggest that the companies with a large “amenity potential” of control will stay in the family’s hands. As a result, the family controlled private companies may have lower incentives to go public for the sake of “amenity potential”.

There is a contrasting effect, however. Since the family pyramids tend to grow gradually through the generation of internal capital and the issuance of

minority stocks, one might expect the family controllers to limit their appropriation of private benefits in order to assure continued growth for the benefit of their offspring.

Unlike the “amenity potential”, the agency problem is the pecuniary type of private benefit of control that comes at the expense of profits to the outside or minority investors. In the agency theory, which is formalized by Jensen and Meckling (1976), the firm is viewed as a contract between the owners and managers, whose interests are in conflict. Managers have an incentive to divert resources from outside shareholders. This diversion of resources can take many forms such as investment in non-profitable projects, perks, outright theft, unwise diversifications and expansions (Jensen, 1986). The agency theory argues that the agency costs (or deviation from value-maximization) increase as managers’ stakes decrease and the ownership becomes more dispersed.

After a public listing, the agency costs will increase as the public firm generally has more dispersed ownership. This cost could become so large that some companies may prefer staying in dark.

Alternatively, the stock market could serve as a monitoring device, by exposing the managerial decisions to the market’s assessment in the managerial labor market. In addition, as modeled by Holmstrom and Tirole (1993), a well-informed stock price is of value in itself as an input into managerial performance-linked compensation, thus reducing agency costs. This study will empirically test the relationship between the agency costs and the probability of IPO.

Another type of agency problem is the extraction of pecuniary benefits by the controlling shareholders from minority shareholders. As highlighted by Ehrhardt and Nowak (2003) and Johnson et al. (2000), there are two types of pecuniary private benefits between the controlling shareholders and minority shareholders: (i) self-dealing transactions are pecuniary benefits that result directly from asset transfers out of the company into the pockets of those who control; and (ii) dilution activities increase controlling shareholder benefits without directly transferring assets, but nevertheless decrease minority shareholder wealth.

After floating, the regulations for listed companies and the scrutiny of the public will probably make it difficult for the controlling shareholders to extract private benefits of control from minority shareholders. In addition, the initial owners have to surrender their private benefits of control once outside investors acquire a major stake of their company, which is more likely for a public listed firm.

However, Pagano and Roell (1998) argue that, for companies in need of capital, selling shares to the public can avoid overmonitoring by outside blockholders, which entails significant agency costs if introducing private investors. The empirical results in this work will reveal whether the monitoring or overmonitoring of the public capital market is of greater concern to the IPO decision in the U.K.

According to Zingales (1995a) and Bebchuk (1999), if controlling owners are to maintain their stakes, they need to receive private benefits of control large enough to offset risk-bearing costs incurred as a result of these stakes. Bebchuk

(1999) models the decision of a company's initial owner on whether to maintain control when the company goes public. The choice between concentrated and dispersed ownership of corporate shares and votes is determined by the size of the private control benefits. Therefore, the smaller the firm insiders' private benefits of control are, the more likely the insiders are to sell their stakes through an IPO.

I use several proxies for the private benefits of control. First, a direct measure of the interest alignment between the management and the shareholders is the level of managerial ownership. The larger the managerial ownership, the smaller the agency costs. However, apart from the divergence-of-interests effect described above, the finance literature documents an entrenchment effect that managers have more scope for behaving opportunistically when they have a larger control (Morck, Shleifer and Vishny, 1988). When the managers hold significantly large stakes and are nearly fully entrenched, the gain from additional control is very small. On the other hand, when the managerial ownership is very small, a small increase in stakes will not provide much entrenchment benefit. Thus, at the low and high levels of managerial ownership, a company with more shares in the management's hands is more likely to go public as the agency costs are smaller. The entrenchment effect is more obvious in the middle range where the relationship between the managerial ownership and agency costs is unpredictable as two opposing effects overlap.

However, the agency problem between the controlling and the minority shareholders complicates the above relationship in the context of the IPO decision. When the managerial ownership is very high, the managers become the controlling

shareholders, and the agency problem between the management and the controlling shareholders disappears¹⁹. As IPO is the decision of the initial controlling shareholders, the risk of losing private benefits of control will discourage them from taking the firm public. As a result, at the high level of managerial ownership, the probability of IPO is negatively related to the managerial ownership.

Second, the existence of multi-class shares may indicate a high level of private benefits of control. DeAngelo and DeAngelo (1985) and Grossman and Hart (1988) argue that it is easier for managers to extract private benefits of control if the companies have dual class stocks. Supportive evidence is documented in DeAngelo and DeAngelo (2000) and Cronqvist and Nilsson (2003).

Third, the level of private benefits of control is related to the constraints on the ability of the controlling shareholders to expropriate wealth from minority shareholders. Following Holderness and Sheehan (2000), I use an indicator of the existence of an auditor from a Big Four accounting firm as a proxy for such constraints.

Last, the probability of going public should be inversely related to the desire of the incumbent shareholders to maintain control. In a similar study, Helwege and Packer (2004) use the indicator of substantial outside shareholdings as a proxy for the desire of controlling shareholders to preserve control. Rather than using dummy variables, I use a more precise measure: the percentages of shares held by the

¹⁹ On the other hand, the agency problem between the management and minority shareholders becomes more severe as the management becomes the controlling shareholders and hence has more dimensions to extract private benefits at the costs of minority shareholders.

controlling shareholders. The indicators of the level of control include the majority ownership, block ownership, and the number of block shareholders.

The following summarizes the hypotheses. Note that different variables capture the effects of different factors discussed above.

H2.1: The relation between the probability of IPO and managerial ownership is positive at the low level of managerial ownership and negative at the high level of managerial ownership. Family controlled companies, closely controlled companies, and companies with multi-class shares are less likely to go public, while companies audited by Big Four accounting firms are more likely to go public.

Transfer of Control

While the private benefits of control may prevent the incumbent owners from doing an IPO in order to reserve control, other theories suggest that public listing is used as a channel to transfer control or to exit by the initial owners. Mello and Parsons (2000) advocate that an IPO provides a channel for insiders to cash out. Brau, Francis and Kohers (2003) advocate that IPOs create public shares for a firm that may be used as “currency” in either acquiring other companies or being acquired in a stock deal. In Zingales’ (1995a) model, in deciding whether to undertake an IPO and what fraction of ownership to retain, the initial owner of a firm maximizes his total proceeds by selling the company in a two-staged process. By selling to disperse shareholders, he maximizes his proceeds from the sale of cash flow rights; by direct bargaining with a potential buyer, he maximizes his proceeds

from the sale of control rights. Hence the going-public event may be seen as an approach to sell a company.

If control transferring is an important incentive for undergoing an IPO, then the higher percentage of majority or block ownership, the more incentives the initial owners have to sell their control in an IPO deal. This predicts opposite signs for the above two variables to the hypothesis of loss of private benefits of control. The empirical results would reveal the relative importance of the two hypotheses in the IPO decision.

Furthermore, Black and Gilson (1998) view the IPO as an exit channel for venture capital or private equity. The final goal of venture capitalists is to cash out through IPOs. Consequently, an indicator of significant VC/PE involvement can serve as a proxy for the desire to shift control.

H2.2: Companies with larger majority or block ownership, and/or companies backed by venture capital or private equity are more likely to go public.

6.1.2 Liquidity

Share Liquidity

Zingales' (1995) model suggests that a major type of benefits of listing is the gain from the sale of cash flow rights to disperse public investors. The shares of a private company can only be traded by searching for a counterpart at a large cost. The stock market provides the owners of the private firm with liquidity of their investments and hence usable cash (Mello and Parsons, 1998). Booth and Chua (1996) argue that a more informed investor population leads to a more liquid stock. Amihud

and Mendelson (1988) suggest that greater liquidity after listings provides the benefit of reductions in cost of capital.

The improved liquidity also offers better incentive for the management who can have a liquid market for their shares which cannot be achieved with private equity.

As highlighted by Pagano, Panetta and Zingales (1998), many microstructure models document that the liquidity of a firm's shares increases with the trading volume which is, in turn, related to firm size. Therefore, being able to reap the benefit of improved liquidity more efficiently, large firms are more likely to go public. However, the evidence on the firm size alone cannot conclude the existence of the liquidity benefit because it may also reflect the effects of other factors such as adverse selection, fixed costs of floatation, and bargaining power with financiers. On the other hand, the level of shareholders' shares should affect their IPO decisions, in that the need for liquidity is positively related to the size of the resources invested in the company. I modify the tests by Pagano, Panetta and Zingales (1998) by introducing an interaction term of the firm size and the majority ownership. If the firm size is directly related to the benefit of liquidity, then we should see that large firms whose stakes are closely held by the major shareholders are even more likely to go public.

H2.3: Large firms with large controlling shareholders (interaction term) are more likely to go public.

Diversification

A public firm can obtain the required capital by selling shares to a large number of investors. However, for a private firm, much of the external financing

comes from one large investor (often a venture capitalist) or a small group of large investors (“angels”). The dispersed share ownership not only provides the diversification of risk associated with large shares, but also helps to preserve the entrepreneurs’ bargaining power against large private investors (Chemmanur and Fulghieri, 1999). Pagano (1993) presents a model where entrepreneurs choose to go public to reap the benefit of diversification of their portfolios, rather than have most of their money stuck in the private companies. Leland and Pyle (1977) also suggest diversifying the founding shareholders’ wealth as a motive behind their decision to take the company public.

Apparently, a company with a smaller shareholder base exhibits larger need to diversify. Thus, a larger number of block shareholders should lead to a higher propensity to go public.

Second, if diversification is important to the controlling shareholders, we should expect riskier firms to be more likely to go public. Credit rating should be a good indicator of the riskiness of a company. While in most countries the credit rating is generally assigned only to the public companies, it is available to the entire private and public sectors in the U.K. This credit rating score, known as QuiScore, is provided by a credit rating company Qui Credit Assessment Ltd and measures the likelihood of company failure in the year following the date of calculation.

H2.4: The probability of going public is negatively related to credit rating and the number of (block) shareholders.

6.2 Family Controlled Companies

In a typical family controlled company, the managers are essentially the owners of the firm, so the agency problem between the managers and the owners disappears theoretically. Second, the non-pecuniary private benefits of control are better appreciated by family shareholders, either in terms of the pride of the founders or “reputational benefits”. As such, family controlled private companies may be more reluctant to lose their control through IPOs than widely held companies do.

However, since the family pyramids tend to grow gradually through the generation of internal capital and the issuance of minority stocks, one might expect the family controllers to limit their appropriation of private benefits in order to assure continued growth for the benefit of their offspring. In the context of the IPO, I will compare the family controlled firms with widely held companies to test which of the above two effects more applies to the U.K. scenario.

6.3 Small Companies

Control

As Jordan, Lowe and Taylor (1998) point out, in a small business, the interests of the managers are better aligned with those of the firm owner, because the firm is generally managed by the controlling shareholders themselves. In addition, the smaller size of the company makes it more difficult to extract pecuniary and non-pecuniary “perks” than in a large and complex corporation. Therefore, the private benefits of control could be less profound in small businesses.

Liquidity

For a small business, it is easier to find a counterparty to buy the stakes because the amount is relatively smaller than in the case of a large company. Consequently, the improvement of liquidity is not as important as for large companies. Similarly, the diversification need is less crucial for a small firm, because generally a smaller part of the initial owner's wealth is invested in the firm due to the smaller capitalization.

6.4 Mergers & Acquisitions

Apart from the consideration of information transfer discussed in the previous chapter, another important motive for choosing an IPO or a takeover is the ownership insiders require following the completion of the transaction. Insiders who wish to maintain a controlling ownership in the firm while obtaining access to capital markets may prefer an IPO. Relative to IPO insiders, target insiders need to deal with an acquiring firm in matters of control, and are more likely to lose control of their firm. In addition, the theory of amenity potential suggests that family owners may be the most reluctant to release their control over the firm.

However, an alternative effect may result in the preference of takeovers over IPOs by the incumbent owners. Zingales (1995a) argues that the initial owner of a firm, in deciding whether to undertake an IPO and what fraction of ownership to retain, maximizes his total proceeds by comparing his profits from the sale of cash flow rights and from the sale of control rights. By selling the control rights through bargaining with a potential acquirer, the incumbent owners will harvest the control premium. Zingales' model predicts the equilibrium of selling the cash flow rights to

the public investors through IPO in the first step and selling the control rights through takeovers in the second. However, the regulations of the public companies may prevent the IPO company from selling control rights at low costs, especially in more regulated countries such as US and UK. In such cases, when the private benefits of control are large which attract good enough bids, the control premium can be realized earlier through M&A without first attempting an IPO.

In addition, Bayar and Chemmanur (2005) point out that venture capitalists may have shorter investment horizons and may need to exit their investments in a private firm earlier than entrepreneurs. If this is the case, private firms backed by VCs are more likely to choose an IPO over an acquisition.

6.5 Empirical Results

6.5.1 Listings on the London Stock Exchange

Models with the Complete Control Samples

Table 8 reports the results of the multivariate models with the complete control samples. Because the existence of parent companies significantly affects the ownership structure, I compare the results on the whole sample (Panel A) and those on the independent companies (Panel B) to examine the overall effect of ownership structure on the hypothesis testing. Comparison between Panels A and B suggests little difference between the whole sample and the independent companies. A plausible reason may be the small number of observations of carve-outs. Hence, the results of this study are not significantly distorted by the ownership structure. Still, in later tests, all the models will be estimated on the independent companies only.

In Panel B, the variables related to the control preference such as the majority ownership, block ownership and the number of block shareholders all strongly show that firmly controlled companies are afraid to lose control through IPOs. Therefore, the hypothesis of private benefits of control is supported by the evidence, while the hypothesis of transfer of control is undermined. However, the latter is not the case for all types of shareholders. The involvement of venture capital or private equity greatly increases the probability of an IPO, suggesting the IPO as an exit channel for venture capital or private equity. Note that young companies are more likely to list on the LSE. This makes sense since VC/PE is generally interested in start-up companies and seeks exits within a few years.

The indicators of private benefits of control exhibit significant results. First, having an auditor of a Big 4 accounting firm significantly increases the probability of an IPO. Second, the multi-class share dummy has a significant negative coefficient. Nevertheless, the family indicator is not significant. The overall results suggest that the agency problem is an important deterrent to a listing on the LSE, while “amenity potential” does not discourage an IPO. The agency costs outweigh the possible benefits of monitoring and motivation of management. And reduced overmonitoring by outside blockholders is not much appreciated by the company undertaking a public floatation.

Further evidence on the agency problem can be found in the segmented managerial ownership variables, which show striking different signs among them. In the low range (0-10%), the more shares the managers hold, the more likely the

company is to go public. As the divergence-of-interest agency theory predicts, the better alignment of the interests between managers and shareholders will reduce the agency cost. In the middle range, however, the results become insignificant. This is the range where the entrenchment effect begins to take effect and offsets the divergence-of-interest effect. Finally, in the high range (40% above) of managerial ownership, higher percentage of managerial ownership actually discourages an IPO. This is consistent with the prediction that agency problem between the managers-owners and minority shareholders becomes dominant and deters the public floating.

The hypothesis of share liquidity gains support from the positively significant results on the interaction term of major ownership with firm size. Combined with the fact that larger companies are more likely to go public, this evidence suggests that bigger firms can reap the benefit of liquidity better. The higher the percentage of stakes is held by the controlling shareholders, the more significant this effect is.

Last, the evidence on the hypothesis of diversification is weak. The credit rating (QuiScore) for the IPO companies is not much different from the result for the control group, while the number of block shareholders is positively significant.

Models with Smaller Control Samples

Table 9 shows the results for IPOs on the LSE, using smaller control groups by bootstrapping method. The findings are similar to the results with the complete control sample. Only two statistical differences are reported. First, the managerial ownership becomes insignificant in the low range. Second, the multi-class share dummy becomes

insignificant, and yet remains negative in all the models. The two variables are significant at the 10% level in models with the complete control sample. However, the majority/block ownership, number of block shareholders and big 4 dummy remain statistical significant. Consequently, the hypothesis of loss of private benefits of control is still supported but at a relatively low significance level.

6.5.2 Listings on Alternative Investment Markets or Ofex

Table 10 reports the results for the small company group. A remarkable difference with the results for large companies (Table 8) lies in the significantly positive sign of the family control indicator. It seems that for small companies, family shareholders are more likely to take the firms public. So the “amenity potential” does not discourage a family controlled company to list on the second-tier stock exchanges. It is likely that the family controllers of small companies have more incentive to limit their appropriation of private benefits in order to ascertain sustainable growth for the benefit of their offspring.

Second, the managerial ownership in both low and high ranges becomes insignificant while the managerial ownership in the middle range turns positively significant (the latter turns insignificant in Table 11). Thus, the agency problem is less prominent for small companies. This is expected when most of the small companies are controlled by the managers-owners. Consistent with this finding, the big 4 and multi-class share dummies turn insignificant. Note that the control preference variables remain significant, which suggests that loss of control is also an important risk to small companies, considering their higher risks of being taken over.

Together, the results suggest that small companies value private benefits of control less than their larger counterparts when considering public listings. Rather, other more crucial factors may drive small firms public, such as the capital expenditure requirements.

Third, the VC/PE ownership becomes insignificant, while the ages of the IPO companies are much larger than the control group. This is not expected if VC/PE use the IPO as an exit channel, because they are generally interested in start-ups. Thus small businesses do not use IPO as a way to exit for venture capital or private equity. Combining with the negatively significant results on the majority/block ownership, the hypothesis of control transferring is undermined. The lack of support may be because the risk of being acquired in the public equity market is so high for a small firm that its owner is disinclined to take the firm public. Second, the small firm size and hence relatively low value of the potential benefit of diversification make control transferring less important for the owner of a small company. As for the case of VC/PE, the situation in the U.K. is that the VC/PE may prefer exits through the LSE rather than second-tier exchanges.

Fourth, the interaction variable of firm size and majority ownership turns insignificant. This implies that improved liquidity is not a prominent benefit for a small firm in which its owners have less resources invested in the company.

Last, contrary to the prediction of the diversification hypothesis, the IPO companies have lower risk than the control group, as evident in the highly significant positive sign on the QuiScore. The significant positive sign on the

number of block shareholders further undermines the diversification effect. This is consistent with the small size of the companies and hence the less desire to diversify.

In summary, the findings show that the most important cost of an IPO for small companies is the risk of losing control, but not necessarily the agency costs. The family controllers seem to be more likely to take the companies public, which counters the effect of the private benefits of control. This problem will be further examined in later parts by investigating the IPO decisions of small family controlled companies and by comparing them with a group of large widely held companies. Control transferring, share liquidity, and diversification are not important issues in the consideration of an IPO for a small company.

The above findings are consistent with the predictions regarding the differences of large and small companies, if the examined hypotheses hold in a general context. Therefore, the divergence of the evidence on the large and small companies does not undermine the soundness of the hypothesis tests in earlier sections, but further supports the hypotheses in general. Compared with the findings for the companies seeking listings on the LSE, the evidence generally confirms that small companies face fewer problems of private benefits of control than their large counterparts. Moreover, small companies assign less value to the benefits of control transferring, share liquidity and diversification than large companies do. Both groups are afraid to lose their control during or after IPOs.

Table 11 shows the results for IPOs on AIM or Ofex using the control groups matched by the industry and size. The findings are quite similar to the results with the

complete control samples. Notably, the multi-class share indicator turns significant at the 10% level, which offers better support to the hypothesis of loss of private benefits of control.

6.5.3 Small Family Controlled Companies versus Large Widely Held Companies

Tables 12 and 13 show further analysis on two interesting cases at two extreme ends: small family controlled companies and large widely held companies. It is an effort to isolate the effect of the agency problem that is more profound in large widely held companies.

The most prominent differences between the two groups are twofold. First, the variables indicating the desire to maintain control are significant for the small family controlled group, but insignificant for the other group. The result suggests that the former group has a higher preference for control, consistent with the prediction that small family controlled firms better appreciate “amenity potential”. Combining with the insignificant result on the family indicator found in tests for large companies in Tables 8 and 9, the evidence on the hypothesis of “amenity potential” is mixed.

Second, the managerial ownership in the low range is insignificant for the small family controlled companies, but positively significant for the other group. And the managerial ownership in the high range is negatively significant for the small family controlled companies, but insignificant for the other group. These imply that small family controlled firms face less prominent agency problems between management and shareholders but more agency problem between controlling

shareholders and minority shareholders.

6.5.4 Mergers & Acquisitions

In Table 14, the choice of acquisition by public or private companies is incorporated into the decision of doing IPO or remaining private. Panel A tests the factors leading to the choice of acquisitions by public companies over IPOs. The results indicate that more firmly controlled companies prefer acquisitions by public companies over IPOs, and they have more scope for private benefits of control (positive `multi_class`), while family controllers prefer IPOs. If the private firms plan to sell cash flow rights in IPOs and control rights later in M&A as modeled by Zingales (1995a), then the results may result from the fact that the U.K., under the Anglo-American corporate governance system, has more stringent rules²⁰ for public companies to prevent cashing private benefits of control. Hence the control rights are sold when the target is still private. Family controllers, on the other hand, may value the non-pecuniary “amenity potential” more and are reluctant to merge into another company. Also observe that the IPO companies have larger sizes, faster growths, higher capital expenditures, and younger ages. These are consistent with better capital requirements and higher potentials. It is likely that this group has to restrain their consumption of private benefits of control in order to fund their capital needs. Additionally, independent public companies have more scope for future fund raising, while the mergers have to share resources with the parent or sibling companies.

Second, the interaction term suggests the target firms have less liquidity

²⁰ Among the listing requirements, the UKLA has to be satisfied that the company is able to operate as an independent entity, especially where it has a controlling shareholder for whom conflict of interest may arise.

requirement than IPO firms, consistent with their less freedom to realize liquidity in the public market. Last, it seems that the VC/PE shareholders prefer IPOs.

Panel B tests the factors leading to the choice of acquisitions by private companies over IPOs. There are a few differences from Panel A. First, the family indicator turns insignificant, in line with the similar effects for both groups in terms of losing “amenity potential”. Second, the managerial ownership at high level turns positively significant, consistent with more agency problem for target firms discussed earlier. Last, IPO firms obtain better liquidity and timing benefits. As shown in Panel E, the only difference between the takeovers by private firms and takeovers by public firms is the high capital expenditure requirements for those choosing to merge into public firms which offer more latitude for capital raising.

Panels C and D show that comparing with firms remaining in dark, takeover targets have less preference to control, face more serious agency problem, and have more support from VC/PE, all consistent with the predictions. The target firms have less desire for diversification, as their owners sell controls through the M&A deals. They are also younger, more profitable and may have large capital expenditure, which are consistent with their attraction to the acquirers and their demand for new capital.

6.6 Summary

This chapter empirically investigates the ownership and control issues in the choice by the initial owners of a private company between taking the firm public and keeping it private. Various theoretical models have reasoned that the major deterrents to IPOs are the potential loss of private benefits of control, while the

benefits of IPOs are primarily the opportunity to transfer control, or to improve share liquidity and diversification.

The empirical results show that the loss of pecuniary private benefits of control (the agency problem) is the most important consideration in the IPO decision, while non-pecuniary private benefits of control (“amenity potential”) is not a significant cost of going public. On the benefit side, promoting share liquidity is regarded as a type of major benefit of an IPO. The companies do not go public to diversify, or to transfer control, except that the VC/PE may use IPO as an exit channel.

Chapter 7 The Comprehensive Ex Ante and Ex Post Evidence on the Decision to Go Public

Apart from information and ownership, the literature suggests that, when making the listing choice, private companies may also consider other factors such as financial needs and product reputation. This chapter extends the findings from the previous two chapters and estimates complete ex ante models, incorporating most of the major factors documented in the literature that affect the IPO decision. The relative importance of these factors will be discussed.

Furthermore, this chapter also provides ex post evidence on the decision to go public, which assists in revealing the true motives behind the IPO decision. Do firms go public to seek profitability potential and to expedite growth? Or do they aim to explore a temporary “window of opportunity”? If yes to the former, can they really

achieve their goals through public listings? It is noteworthy that the data on private companies allow for the comparison of the performance of the companies that go public with the peer companies that stay private. Additionally, ex post evidence can not only confirm with the ex ante motives of going public, but also provide a better test on some factors that cannot be directly tested ex ante with the data available. For example, the loss of confidentiality is an important cost of going public. High R&D expenses suggest a potentially high level of loss of confidentiality. Nevertheless, this cannot be directly tested due to lack of R&D data. Instead, post-IPO changes in corporate taxes may reflect an important aspect of confidentiality lost after an IPO.

7.1 Hypotheses

The development of the hypotheses related to information and ownership are discussed in details in the previous two chapters, and hence will only be briefly discussed in this chapter, with the focus on the post-IPO predictions. A few other hypotheses that may significantly affect the IPO decision will also be developed. The summary of the hypotheses is shown in Appendix 1.

7.1.1 Information Asymmetry

Adverse Selection

When there is asymmetric information between managers and investors, firms raising external capital to fund new projects face an adverse selection problem (Leland and Pyle, 1977), resulting in overvalued securities for low-valued firms and undervalued securities for high-valued firms (Akerlof, 1970; Spence, 1973).

The adverse selection problem is more severe for young companies and small companies (Chemmanur and Fulghieri, 1995). Second, a higher degree of underpricing directly resulting from information asymmetry is typical for high-tech firms, for which the value uncertainty and asymmetrical information between management and external investors are high.

If the adverse selection problem affects the decision of an IPO significantly, then we should expect more incidences of low-valued firms going public whose securities are overvalued than the high-valued firms whose securities are undervalued. Therefore, the profitability and efficiency ratios of the IPO companies are expected to be worse than those staying private, and may deteriorate after IPOs in general.

Signaling

Based on information asymmetry, the signaling theories focus on the use of signals to reduce the adverse selection problem when companies go public. The effective signals include leverage (Ross, 1977; Ravid and Sarig, 1991), dividend (Miller and Rock, 1985; John and Williams, 1985), reputable accounting firms (Titman and Trueman, 1986; Beatty, 1989; Michaely and Shaw, 1995), and etc.

After an IPO, the leverage and dividend will decline because the reasons for signaling no longer exist.

H3.1a: Young companies, small companies and/or high tech companies are less likely to go public. Companies paying dividends, audited by a Big 4 auditing firm and/or having high leverage are more likely to go public.

H3.1b: The profitability and efficiency ratios of the IPO companies are worse than the companies staying private. After the IPO, the profitability, efficiency ratios, leverage and dividend will decline.

7.1.2 Information Spillover

Subrahmanyam and Titman (1999) argue that investors can acquire “serendipitous information” about the firm that insiders lack and that this information improves the firm’s investment decisions. Their model suggests that companies in industries with extensive public contact may go public to capitalize on the additional information exhibited in the stock prices. The degree of extensive public contact can be captured by a dummy variable for the retail trade, transportation, and service sectors.

H3.2a: Companies in the retail, transportation, and service industries are more likely to go public.

There is no clear ex-post evidence for this hypothesis.

7.1.3 Market Timing

Ritter (1991) suggests that there are periods when stocks are mispriced or overvalued, and private companies will choose to issue equity to exploit the mispricing during these periods.

Consistent with Pagano, Panetta and Zingales (1998), I use the industry median Market-To-Book ratio to capture the effect of clustering in “hot” industries. In addition, I predict a direct relationship between the median MTB of each year and the timing ability for the IPO companies to take advantage of “hot” market time.

H3.3a: The probability of going public is positively related to the industry median MTB and/or the median MTB of each year.

The existence of the timing ability implies that the companies will go public at the peak situations in terms of industry or market wide valuation or their own profitability. Hence after the listings, the timing hypothesis predicts underperformance in terms of profitability and growth. The capital expenditure will not significantly increase because the IPO is not driven by the capital needs to fund growth, but is merely a way to sell the shares at good prices.

H3.3b: After flotation, the profitability and growth will decline, and capital expenditure will not increase.

7.1.4 Control

Loss of Private Benefits of Control

There are two types of private benefits of control: non-pecuniary and pecuniary private benefits of control. “Amenity potential”, or non-pecuniary private benefits of control, is especially common in family run companies (Burkart, Panunzi and Shleifer, 2003). The reasons for the preservation of family control suggest that those companies with a large “amenity potential” of control will stay in the family’s hands and hence are not likely to go public.

On the other hand, the agency problem is the pecuniary private benefits of control that comes at the expense of profits to the outside investors where managers divert resources from outside shareholders (Jensen and Meckling, 1976). After a public listing, the agency costs will increase as the public firm generally has more

dispersed ownership, which may deter an IPO in the first place. Alternatively, the stock market could serve as a monitoring device by exposing the managerial decisions to the market's assessment or as a motivation approach through share participation schemes (Holmstrom and Tirole, 1993).

Another type of agency problem is the extraction of pecuniary benefits by the controlling shareholders from minority shareholders, in the forms of self-dealing transactions or dilution activities (Ehrhardt and Nowak, 2003; Johnson et al., 2000). After floating, the regulations for listed companies and the scrutiny of the public will constrain the extraction of private benefits of control, while higher takeover potential introduces higher risk of losing control. However, Pagano and Roell (1998) argue that, for companies in need of capital, selling shares to the public can avoid overmonitoring by outside blockholders, which entails significant agency costs if introducing private investors.

The agency theory argues that the agency costs increase as managers' stakes decrease and ownership becomes more dispersed. The finance literature has also documented an entrenchment effect that managers have more scope for behaving opportunistically when they have larger control (Morck, Shleifer and Vishny, 1988). This entrenchment effect is more obvious at the middle level of managerial ownership. On the other hand, when the managerial ownership is very high, the managers become the controlling shareholders, and the agency problem between the management and the controlling shareholders disappears. Thus, at the high level of managerial ownership, the probability of IPO is negatively related to the managerial

ownership, while at the low level of managerial ownership, their relationship is positive.

Additionally, the indicators of high level of private benefits of control include the existence of multi-class shares and the existence of an auditor from a Big Four accounting firm, which relates to the constraints on the controlling shareholders' activities. Last, the probability of going public should be inversely related to the desire of the incumbent shareholders to maintain control.

As for the post-IPO predictions, apparently, the initial owners of a family controlled company are more likely to retain their stakes because of the non-pecuniary private benefits of control. Second, accruals are good indicators of the existence of the agency problem. If the agency problem becomes more serious after a listing, we should expect higher accruals.

Transfer of Control

While the private benefits of control may prevent the incumbent owners to do an IPO to reserve control, other theories suggest that IPO is a good way to transfer control (Mello and Parsons, 2000; Francis and Kohers, 2003; Zingales, 1995).

If control transferring is an important incentive for undertaking an IPO, then the higher majority or block ownership, the more incentives the initial owners have to

sell their control in an IPO deal²¹. Furthermore, Black and Gilson (1998) viewed an IPO as an exit channel for venture capital or private equity.

If an IPO is used to transfer control or exit, divestures will be observed after floating, especially for venture capital or private equity shareholders.

H3.4a: Companies controlled closely, companies controlled by families, and/or companies with multi-class shares are less likely to go public, while companies audited by Big Four accounting firms and/or companies backed by venture capital or private equity are more likely to go public. The relation between the probability of an IPO and managerial ownership is positive at the low level and negative at the high level of managerial ownership.

H3.4b: After the IPO, family controlling shareholders will maintain their stakes, and the venture capital or private equity shareholders will cash out. The accruals will increase.

7.1.5 Liquidity

Share Liquidity

The stock market provides the owners of private firms with liquidity for their investments and hence usable cash (Mello and Parsons, 1998; Booth and Chua, 1996; Amihud and Mendelson, 1988).

The liquidity of a firm's shares increases with the trading volume that is, in turn, related to firm size. On the other hand, the level of shareholders' shares of stakes

²¹ Though the control transferring theory predicts opposite signs for the same variables as used in the theory of loss of private benefits of control, the final hypothesis will only include the prediction of the latter, while the explanation of the empirical results will consider and contrast both effects.

should affect their IPO decisions. I modify the tests of Pagano, Panetta and Zingales (1998) by introducing an interaction term of the firm size with the majority ownership. If the firm size is directly related to the benefits of liquidity, then we should see that large firms whose stakes are closely held by the major shareholders are even more likely to go public.

If the original owners take the companies public to increase share liquidity, then divestures will be observed after floating.

Diversification

The dispersed share ownership available for public firms not only provides diversification of risk associated with large shares, but also helps to preserve the entrepreneurs' bargaining powers against large private investors (Chemmanur and Fulghieri, 1999), or to diversify the founding shareholders' wealth (Leland and Pyle, 1977; Pagano, 1993). Apparently, a riskier firm or a company with a smaller shareholder base has a greater need to diversify.

If diversification is an important motive of going public, we will expect the initial large shareholders to sell part of their shares after floating.

H3.5a: Large firms with large controlling shareholders (interaction term) are more likely to go public. The probability of going public is negatively related to credit rating and the number of (block) shareholders.

H3.5b: After floating, the major and block shareholders will divest their stakes.

7.1.6 Capital Structure²²

The decision to go public is also closely related to capital structure. Going public is basically a financing option by issuing public equity, and private companies would seriously consider the impact of public offerings on their capital structure.

Cost of Capital (Pecking Order Theory)

Myers and Majluf's (1984) pecking order theory posits that because of the information asymmetry of public offerings, firms prefer internal finance, and that if external finance is required, the riskiness of the firm determines the type of funds raised. The higher cost of capital suggested by the pecking order theory is an important factor considered by the initial owners facing an IPO decision.

Under the pecking order theory, the firms with the greatest cash deficits will be the most likely to seek public capital. In addition, the theory predicts that the most significant variable in the multivariate analysis is riskiness proxied by credit rating and leverage (Helwege and Liang, 1996). This is because for less risky firms, the debt will be priced more accurately than the equity, while highly risky firms may find risky debt not advantageous to equity.

Target Capital Structure

²² As discussed in the literature review section, similar to the IPO literature, the theories on capital structure also focus on agency problem and information asymmetry, apart from two other groups of theories. The two hypotheses discussed here are more relevant to the IPO decision. Although the pecking order theory is closely related to the theory of information asymmetry, their implications are different. And this work examines the pecking order theory separately in the capital structure section in order to highlight the effect on capital structure by contrasting with the static tradeoff theory.

On the other hand, the classic static tradeoff theory of capital structure holds that an optimal or target capital structure determines a firm's financing decisions. Thus, when the leverage ratio of a private company is too high, one effective way to reach the target capital structure is to issue equity. And a public offering also provides the company with future opportunities to issue more public equity or debt, to maintain the target capital structure.

Like the pecking order theory, the static tradeoff theory predicts that high leverage drives the IPO decision. The two theories can be distinguished by the variable cash deficit, which should be insignificant under the static tradeoff theory, while positively significant under the pecking order theory (Helwege and Liang, 1996).

Apparently, the static tradeoff theory predicts that the leverage ratio will decline after floating.

H3.6a: The probability of going public is positively related to cash deficit and leverage, and negatively related to credit rating. Alternatively, the probability of going public is positively related to leverage and not related to the cash deficit.

H3.6b: The leverage ratio will decline after IPO.

7.1.7 Financial Considerations

Direct Cost of Listings

Listing on a stock exchange incurs high direct costs such as legal and accounting costs and commission fees, and indirect costs such as underpricing and costs of regulatory compliance. These comprise an average 21.22% of the realized

IPO proceeds for firm commitment offers, and 31.87% for best efforts offers (Ritter, 1987). In addition, the IPO is likely to fail or be withdrawn due to unfavorable reactions of the investors, while a firm's private information has already been disclosed through the book-building process. This incurs costs that a firm should consider before attempting floatation. The relatively fixed direct listing costs are less prominent for larger firms.

The ex post direct costs of listings are most evident in higher audit fees and higher corporate taxes.

Access to Capital

Albeit bearing large listing costs, public firms have better access to the capital market and it is an easier and less costly process for them to raise additional capital for future investment when needed. However, the access to capital is more limited and more costly for private firms (e.g., Brav, 2005 and Leary, 2005). In addition, going public provides a firm with a reduction in financial constraints (Welch, 1989), an improvement in the bargaining power with financiers (Pagano, Panette and Zingales, 1998), or a reduction in the cost of capital due to greater liquidity (Amihud and Mendelson, 1988). The proxies for financial needs or constraints include the cash deficit²³, capital expenditure, growth, and leverage.

If private companies go public for the sake of funds, then after floating, they are expected to have more capital expenditure to expand and less cash deficit.

²³ The cash deficit is measured as the capital needs such as capital expenditure, acquisition and dividend, subtracting operating earnings before depreciation and amortization, as in Helwege and Liang (1996).

H3.7a: The propensity to go public is positively related to firm size, cash deficit, capital expenditure, growth, and leverage.

H3.7b: After an IPO, capital expenditure, audit fee and corporate taxes will increase, and cash deficit will decrease.

7.1.8 The Product Market

Loss of Confidentiality

As a public company has to follow stringent regulatory rules such as disclosure rules, the possibility of losing information that is crucial to its competitive advantage may deter the company from an IPO (Campbell, 1979; Yosha, 1995). A good indicator of the importance of confidentiality is the intensity of the R&D activities. However, the FAME database doesn't contain R&D data. Thus, there is no testable ex ante evidence for this hypothesis.

Nevertheless, the post-IPO evidence will provide a good alternative test for this hypothesis. As pointed out by Pagano, Panetta, and Zingales (1998), public listings damage confidentiality by exposing the IPO companies to the close scrutiny from the tax authorities, and by reducing their scope for the tax elusion and evasion. Thus an increase in the corporate taxes after an IPO will show the importance of confidentiality in the IPO decision.

Product Reputation

Even with the risk of loss of confidentiality, going public is a good way to raise the attention of the public, and hence enhance a company's reputation in the product market. Stoughton, Wong and Zechner (2001) develop a model where

consumers infer quality from the stock price. The model concludes that only high quality firms go public in the equilibrium, because going public provides a signal to consumers that the firm is willing to subject itself to the scrutiny of outside analysts, and a large number of investors contribute to the price discovery. Moreover, large growth opportunities and network externalities imply a great tendency for the firm to undertake an IPO rather than use a product price signal. The testable implication of this model is that firms with high network externalities (e.g. exports) are more likely to go public.

After floating, if the IPO companies successfully promote the product reputation, the exports will go up.

H3.8a: Companies with large exports have a higher propensity to go public.

H3.8b: After floating, the corporate tax and exports will go up.

7.2 Empirical Results

In this chapter, complete models and ex post evidence will be discussed. Thus, to avoid complexity and possible confusion, only companies seeking listings on the London Stock Exchange and the corresponding control companies are included in the tests.

7.2.1 Ex Ante Determinants of the IPO Decision

Tables 15 and 16 report the complete models on all the important ex ante determinants of the IPO decision. The results on the hypotheses related to control, liquidity and information spillover generally remain strong and in line with the tests

in Chapter 6. In short, the results support the hypotheses of agency problem, share liquidity, and exit channel for VC/PE, but not amenity potential, diversification, or control transferring by shareholders other than VC/PE. On the other hand, the evidence on the information asymmetry theories turns less significant, only with some support for signaling by Big 4 accounting firms and leverage. However, the detailed examination of these hypotheses in Chapter 5 has proved that information asymmetry does incur remarkable costs to the companies tapping the public market. The less significant results in the complete models imply that importance of asymmetrical information reduces when the ownership and control effects come into play, but may still among the considerations in the IPO decision.

Except for the hypotheses related to information and ownership discussed in details in Chapters 5 and 6, the results also shed lights on the other hypotheses. As for the capital structure theories, the pecking order theory does not find much support from the cash deficit. However, the models with smaller control samples in Table 16 report significantly positive cash deficit. Combined with the slightly positive leverage and insignificant yet consistently negative credit rating, the evidence is supportive of the pecking order theory that only risky firms will issue public equity which entails higher cost of capital. This is also consistent with the high level of information asymmetry associated with a public floating. On the other hand, the target capital structure may not be a major consideration in the IPO decision, as shown in the significance on cash deficit.

As for the financial considerations, the access to capital is proven to be an important motive for going public, as evident in the significant results on the capital expenditure, growth and leverage. Second, the direct costs of listings may deter an IPO as the probability of an IPO is positively related to firm size. Although the firm size may capture other effects such as share liquidity, ex post results on the audit fee and corporate taxes offer further evidence on the hypothesis related to the direct costs of listings.

As for the product market, the significantly positive coefficient on the export supports that companies may go public to promote product reputation. However, the supportive evidence fades in the models with smaller control samples in Table 16.

Tables 15 and 16 also uncover the relative importance of the various hypotheses. The results suggest that the most significant hypotheses are the exit channel for VC/PE, loss of control, access to capital, pecking order theory, and direct costs of listing. Less significant but supportive hypotheses include the agency problem, information spillover, share liquidity, market timing ability, product reputation, and information asymmetry. The evidence on “amenity potential”, diversification, and target capital structure is not significant.

7.2.2 Post-IPO Accounting Performances

Profitability and Efficiency Ratios

The Wilcoxon signed rank tests in Table 17 show the profitability evolutions after IPOs: ROA increases immediately after the IPO but declines sharply later on. The sudden decrease within one year is a little surprising. The matched control group

shows consistent decreases over time, but at much lower significance levels. As the IPO companies are generally large and mature companies, the decline pattern may be a result of being at a later stage in the business cycle. To probe into the profitability problem more deeply, I also examine other profitability measures, ROE and ROS, and do the regressions²⁴ on the post-IPO dummies. In unreported results, ROE and ROS show similar patterns to ROA. The regressions show gradual deterioration of profitability after controlling for the past profitability and other important firm-specific variables. The permanent effect is negative, though not significant. This result is consistent with Pagano, Panetta and Zingales' (1998) finding that the profitability declines after IPOs for the Italian companies.

The initial improvement of profitability immediately after IPOs is plausible, since the companies have raised sufficient capital to fund their high growth and capital expenditure and to alleviate the heavy debt burden. The decline of profitability after around 2 years following the IPO is not so straightforward, though. Because the filing requirements for the private and public companies in the U.K. are almost the same except for very small companies, the changes in the profitability of the IPO companies should not be a result of different disclosure requirements after the IPO.

Additionally, the efficiency ratios such as the quick ratio and equity turnover are all worse than before the IPO, except the operating ratio. This further suggests that at the time of floating, the IPO company' performance is about to deteriorate permanently.

²⁴ The regression procedure is discussed in the methodology section.

One possible reason for the deterioration of performance lies in the adverse selection that a company attempts an IPO when its performance is decent but is about to decline permanently. Another possible reason is that with the separation of the management and ownership, the agency problem becomes more severe for a public company. In a public firm, the managers have more incentives to extract perks and other personal benefits than to make investments on the sole behalf of shareholders. This is also evident in the decreasing pattern of the capital expenditure. Hence the firm's performance gets worse after an IPO. Third, the worse profitability of the IPO firms may be caused by the loss of confidentiality. As discussed in Pagano, Panetta and Zingales (1998), companies may lose critical information after floating, and the higher transparency for the public companies may reduce the competitive edge of the former private companies. Last, as suggested by the pecking order theory of capital structure, external equity is the most expensive financial source for a company. The related costs may erode the company's accounting performance.

Growth and Capital Expenditure

Table 17 shows that after the IPO, growth changes in waves, and the permanent effect is significantly worse. More than 4 years after the IPO, the sales growth declines by 33% relative to one year before the IPO. The control group grows faster in years 1-3, but then slows down to the same level as one year before the IPO year. However, the differences between the IPO and control groups are minor. The results in unreported regression models show that growth drops significantly and gradually with or without the major control variables, and the permanent effect is

highly notable. To check the robustness of the effect on growth, I also test on growth of operating profit, growth of net income and growth of total assets and find similar results.

The Wilcoxon signed rank tests show that the amount of capital expenditure increases over time after the IPO, in sharp contrast to the control group that undergoes no significant changes in the same period. However, the capital expenditure scaled by the total assets climbs in the first two years after the IPO, but decreases later on. The permanent effect is significantly negative, and slightly worse than the companies remaining private. This is confirmed by the regression result that capital expenditure decreases progressively even from the year of the IPO, with a significant permanent downturn.

In contrast, long-term investments increase significantly after the IPO. Combined with the evidence on the capital expenditure, this suggests that although the IPO companies do not increase capital expenditure on their own companies significantly, they invest more on other companies instead. The managers may not do this on the sole behalf of the shareholders, as the companies' profitability and growth deteriorate dramatically. In addition, I find a significant rise in the firm size in terms of sales, number of employees, export, and intangible ratios. It is possible that the managers aim to enlarge the scales of the companies beyond the optimal size in order to promote their power or to facilitate the extraction of "perks".

Leverage and Credit Rating

The long-term leverage decreases significantly after the IPO, and the decline is

permanent compared to the matched private firms. This is expected since the companies have greatly increased the portion of equity through listings. Combined with the ex ante evidence that the IPO group is more highly levered than the control group, the ex post evidence shows that while the company does not go public to improve its profitability or growth, it may do it to lower the original high leverage. This is also confirmed by the significant improvements in the solvency ratio, credit rating, interest coverage, and asset coverage. All these variables, except interest coverage, are much better than the control group.

Other Accounting Variables

While the control group has more severe cash deficits after the IPO year, the IPO companies don't have this problem. This suggests that an important incentive to go public is to gain access to funds or to overcome borrowing constraints.

The corporate taxes increase after floatation for the listing companies, but decline for the companies staying private. As the profitability of the IPO companies is worse than that of the control group, this evidence strongly supports the hypothesis of loss of confidentiality. As suggested by Pagano, Panette, and Zingales (1998), an increase in corporate taxes may be a direct result of the loss of confidentiality after listings, when the companies expose themselves to the scrutiny of the tax authority.

Although the reporting requirements are similar for the public and private companies, it is plausible that a company will need more audit services after the listing because of the need for more timely disclosure and other efforts to maintain investor relations. The higher audit fee after floating substantiates the above prediction.

However, the increase in the audit fee is lower than for the control group. The signaling effect will help explain this situation. Companies may use more reputable audit services to signal their values in order to complete the IPOs. If that is the case, the audit fees after the IPOs should decrease or be lower than the matched private companies, as the reason for signaling no longer exists. Additionally, together with the increase in corporate taxes, the higher audit fee after the IPO may suggest that the direct cost of listings are possible deterrents to public listings.

The evidence on signaling using dividends is less consistent. Dividend increases within a few years after the IPO year for both the IPO companies and the companies that stay private. It is likely that public shareholders desire more dividend distributions, or the IPO companies have cash surplus with the large fund injection but a low capital expenditure need.

If companies successfully use public listings to enhance their product reputations, then their exports will go up after listings. This is supported by the evidence on exports.

The accruals of both the IPO and control groups are not much different after the IPO year, which provides no support on the hypotheses of agency problem.

Last, the quick ratio increases significantly within the first few years after floating and significantly higher than the control group. This is consistent with the remarkable increase of cash and cash equivalent from the listing. However, the long-term change of the quick ratio is negative for the IPO group. As the IPO firms have higher growth, higher capital expenditure requirement and yet higher leverage than the

control group, it is plausible that the cash is consumed a few years after the listings. And as discussed earlier, the efficiency of the listed firms actually declines relative to the peer private firms probably due to adverse selection, agency costs, loss of confidentiality and higher cost of capital.

7.2.3 Post-IPO Ownership Changes

Ownership Structures of the IPO and Control Groups

Table 18 compares the ownership structures of the IPO and control groups around the IPO years, and Table 19 shows their changes around the listings. In Table 19, the benchmark for all the ownership changes is their values one year before the IPO. Consequently, a positive value before the IPO (IPO_4, IPO_3, and IPO_2) means a stake higher than one year before the IPO (IPO_1), and hence the ownership decreases over time.

In Table 18, the median family's share of the listing companies ranges from 20% to 23% before the IPO, and then decreases to around 25% in the first three years after the IPO. The long-term post-IPO average value is 14%. On the other hand, the median family ownership of the peer private companies is 0% over time. More than 3 years before the IPO, the family's share is significantly higher for the IPO companies than for the control group. This is consistent with the ex ante evidence. However, as shown in the ex ante complete model, the family indicator is not significant after controlling for other factors. The difference in the family's ownership between the two groups becomes minor within 2 years around the IPO, and then turns significantly negative more than 2 years after the IPO. This indicates

that the family's ownership declines dramatically after floatation. The ownership structure changes, as shown in Table 19, confirm the above finding. The IPO companies reduce the family's stakes after listings, while the peer private companies increase their shares in the family's hands over time.

The median managerial ownership of the listing firms is around 12% before the IPO and declines to 6% several years after the IPO, while it is consistently 0% for the control firms. The patterns of changes over time are quite similar to the family's ownership, in that the fraction declines for the IPO companies, and climbs for the control group.

Consistent with a small fraction of companies backed by VC/PE, the median VC/PE ownership is zero for both groups. It declines dramatically after the listings, strongly supporting the hypothesis that the VC/PE uses the IPO as a way to exit. This is also in line with the ex ante evidence. There is no clear pattern of changes for the control group.

As expected, the block ownership is much lower for the IPO companies after the floating. However, this pattern exists even before the IPO, with a median of around 30% for the IPO companies and 100% for the control group. This sharp contrast strongly substantiates the finding in the ex ante models that firmly controlled companies are less likely to go public. After the listings, the block ownership of the IPO firms declines to 17% while the control group increases the block ownership over time. The non-VC/PE institutional ownership exhibits quite similar patterns to the block ownership.

The number of shareholders for the IPO firms is almost above 10 times that of the control group. Similar patterns are found for the number of managerial or non-VC/PE institutional shareholders. Again, this confirms the ex ante finding that less firmly controlled companies are more likely to go public. Except the number of managerial shareholders, the differences of various shareholder numbers widen after the IPO, which is in line with the requirement by the stock exchange for more diversified shareholder bases. However, the number of managerial shareholders does not change much after the IPO, probably because of the joining of new managers with share participation schemes. The increases of the various types of shareholder's size over time for the companies staying private may be a result of the decentralization of control in the developing process of the private companies. Last, the number of block shareholders declines after the IPO, probably due to the divestiture of the original shareholders.

Selling Behavior of the Original Shareholders

Table 20 shows apparent selling patterns for all types of shareholders after the IPOs. The benchmark is one year before the IPO. The total shares sold in the year of the IPO is 18.9% of the total shares or 23.4% of the total identified shares at the median, which declines a little within the first two years, and increases later to 17.01%. This shows that the major selling takes place in the first year after the IPO.

The family owners divest around 16% of their original stakes in the listing year and continue the sale several years after the IPO. The average long-term divestiture is 39.9% of their initial shares. The managers sell around one fourth of the

shares they hold in the first year of IPO. This divesture process continues for many years, with a final divesture of 41.41% of the total managerial ownership. Similar significant selling behavior is found for the major and second largest shareholders. While sales of small stakes may be due to the regulation of the stock exchange, the large divesture of stakes by the controlling shareholders implies that the IPO may be used as a channel to transfer control, to promote liquidity, or to diversify their wealth.

The divesture by venture capitalists or private equity providers is also focused on the first year after the IPO. They divest a significant proportion of their stakes within the first year after the IPO and around a half of their stakes several years later. This suggests that the IPO could be used as an exit channel for venture capital or private equity.

Block shareholders divest around 31% of their stakes, but buy back around 15% later. Combined with the evidence on the major and second largest shareholder, this shows a net purchase of shares by the relatively smaller block shareholders.

7.3 Summary

This chapter examines the motives that drive private companies public from both ex ante and ex post evidence.

The ex ante models compare the accounting and ownership variables of the companies choosing to go public and those of the companies choosing to stay private. Based on the findings in the previous two chapters from the information and ownership perspectives, the ex ante complete models attempt to investigate all the

important factors affecting the IPO decision as documented in the literature, and reveal the relative importance of these factors. The ex ante results show that the exit channel for VC/PE, loss of control, access to capital, pecking order theory, and direct costs of listing comprise the most important considerations in the IPO decision. Less significant but supportive hypotheses include the agency problem, information asymmetry, share liquidity, information spillover, market timing ability, and product reputation. The company may not seriously consider “amenity potential”, diversification, and target capital structure when seeking a public listing.

The ex post evidence reveals the revolution of the accounting performances of the companies going public after their IPOs, and compares this with the performances of the matched companies that stay private. The profitability, growth, and efficiency ratios are found to deteriorate after floating. The possible reasons are the adverse selection, agency problem and loss of confidentiality after the IPOs. Additionally, the capital expenditure does not increase after the IPO, and the debt burden is successfully relaxed.

This chapter also examines the ownership structure of both the IPO and control groups and their changes before and after the IPOs. The evidence reveals that the IPO group is less firmly controlled, and that various types of shareholders divest significantly after floating. This suggests that the companies may use the IPO as a way to transfer control, to promote liquidity, or to diversify their wealth.

Chapter 8 Conclusion

This study investigates the reasons that a significant portion of the private companies that satisfy the listing requirements do not go public. While the literature has many theoretical postulates on the going-public motives, relevant empirical evidence is sparse, especially on issues related to ownership and control. This study capitalizes on a comprehensive database with accounting and ownership data for most U.K. private and public companies. The major contribution is that this research examines the determinants of the IPO decision, including not only accounting measures, but also ownership and control variables. It also reveals the ownership structures of private companies that are generally not widely known to the public, as well as their changes before and after listings. With the ownership information, it is now possible to examine the true motives behind the scene, as the IPO decision is ultimately the decision of the initial owners of the private companies. In addition, the results uncover the control preferences of various types of shareholders, as well as the level of private benefits of control of the vast private companies.

This work also attempts to isolate the effects on the informational costs and benefits with two special groups: small companies and carve-outs (subsidiaries of public listed companies). The ownership and control issues are examined for two special groups: small family controlled companies and large widely held corporations. The above hypotheses are best tested by contrasting the results on companies in these two extreme groups.

The empirical results show that the main reasons that some private companies are reluctant to go public are the potential loss of control, high direct costs of listing, loss of confidentiality, and high costs of capital predicted by the pecking order theory, while the major benefits that public listing can provide include an exit channel for VC/PE shareholders and better access to funds. Agency costs, signaling, and adverse selection may also incur large costs to a company seeking a public listing, but “amenity potential” may not deter a company from attempting an IPO. The companies going public also consider the benefits of higher share liquidity, information spillover from the stock prices, higher valuation in the “hot” market time, and the improvement in product reputation, but not the diversification of shareholders’ wealth or optimal capital structure.

Also noteworthy are some results which were not consistent with my expectation. First, family block shareholders are not less likely to take a firm public than other types of controlling shareholders. Second, the industry overvaluation does not significantly increase the probability of an IPO if considering the overall market valuation. This seems to contradict the observed industry clustering of IPOs. It is possible that this clustering effect does exist, but becomes insignificant when controlling for some other industry related factors, such as the high tech dummy and the dummy for industries in the retail, transportation and service sectors. Third, young companies are more likely to go public on the LSE. One possible reason is the extensive restructuring and M&A activities before an IPO in the U.K. Last, credit rating and profitability do not affect the IPO decision significantly. Actually,

the companies that stay private are as risky and profitable as those going public.

Future research on the evidence from other countries may help understand these issues.

References

- Akerlof, G.A., 1970, The market for “lemons”: Qualitative uncertainty and the market mechanism, *Quarterly Journal of Economics* 84, 488–500.
- Allen, F., and G.R. Faulhaber, 1989, Signaling by underpricing in the IPO market, *Journal of Financial Economics* 23, 303-324.
- Amihud, Y., and H. Mendelson, 1988, Liquidity and asset prices: Financial management implications, *Financial Management (Spring)*, 5-15.
- Andres, C., A. Betzer, and M. Hoffmann, 2004, Going private via LBO - Shareholder gains in the European markets, 7th Conference, Zurich SWX Swiss Exchange.
- Ang, J., and J. Brau, 2003, Concealing and confounding adverse signals: Insider wealth-maximizing behavior in the IPO process, *Journal of Financial Economics* 40, 149-172.
- Baker, M., and J. Wurgler, 2002, Market timing and capital structure, *Journal of Finance* 57(1), 1-32.
- Ball, R., and L. Shivakumar, 2005, Earnings quality in UK private firms: Comparative loss recognition timeliness, *Journal of Accounting and Economics* 39, 83-128.
- Ball, R., and L. Shivakumar, 2006, Earnings quality at initial public offerings, working paper.
- Barry, C.B., and C.J. Muscarella and M.R. Vetsuypens, 1990, The role of venture capital in the creation of public companies, *Journal of Financial Economics* 27, 447-471.
- Bebchuk, L.A., 1999, A rent-protection theory of corporate ownership and control, NBER working paper.
- Beatty, R.P., 1989, Auditor reputation and the pricing of initial public offerings, *The Accounting Review* 64, 693-709.
- Becchetti, L., and G. Trovato, 2002, The determinants of growth for small and medium sized firms: The role of the availability of external finance, *Small Business Economics* 19, 291–306.

Benveniste, A., W. Busaba and B. Wilhelm, 2002, Information externalities and the role of underwriters in primary equity markets, *Journal of Financial Intermediation* 11, 61-86.

Berkman. J., D. Brownstone and Associates, 1979, Qualitative, intermittent, and limited dependent variable statistical program, Department of Economics, MIT, Cambridge, MA.

Black, B., and R. Gilson, 1998, Venture capital and the structure of capital markets: Banks versus stock markets, *The Journal of Financial Economics* 47, 243-277.

Boehmer, E., and A. Ljungqvist, 2004, On the decision to go public: Evidence from privately-held firms, discussion paper, Deutsche Bank.

Boot, W.A., R. Gopalan, and A.V. Thakor, 2003, Go public or stay private: A theory of entrepreneurial choice, working paper.

Booth, J., and L. Chua, 1996, Ownership dispersion, costly information, and IPO underpricing, *Journal of Financial Economics* 41, 291-310.

Brander, J.A. and T.R. Lewis, 1986, Oligopoly and financial structure: The limited liability effect, *American Economic Review* 76, 956-970.

Brau, J., B. Francis, and N. Kohers, 2003, The choice of IPO versus takeover: Empirical evidence, *Journal of Business* 76(4), 583-612.

Brav, O., 2005, How does access to the public capital market affect firms' capital structure? working paper, University of Pennsylvania.

Burkart, M., F. Panunzi, and A. Shleifer, 2003, Family firms, *Journal of Finance* 58 (5), 2167-2202.

Busaba, W., A. Benveniste, and R.J. Guo, 2001, The option to withdraw IPOs during the premarket: Empirical analysis, *Journal of Financial Economics* 60, 73-102.

Campbell, T., 1979, Optimal investment financing decisions and the value of confidentiality, *Journal of Financial and Quantitative Analysis* 14, 913-924.

Chemmanur, T., and P. Fulghieri, 1999, A theory of the going-public decision, *The Review of Financial Studies* 12, 249-279.

Cox, D.R., 1972, Regression models and life-tables, *Journal of the Royal Statistical Society, Series B (Methodological)* 34(2), 187-220.

Cronqvist, H., and M. Nilsson, 2003, Agency costs of controlling minority shareholders, *Journal of Financial and Quantitative Analysis* 38, 695-719.

De Albornoz, B.G., and P.F. Pope, 2004, The determinants of the going public decision: Evidence from the U.K., working Paper.

DeAngelo, H., L. DeAngelo and E.M. Rice, 1984, Going private: Minority freezeouts and stockholder wealth, *Journal of Law and Economics* 27(2), 367-401.

DeAngelo, H., and L. DeAngelo, 1985, Managerial ownership of voting rights: A study of public corporations with dual classes of common stock, *Journal of Financial Economics* 14, 33-69.

DeAngelo, H., and L. DeAngelo, 2000, Controlling shareholders and the disciplinary role of corporate payout policy: A study of the times mirror company, *Journal of Financial Economics* 56, 153-207.

Demsetz, H., and K. Lehn, 1985, The structure of corporate ownership: Causes and consequences, *Journal of Political Economy* 93, 1157-1177.

Diamond, D., 1989, Reputation acquisition in debt markets, *Journal of Political Economy* 97(4), 828-862.

Dierkens, N., 1991, Information asymmetry and equity issues, *Journal of Financial and Quantitative Analysis* 26(2), 181-199.

Ehrhardt, O., and E. Nowak, 2003, Private benefits and minority shareholder expropriation, Working paper.

Ellingsen, T., and K. Rydqvist, 1997, The stock market as a screening device and the decision to go public, unpublished working paper.

Engel, E., Hayes, R.M., and Wang, X. , 2007, The Sarbanes-Oxley Act and firms' going private decisions, *Journal of Accounting and Economics* 44(1-2), 116-145.

Field, L.C., and J.H. Mulherin, 1999, Newly-public firms as acquisition targets: A comparison with established firms, unpublished manuscript, Penn State University.

Fischer, C., 2000, Why do companies go public: Empirical evidence from Germany's Neuer Markt, working paper, University of Munich.

- Goergen, M., A. Khurshed, and R. Mudambi, 2006, The strategy of going public: How UK firms choose their listing contracts, *Journal of Business Finance & Accounting* 33(1-2), 79-101.
- Gomes, A., 1999, Going public with asymmetric information, agency costs and dynamic trading, working paper, The Rodney L. White Center for Financial Research.
- Gompers, P., 1996, Grandstanding in the venture capital industry, *Journal of Financial Economics* 42, 133-156.
- Grinblatt, M., C.Y. Hwang, 1989, Signaling and the pricing of new issues, *Journal of Finance* 44(2), 393-420.
- Grossman, S., and O. Hart, 1980, Takeover bids, the free rider problem, and the theory of the corporation, *Bell Journal of Economics* 11, 42-64.
- Halpern, P., R. Kieschnick and W. Rotenberg, 1999, On the heterogeneity of leveraged going private transactions, *The Review of Financial Studies* 12(2), 281–309.
- Harris, M. and A. Raviv, 1988, Corporate control contests and capital structure, *Journal of Financial Economics* 20, 55-86.
- Harris, M. and A. Raviv, 1990a, Capital structure and the informational role of debt, *Journal of Finance* 45, 321-349.
- Healy, P.M., and J.M. Wahlen, 1998. A review of the earnings management literature and its implications for standard setting, Working paper.
- Helwege, J., and N. Liang, 1996, Is there a pecking order? Evidence from a panel of IPO firms, *Journal of Financial Economics* 40, 429-458.
- Helwege, J., and F. Packer, 2004, Private matters, working paper.
- Hirshleifer, D. and A.V. Thakor, 1989, Managerial reputation, project choice and debt, Working paper 14-89, Anderson Graduate School of Management at UCLA.
- Hogholm, K., and K. Rydqvist, 1995, Going public in the 1980s: Evidence from Sweden, *European Financial Management* 1, 287– 315.
- Holderness, C.G., and D.P. Sheehan, 2000, Constraints on large-block shareholders, in *Concentrated Corporate Ownership*, edited by Randall A. Morck, National Bureau of Economic Research, University of Chicago Press.

Holmstrom, B., and J. Tirole, 1993, Market liquidity and performance monitoring, *Journal of Political Economy* 101, 678-709.

Jegadeesh, N., M. Weinstein and I. Welch, 1993, An empirical investigation of IPO returns and subsequent equity offerings, *Journal of Financial Economics* 34, 153–175.

Jensen, M., 1986, Agency costs of free cash flow, corporate-finance, and takeovers, *American Economic Review* 76, 323-329.

Jensen, M., and W. Meckling, 1976, Theory of the firm: Managerial behavior, agency costs, and ownership structure, *Journal of Financial Economics* 3, 305-360.

John, K., and J. Williams, 1985, Dividends, dilution, and taxes: A signaling equilibrium, *Journal of Finance* 40, 1053-1070.

Johnson, S., La Porta, R., F. Lopez-de-Silanes, and A. Shleifer, 2000, Tunneling, *American Economic Review Papers & Proceedings* (2000), 22-27.

Jordan, J., J. Lowe and P. Taylor, 1998, Strategy and Financial Policy in U.K. Small Firms, *Journal of Business Finance and Accounting* 25(1), 1–27.

Kadlec, G.B., and J.J. McConnell, 1994, The effect of market segmentation and illiquidity on asset prices, *Journal of Finance* 49, 611 –636.

La Porta, R., F. Lopez-de-Silanes, A. Shleifer, and R. Vishny, 1997, Legal determinants of external finance, *Journal of Finance* 52, 1131-1150.

La Porta, R., F. Lopez-de-Silanes, A. Shleifer, and R. Vishny, 1998, Law and finance, *Journal of Political Economy* 106, 1113-1150.

La Porta, R., F. Lopez-de-Silanes, and A. Shleifer, 1999, Corporate ownership around the world, *Journal of Finance* 54(2), 471-517.

Leary, M., 2005, Bank loan supply, lender choice, and corporate capital structure, working paper, Duke University.

Lehn, K. and A. Poulsen, 1989, Free cash flow and stockholder gains in going private transactions, *Journal of Finance* 44(3), 771-787.

Leland, H.E. and D.H. Pyle, 1977, Information asymmetries, financial structure, and financial intermediation, *Journal of Finance* 32(2), 371-387.

- Lerner, J., 1994, Venture capitalists and the decision to go public, *Journal of Financial Economics* 35, 293-316.
- Leuz, C., A. Triantis and T. Wang, 2006, Why do firms go dark? Causes and economic consequences of voluntary SEC deregistrations, working paper.
- Loughran, T., and J.R. Ritter, 1997, The operating performance of firms conducting Seasoned Equity Offerings, *Journal of Finance* 52, 1823-1850.
- Manski, C.F., and D. McFadden, 1981, Alternative estimators and sample designs for discrete choice analysis, in: C.F. Manski, and D. McFadden, eds., *Structural analysis of discrete data with econometric applications* (MIT Press, Cambridge, MA).
- Maug, E., 1999, Ownership structure as a determinant of IPO-underpricing: A theory of the decision to go public for venture capital backed companies. unpublished working paper, Duke University.
- McConnell, J. J., and R.R. Pettit, 1984, Application of the modern theory of finance to small business firms, *Problems in Financing of Small Business* 42, Part A.
- Mello, A., and J. Parsons, 1998, Going public and the ownership structure of the firm, *Journal of Financial Economics* 49, 79-109.
- Merton, R.C., 1987, A simple model of capital market equilibrium with incomplete information, *Journal of Finance* 42, 483– 510.
- Michaely, R., and W.H. Shaw, 1995, Does the choice of auditor convey quality in an initial public offering? *Financial Management* 24, 15-30.
- Mikkelson, W., M. Partch, and K. Shah, 1997, Ownership and operating performance of companies that go public, *The Journal of Financial Economics* 44, 281-307.
- Miller, M., and K. Rock, 1985, Dividend policy under asymmetric information, *Journal of Finance* 40, 1031-1050.
- Morck, R., A. Shleifer, and R.W. Vishny, 1988, Management ownership and market valuation: An empirical analysis, *Journal of Financial Economics* 20(1), 292-315.
- Myers, S., and N. Majluf, 1984, Corporate financing and investment decisions when firms have information that investors do not have, *The Journal of Financial Economics* 13, 187-221.

Pagano, M, 1993, The flotation of companies on the stock market - A coordination failure model, *European Economic Review* 37, 1101-1125.

Pagano, M., F. Panetta, and L. Zingales, 1998, Why do companies go public, *Journal of Finance* 53, 27-64.

Pagano, M., and A. Röell, 1998, The choice of stock ownership structure: Agency costs, monitoring, and the decision to go public, *The Quarterly Journal of Economics* 113, 187-225.

Pagano, M., A. Röell, and J. Zechner, 2002, The geography of equity listing: Why do companies list abroad? *Journal of Finance* 57(6), 2651-2694.

Palepu, K.G., 1986, Predicting takeover targets: A methodological and empirical analysis, *Journal of Accounting and Economics* 8(1), 3-35.

Pettit, R.R., and R.F. Singer, 1985, Small business finance: A research agenda, *Financial Management* 14(3), 47-60.

Ravid, S.A., and O.H. Sarig, 1991, Financial signaling by committing to cash outflows, *The Journal of Financial and Quantitative Analysis* 26(2), 165-180.

Renneboog, L., T. Simons and M. Wright, 2007, Why do public firms go private in the UK? The impact of private equity investors, incentive realignment and undervaluation, *Journal of Corporate Finance* 13(4), 591-628.

Reuer, J.J., and J.C. Shen, 2003, The extended merger and acquisition process: Understanding the role of IPOs in corporate strategy, *European Management Journal* 21, 192-198.

Ritter, J., 1987, The costs of going public, *The Journal of Financial Economics* 19, 269-281.

Ritter, J., 1991, The long-run performance of initial public offerings, *Journal of Finance* 46, 3-27.

Rock, K., 1986, Why new issues are underpriced, *Journal of Financial Economics* 15, 187-212.

Rosen, R.J., S.B. Smart and C.J. Zutter, 2005, Why do firms go public? Evidence from the banking industry, Working paper, Federal Reserve Bank of Chicago.

Ross, S., 1977, The determination of financial structure: The incentive signaling approach, *Bell Journal of Economics* 8, 23-40.

Shivdasani, A., 1993, Board composition, ownership structure, and hostile takeovers, *Journal of Accounting and Economics* 16, 167-198.

Shleifer, A., and R. Vishny, 1986, Large shareholders and corporate control, *Journal of Political Economy* 94, 461-488.

Short, H., and K. Keasey, 1999, Management ownership and the performance of firms: Evidence from the UK, *Journal of Corporate Finance* 5(1), 79-101.

Spence, M., 1973, Job market signaling, *The Quarterly Journal of Economics* 87(3), 355-374.

Stoughton, N., and J. Zechner, 1998, IPO-mechanisms, monitoring, and ownership structure, *Journal of Financial Economics* 49, 45-77.

Stoughton, N., K.P. Wong, and J. Zechner, 2001, IPOs and product quality, *Journal of Business* 74(3), 375-408.

Subrahmanyam, A., and S. Titman, 1999, The going-public decision and the development of financial markets, *Journal of Finance* 54, 1045-1082.

Stulz, R., 1988, Managerial control of voting rights: Financing policies and the market for corporate control, *Journal of Financial Economics* 20, 25-54.

Stulz, R., 1990, Managerial discretion and optimal financing policies, *Journal of Financial Economics* 26, 3-27.

Teoh, S.H., I. Welch, and T.J. Wong, 1998a, Earnings management and the long-run market performance of initial public offerings, *Journal of Finance* 53(6), 1935-1974.

Teoh, S.H., T.J. Wong, and G. Rao, 1998, Are accruals during Initial Public Offerings opportunistic? *Review of Accounting Studies* 3, 175-208.

Titman, S., 1984, The effect of capital structure on a firm's liquidation decision, *Journal of Financial Economics* 13, 137-151.

Titman, S., and B. Trueman, 1986, Information quality and the valuation of new issues, *Journal of Accounting and Economics* 8, 159-172.

Van Bommel, J., 2002, Messages from market to management: The case of IPOs, *Journal of Corporate Finance* 8(2), 123-138.

Walcott, 2000, Defining and measuring high technology in Georgia, FRP Report No. 50.

Welch, I., 1989, Seasoned offerings, imitation costs, and the underpricing of initial public offerings, *Journal of Finance* 44(2), 421–449.

Williamson, O., 1988, Corporate finance and corporate governance, *Journal of Finance* 43, 567-591.

Yosha, O., 1995, Information disclosure costs and the choice of financing source, *Journal of Financial Intermediation* 4, 3-20.

Zingales, L., 1995a, Insider ownership and the decision to go public, *The Review of Economic Studies* 62, 425-448.

Zingales, L., 1995b, What determines the value of corporate votes? *The Quarterly Journal of Economics* 110(4), 1047-1073.

Table 1: Descriptive Statistics

Panel A.1 reports the descriptive statistics of the accounting variables for all the companies eligible to list or already listed on London Stock Exchange (LSE), Alternative Investment Market (AIM) or Ofex. Panel A.2 for the companies listed on LSE, Panel A.3 for companies listed on AIM/Ofex, and Panel A.4 for all private companies eligible to list on LSE, AIM or Ofex. Panel B.1 reports the descriptive statistics of the ownership variables for all the companies with ownership data in the FAME database, Panel B.2 for all the companies eligible to list or already listed on LSE, AIM or Ofex., Panel B.3 for the companies listed on LSE, Panel B.4 for companies listed AIM/Ofex, and Panel B.5 for all private companies eligible to list on LSE, AIM or Ofex. The variables are defined in Appendix 2. The descriptive statistics are, from left to right, the number of company-years, mean, standard deviation, skewness, the 1st percentile, median, and the 99th percentile. The accounting variables are measured in GBP, and the ownership variables are measured as the fraction of the total share. The period is from 1992 to 2005.

Panel A: Accounting Data**Panel A.1: The Eligible and Listed Companies**

Variable	N	Mean	Std	Skewness	p1	Median	p99
TA	340,121	24,271,129	2.9E+08	136.7168	91,056	2,402,684	3.56E+08
age	340,120	23.8521	21.0139	1.6409	1.3552	17.1937	97.0869
sales	294,610	32,648,758	3.38E+08	174.6791	126,000	4,014,000	4.99E+08
no_employee	264,951	353.3709	2,644.44	34.452	2	62	4,906
equity	340,121	9,327,033	1.34E+08	183.8406	-3,578,000	754,246	1.37E+08
capex	109,052	0.1581	0.2164	1.3444	-0.3509	0.1052	0.8609
ROA	340,121	0.0991	0.1752	2.3765	-0.3578	0.0826	0.7634
leverage_long	340,116	0.1399	0.2384	3.0279	0	0.0247	1.1298
sales_growth	259,878	1.5437	12.3461	3.4128	-32.92	0.0401	56.39
export	294,605	0.0721	0.1877	3.0336	0	0	0.9241
QuiScore	276,380	56.0786	23.3627	-0.0142	0	54	96
intangible_ratio	340,121	0.0122	0.0521	5.7354	0	0	0.2888
cash_deficit	109,065	-0.0533	0.1396	4.0586	-0.315	-0.0646	0.4948
FCF	327,766	0.1404	0.1891	2.4555	-0.3497	0.1241	0.7515
audit_fee	299,022	0.004	0.0043	3.2294	0.0002	0.0027	0.023
interest	318,922	0.132	0.5172	0.2245	-2.1027	0.0464	2.4222
dividend	327,648	0.1776	0.3165	2.3126	0	0	1.4128
tax	318,922	0.2118	0.2496	0.3453	-0.6446	0.2208	1.2556
accrual	130,911	0.0503	0.0635	2.7962	0	0.0299	0.2963
average_salary	262,911	0.1649	0.4773	3.266	-0.8871	0.0658	2.2404
interest_coverage	274,234	44.4255	157.7888	5.9366	-29.8837	4.6928	925.8449
invest_long	259,521	0.0117	0.0426	4.8727	0	0	0.2615
solvency_ratio	340,121	0.3513	0.2997	-1.3533	-0.703	0.3616	0.8804
operating_ratio	294,605	0.9559	0.1057	0.108	0.6421	0.965	1.2938
quick_ratio	259,462	0.8234	0.7216	2.2629	0	0.6835	4.2735

Panel A.2: Companies Listed on LSE

Variable	N	Mean	Std	Skewness	p1	Median	p99
TA	8,085	3.62E+08	1.59E+09	32.5027	1,341,000	50,331,000	5.28E+09
age	8,085	34.8273	32.2549	0.9099	1.5797	19.9343	113.6728
sales	7,996	3.92E+08	1.81E+09	40.1434	760,000	62,283,500	5.12E+09
no_employee	7,998	4,027.139	12,079.38	9.0054	12	706	56,888

Variable	N	Mean	Std	Skewness	p1	Median	p99
equity	8,085	1.56E+08	7.38E+08	43.817	-2,890,000	23,795,000	2.45E+09
capex	5,486	0.2058	0.2235	0.9398	-0.3509	0.1575	0.8609
ROA	8,085	0.0831	0.1083	-0.4162	-0.1656	0.0909	0.3543
leverage_long	8,085	0.1502	0.1688	1.2511	0	0.0969	0.7005
sales_growth	7,739	0.1026	0.2277	0.7057	-0.4643	0.0712	0.7011
export	7,995	0.203	0.2921	1.23	0	0	0.9241
QuiScore	7,753	63.4204	21.2586	-0.3191	6	63	96
intangible_ratio	8,085	0.0433	0.0868	2.007	0	0	0.2888
cash_deficit	5,473	0.0129	0.2257	3.1306	-0.3482	-0.0379	1.153
FCF	8,008	0.1059	0.1857	-3.2623	-0.8049	0.13	0.4058
audit_fee	7,826	0.0021	0.0019	2.1828	0.0002	0.0015	0.0108
interest	7,160	0.1308	0.3706	-0.232	-1.3827	0.0896	1.3193
dividend	8,008	0.2542	0.2439	1.7608	-0.16	0.2393	1.0053
tax	7,160	0.2245	0.2151	-0.2156	-0.4516	0.2614	0.8756
accrual	4,628	0.0736	0.0652	1.6996	0	0.0549	0.2963
average_salary	7,987	0.0118	0.0637	4.6034	-0.1386	0.003	0.3348
interest_coverage	7,443	28.2849	94.0932	5.7535	-25	5.7468	426.75
invest_long	7,677	0.0184	0.0489	4.1468	0	0	0.2985
solvency_ratio	8,085	0.4785	0.1967	-0.0016	0.0492	0.4726	0.8965
operating_ratio	7,995	0.9503	0.1242	0.8314	0.6684	0.9448	1.2938
quick_ratio	7,677	0.8921	0.7928	2.3763	0.0005	0.7276	4.2735

Panel A.3: Companies Listed on AIM/Ofex

Variable	N	Mean	Std	Skewness	p1	Median	p99
TA	3,519	18,635,054	36,281,027	5.5138	264,413	7,697,000	1.91E+08
age	3,519	19.3158	26.0815	2.3048	1.2457	9.117	112.7255
sales	3,322	21,028,502	45,196,447	5.0431	40,000	6,664,430	2.46E+08
no_employee	3,343	376.2994	1,784.548	11.8202	2	94	5,699
equity	3,519	8,705,411	17,488,087	5.2242	-3,475,000	3,492,000	94,406,000
capex	2,978	0.2843	0.3308	0.6752	-0.3509	0.1976	0.8777
ROA	3,519	-0.0015	0.1499	-0.2302	-0.398	0.0226	0.3543
leverage_long	3,519	0.1309	0.2009	2.5406	0	0.0296	0.7005
sales_growth	2,764	0.393	3.3738	16.8878	-0.4643	0.1255	8.68
export	3,322	0.1502	0.2654	1.7898	0	0	0.9241
QuiScore	3,270	53.7691	26.7294	-0.2182	0	54	96
intangible_ratio	3,519	0.0805	0.1199	1.2899	0	0.001	0.4784
cash_deficit	2,983	0.164	0.3849	1.9848	-0.3482	0.0398	1.3663
FCF	3,439	-0.0552	0.3446	-2.0153	-1.1122	0.0549	0.4058
audit_fee	3,439	0.0041	0.0036	2.1887	0.0003	0.0029	0.0117
interest	3,423	0.0737	0.4292	0.1482	-1.3827	0	1.3193
dividend	3,439	0.1014	0.1981	2.2346	-0.16	0	0.9146
tax	3,423	0.1275	0.2305	0.9091	-0.4516	0.0354	0.8756
accrual	1,747	0.0916	0.0897	1.2292	0	0.0582	0.2963
average_salary	3,328	0.0252	0.1593	3.9562	-0.2083	0.0026	0.4192
interest_coverage	3,009	14.9069	88.1945	7.1955	-87.2703	1.621	426.75
invest_long	3,351	0.015	0.0546	4.4031	0	0	0.2985
solvency_ratio	3,519	0.4927	0.2718	-0.6411	0.0492	0.503	0.8965
operating_ratio	3,322	1.0368	0.1865	0.3889	0.6684	0.9852	1.5459
quick_ratio	3,349	1.1092	1.2937	1.5146	0	0.6295	4.2735

Panel A.4: Private Companies

Variable	N	Mean	Std	Skewness	p1	Median	p99
TA	328,517	15,972,513	1.47E+08	51.5202	89,000	2,285,083	2.37E+08
age	328,516	23.6335	20.5196	1.6297	1.3525	17.2457	95.3073
sales	283,292	22,589,667	1.49E+08	49.1083	129,000	3,793,642	3.21E+08
no_employee	253,610	236.6595	1,488.665	34.1669	2	60	2970
equity	328,517	5,721,372	67,973,511	58.2633	-3,594,000	706,861	81,968,000
capex	100,588	0.1518	0.2101	1.3612	-0.3509	0.1002	0.8609
ROA	328,517	0.1006	0.1764	2.4051	-0.3621	0.0828	0.782
leverage_long	328,512	0.1397	0.2402	3.0401	0	0.0233	1.1461
sales_growth	249,375	1.6014	12.5956	3.3327	-33.45	0.0385	57.9
export	283,288	0.0675	0.1811	3.1701	0	0	0.9204
QuiScore	265,357	55.8926	23.3413	0.0012	0	54	96
intangible_ratio	328,517	0.0107	0.0489	6.3357	0	0	0.2888
cash_deficit	100,609	-0.0634	0.1105	2.4387	-0.3104	-0.0668	0.3026
FCF	316,319	0.1434	0.1856	3.0119	-0.308	0.1245	0.7657
audit_fee	287,757	0.0041	0.0044	3.2115	0.0003	0.0027	0.0233
interest	308,339	0.1327	0.521	0.2269	-2.1027	0.0459	2.4222
dividend	316,201	0.1765	0.3189	2.3207	0	0	1.4225
tax	308,339	0.2125	0.2504	0.3483	-0.6596	0.2207	1.2556
accrual	124,536	0.0489	0.0627	2.9049	0	0.0288	0.2963
average_salary	251,596	0.1716	0.4864	3.1849	-0.9032	0.0719	2.2767
interest_coverage	263,782	45.2178	159.7733	5.8879	-30.5355	4.6946	925.8449
invest_long	248,493	0.0114	0.0422	4.9045	0	0	0.2615
solvency_ratio	328,517	0.3466	0.3011	-1.3602	-0.7186	0.3563	0.8741
operating_ratio	283,288	0.9551	0.1034	-0.0136	0.6352	0.9652	1.2938
quick_ratio	248,436	0.8174	0.7075	2.2379	0	0.6826	4.0829

Panel B: Ownership Data**Panel B.1: The Whole Sample**

Variable	N	Mean	Std	Skewness	p1	p25	Median	p75	p99
pct_all	395,177	0.9153	0.1827	-2.4631	0.1371	0.97	1	1	1
pct_man	395,177	0.4316	0.4437	0.2325	0	0	0.2868	0.999	1
pct_fam	395,177	0.4607	0.4556	0.1851	0	0	0.4645	1	1
pct_VC	395,177	0.0162	0.1143	7.773	0	0	0	0	0.99
pct_com	395,177	0.4391	0.4725	0.2452	0	0	0.0698	1	1
pct_major	395,177	0.731	0.2961	-0.5653	0.0667	0.5	0.8935	1	1
pct_block	395,177	0.8914	0.2161	-2.4294	0	0.9	1	1	1
no_director	548,822	4.8227	4.1783	3.6846	1	2	4	6	20
no_sharehol	445,336	2.7616	5.9224	8.7283	1	1	2	2	38
no_com_hol	445,336	0.7023	1.0161	12.737	0	0	1	1	5
no_man_hol	445,336	1.3018	1.7681	4.1236	0	0	1	2	8
no_block_hol	445,336	1.4241	1.0736	1.722	0	1	1	2	5
family_ind	395,177	0.6035	0.4892	-0.4231	0	0	1	1	1
VC	658,904	0.014	0.1174	8.2822	0	0	0	0	1
multi_class	523,619	0.0377	0.1906	4.8514	0	0	0	0	1

Panel B.2: The Eligible and Listed Companies

Variable	N	Mean	Std	Skewness	p1	p25	Median	p75	p99
pct_all	125,767	0.9058	0.1899	-2.249	0.1372	0.9347	1	1	1
pct_man	125,767	0.461	0.4407	0.1123	0	0	0.4915	0.9999	1
pct_fam	125,767	0.4907	0.4509	0.0633	0	0	0.5212	0	0.51
pct_VC	125,767	0.0131	0.099	8.7852	0	0	0	1	1
pct_com	125,767	0.3962	0.4646	0.4282	0	0	0	1	1
pct_major	125,767	0.7009	0.3054	-0.434	0.0553	0.4878	0.76	0.25	0.5
pct_block	125,767	0.8721	0.2365	-2.188	0	0.8378	1	0.4	0.75
no_director	164,432	4.7541	4.0041	3.7074	1	2	4	6	19
no_sharehol	138,458	3.5146	7.8494	6.6798	1	1	2	1	5
no_com_hol	138,458	0.7014	1.1161	4.9601	0	0	1	3	49
no_man_hol	138,458	1.5538	1.975	2.7462	0	0	1	1	6
no_block_hol	138,458	1.5121	1.125	1.6314	0	1	1	2	9
family_ind	125,767	0.5285	0.4992	-0.1143	0	0	1	2	5
VC	220,687	0.0083	0.0909	10.8143	0	0	0	4	7
multi_class	112,305	0.0389	0.1933	4.7717	0	0	0	1	1

Panel B.3: Companies listed on LSE

Variable	N	Mean	Std	Skewness	p1	p25	Median	p75	p99
pct_all	4,706	0.5332	0.2018	0.2318	0.1472	0.3679	0.5194	0.6856	1
pct_man	4,706	0.0985	0.1491	2.0867	0	0.0016	0.0265	0.1313	0.6346
pct_fam	4,706	0.1504	0.1796	1.5462	0	0.0125	0.0787	0.2292	0.7109
pct_VC	4,706	0.0139	0.0524	6.421	0	0	0	0.0038	0.2817
pct_com	4,706	0.1175	0.1666	2.4298	0	0.0193	0.0481	0.1415	0.7562
pct_major	4,706	0.1534	0.1477	2.2471	0.0196	0.0563	0.0989	0.199	0.7084
pct_block	4,706	0.1628	0.2195	1.4537	0	0	0	0.2755	0.9283
no_director	6,465	8.8453	4.2918	1.8585	3	6	8	11	24
no_sharehol	5,908	36.034	22.565	0.1579	1	11	40	51	86
no_com_hol	5,908	3.6352	3.1293	1.868	0	1	3	5	14
no_man_hol	5,908	3.1682	4.3996	7.1725	0	0	2	5	17
no_block_hol	5,908	0.5985	0.891	1.6731	0	0	0	1	3
family_ind	4,706	0.8816	0.3231	-2.3636	0	1	1	1	1
VC	7,349	0.062	0.2413	3.6315	0	0	0	0	1
multi_class	6,100	0.0028	0.0527	18.868	0	0	0	0	0

Panel B.4: Companies listed on AIM/Ofex

Variable	N	Mean	Std	Skewness	p1	p25	Median	p75	p99
pct_all	1,363	0.7009	0.2062	-0.7202	0.116	0.5737	0.7277	0.866	1
pct_man	1,363	0.2302	0.2318	1.0798	0	0.0337	0.16	0.3624	0.936
pct_fam	1,363	0.3332	0.2508	0.5399	0	0.1141	0.3083	0.5081	0.9833
pct_VC	1,363	0.0167	0.066	7.8864	0	0	0	0.0018	0.3113
pct_com	1,363	0.1549	0.1967	1.8674	0	0.0186	0.0696	0.2191	0.8506
pct_major	1,363	0.24	0.181	1.6845	0.0303	0.115	0.1891	0.3028	0.8802
pct_block	1,363	0.3363	0.2699	0.5153	0	0.1191	0.2988	0.5367	1
no_director	1,830	8.4525	5.1482	1.8273	2	5	7	10	25
no_sharehol	1,645	31.075	25.49	1.2982	1	8	30	46	119
no_com_hol	1,645	3.6863	3.4963	1.3929	0	1	3	5	15
no_man_hol	1,645	3.969	3.8608	2.6144	0	1	3	6	15
no_block_hol	1,645	1.2529	1.2244	1.35	0	0	1	2	5
family_ind	1,363	0.9545	0.2084	-4.3673	0	1	1	1	1
VC	2,313	0.0631	0.2432	3.5954	0	0	0	0	1
multi_class	1,610	0.0075	0.086	11.4638	0	0	0	0	0

Panel B.5: Private Companies

Variable	N	Mean	Std	Skewness	p1	p25	Median	p75	p99
pct_all	119,698	0.9209	0.1765	-2.6031	0.1376	0.9848	1	1	1
pct_man	119,698	0.4366	0.445	0.2093	0	0	0.3321	0.9995	1
pct_fam	119,698	0.4651	0.4572	0.1647	0	0	0.5	1	1
pct_VC	119,698	0.0162	0.1149	7.7544	0	0	0	0	0.9936
pct_com	119,698	0.4442	0.4741	0.2216	0	0	0.0769	1	1
pct_major	119,698	0.7402	0.289	-0.5724	0.0909	0.5	0.9	1	1
pct_block	119,698	0.9027	0.1965	-2.5247	0	0.905	1	1	1
no_director	156,137	4.7407	4.1288	3.8192	1	2	4	6	20
no_sharehol	130,905	2.1837	2.632	10.317	1	1	1	2	10
no_com_hol	130,905	0.6483	0.8046	3.8229	0	0	1	1	3
no_man_hol	130,905	1.2651	1.6671	2.7027	0	0	1	2	7
no_block_hol	130,905	1.437	1.0704	1.7456	0	1	1	2	5
family_ind	119,698	0.5986	0.4902	-0.4023	0	0	1	1	1
VC	212,025	0.0133	0.1147	8.4897	0	0	0	0	1
multi_class	104,595	0.0379	0.191	4.8373	0	0	0	0	1

Table 2: Summary Statistics for the IPO and Control Groups

Panel A.1 compares the statistics of the accounting variables one year before the IPOs for the private companies choosing to list on London Stock Exchange (LSE) with those of the companies eligible to list on LSE in the same year but staying private. Panel A.2 compares the accounting variables for the companies choosing to list on Alternative Investment Market (AIM) or Ofex with those for the control group. Panels B.1 and B.2 compare the statistics of the ownership variables. The variables are defined in Appendix 2. The descriptive statistics are the number of companies, median, mean, standard deviation and skewness from left to right. The accounting variables are measured in GBP, and the ownership variables are measured as the fraction of the total share. The period is from 1992 to 2005.

Panel A: Accounting Variables**Panel A.1: Companies Choosing to List on LSE and the Control Group**

Variable	No Obs.		Median		Mean		Std		Skewness	
	IPOs	Control	IPOs	Control	IPOs	Control	IPOs	Control	IPOs	Control
TA	336	61,732	1.29E+08	20,648,957	15,821,000	3,418,000	416,185,538	171,817,746	4.845	46.483
age	336	61,732	9.459	27.999	4.787	21.429	16.232	21.418	3.921	1.454
sales	324	53,159	1.20E+08	31,312,122	22,331,000	6,750,715	318,311,506	180,752,478	4.267	42.163
no_employee	311	53,972	1,125	271	216	71	3,041	1,649	5.181	31.972
equity	336	61,732	34,004,824	8,297,358	3,274,000	1,338,728	147,104,643	78,324,707	6.556	55.218
capex	219	29,795	0.340	0.144	0.278	0.099	0.284	0.185	0.383	1.08
ROA	336	61,732	0.089	0.088	0.091	0.079	0.139	0.084	0.031	0.468
leverage_long	336	61,732	0.251	0.115	0.152	0.030	0.263	0.163	0.674	1.648
sales_growth	306	49,910	0.296	0.032	0.269	0.028	0.289	0.171	-0.266	0.273
export	323	53,158	0.200	0.081	0.004	0.000	0.303	0.19	1.307	2.757
QuiScore	258	53,510	53.903	59.667	53	57	20.675	20.921	-0.111	0.183
intangible_ratio	336	61,732	0.044	0.008	0	0	0.092	0.033	1.937	6.093
cash_deficit	218	29,786	0.089	-0.070	-0.011	-0.068	0.344	0.083	1.793	0.955
FCF	328	59,600	0.099	0.130	0.134	0.120	0.268	0.092	-2.479	0.454
audit_fee	316	57,579	0.003	0.003	0.002	0.002	0.003	0.002	1.797	1.619
interest	319	59,415	0.129	0.160	0.024	0.074	0.325	0.528	-0.139	0.16
dividend	328	59,595	0.139	0.167	0	0	0.224	0.308	1.946	2.608
tax	319	59,415	0.147	0.214	0.080	0.231	0.184	0.266	0.525	-0.148
accrual	176	34,574	0.125	0.047	0.097	0.031	0.095	0.052	0.623	2.283
average_salary	307	53,721	0.011	0.142	0.008	0.069	0.063	0.356	1.947	2.726
interest_coverage	252	54,246	26.509	41.485	4.728	4.851	81.631	132.533	3.896	5.071
invest_long	336	50,323	0.015	0.014	0	0	0.057	0.045	4.49	4.526
solvency_ratio	336	61,732	0.330	0.422	0.304	0.404	0.243	0.21	0.66	0.29
operating_ratio	323	53,158	0.952	0.953	0.921	0.964	0.174	0.074	0.754	-0.471
quick_ratio	336	50,315	0.869	0.836	0.607	0.704	0.922	0.675	2.362	2.213

Panel A.2: Companies Choosing to List on AIM/Ofex and the Control Group

Variable	No Obs.		Median		Mean		Std		Skewness	
	IPOs	Control	IPOs	Control	IPOs	Control	IPOs	Control	IPOs	Control
TA	127	51,747	4,507,181	4,877,993	1,928,000	509,941	10,600,029	58,240,634	5.238	70.92
age	127	51,746	11.280	14.599	7.083	10.053	16.242	14.851	4.091	2.30
sales	113	49,524	7,019,122	6,455,959	2,510,197	1,193,408	13,623,441	50,594,883	3.490	58.52
no_employee	113	32,311	112.239	106.129	37	21	228.934	574.272	3.441	35.66
equity	127	51,747	1,375,812	-186,034	486,021	75,475	5,832,419	32,704,268	4.880	26.77
capex	93	7,190	0.537	0.215	0.405	0.119	0.531	0.346	0.847	1.05
ROA	127	51,747	-0.040	0.127	0.032	0.101	0.298	0.282	-0.734	1.50
leverage_long	127	51,744	0.205	0.191	0.021	0.008	0.359	0.344	2.951	2.46
sales_growth	108	40,589	1.596	4.993	0.320	0.161	4.003	21.953	-0.623	1.50
export	113	49,524	0.137	0.043	0	0	0.276	0.160	2.196	4.30
QuiScore	102	32,821	48.226	44.705	45.500	42.000	29.339	26.271	-0.146	0.27
intangible_ratio	127	51,747	0.086	0.017	0	0	0.162	0.070	1.630	5.02
cash_deficit	93	7,249	0.200	-0.018	-0.017	-0.056	4.096	0.226	10.684	2.36
FCF	121	48,552	-0.132	0.173	0.079	0.144	0.615	0.297	-2.556	1.96
audit_fee	124	43,945	0.007	0.007	0.004	0.006	0.007	0.006	2.389	1.96
interest	121	48,160	0.062	0.077	0.000	0.008	0.488	0.501	1.686	0.36
dividend	121	48,525	0.063	0.197	0	0	0.154	0.341	2.735	1.83
tax	121	48,160	0.115	0.210	0.004	0.208	0.220	0.212	2.414	2.37
accrual	47	21,457	0.127	0.052	0.062	0.021	0.135	0.084	1.731	2.91
average_salary	112	31,698	0.057	0.279	0.002	0.107	0.319	0.774	1.537	2.24
interest_coverage	98	40,578	3.532	53.892	1.168	4.267	152.952	209.536	8.218	5.61
invest_long	122	42,829	0.017	0.007	0	0	0.055	0.034	3.948	6.18
solvency_ratio	127	51,747	0.222	0.189	0.354	0.211	0.505	0.387	-1.516	-1.15
operating_ratio	113	49,524	1.069	0.959	0.984	0.969	0.270	0.140	0.776	0.05
quick_ratio	122	42,818	1.081	0.783	0.465	0.632	1.355	0.761	1.682	2.28

Panel B: Ownership Variables

Panel B.1: Companies Choosing to List on LSE and the Control Group

Variable	No Obs.		Median		Mean		Std		Skewness	
	IPOs	Control	IPOs	Control	IPOs	Control	IPOs	Control	IPOs	Control
pct_all	143	39,171	0.824	1	0.739	0.916	0.263	0.183	-0.798	-2.502
pct_man	143	39,171	0.186	0.45	0.268	0.453	0.266	0.442	0.855	0.138
pct_fam	143	39,171	0.22	0.51	0.283	0.481	0.276	0.454	0.935	0.102
pct_VC	143	39,171	0	0	0.117	0.013	0.193	0.099	2.131	8.857
pct_com	143	39,171	0.335	0	0.361	0.421	0.306	0.472	0.597	0.32
pct_major	143	39,171	0.309	0.83	0.364	0.720	0.232	0.299	1.202	-0.495
pct_block	143	39,171	0.634	1	0.594	0.889	0.305	0.21	-0.401	-2.344
no_director	170	44,485	6	4	7.153	4.915	3.757	4.077	2.355	4.076
no_sharehol	155	42,084	9	2	9.516	2.550	7.136	3.288	3.026	9.283
no_com_hol	155	42,084	2	1	2.239	0.617	2.279	0.772	1.857	2.87
no_man_hol	152	42,084	5.5	1	5.204	1.547	3.322	1.946	0.396	2.217
no_block_hol	155	42,084	2	1	1.994	1.583	1.312	1.147	0.327	1.683
family_ind	143	39,171	0	1	0.385	0.519	0.488	0.5	0.479	-0.076
VC	336	61,732	0	0	0.301	0.008	0.209	0.148	-4.388	6.466
multi_class	163	43,640	0	0	0.018	0.039	0.135	0.193	7.233	4.772

Panel B.2: Companies Choosing to List on AIM/Ofex and the Control Group

Variable	No Obs.		Median		Mean		Std		Skewness	
	IPOs	Control	IPOs	Control	IPOs	Control	IPOs	Control	IPOs	Control
pct_all	67	22,457	0.912	1	0.770	0.918	0.278	0.170	-1.237	-2.407
pct_man	67	22,457	0.625	0.625	0.553	0.527	0.341	0.442	-0.315	-0.162
pct_fam	67	22,457	0.625	0.69	0.583	0.556	0.347	0.447	-0.428	-0.226
pct_VC	67	22,457	0	0	0.029	0.013	0.141	0.102	6.016	8.652
pct_com	67	22,457	0	0	0.133	0.356	0.236	0.456	2.755	0.594
pct_major	67	22,457	0.457	0.75	0.474	0.714	0.258	0.278	0.541	-0.310
pct_block	67	22,457	0.791	1	0.704	0.908	0.300	0.181	-0.879	-2.452
no_director	79	30,532	5	3	6.620	3.881	5.751	3.528	3.046	3.168
no_sharehol	68	25,457	4	2	5.735	1.963	6.285	1.625	2.503	6.181
no_com_hol	68	25,457	0	0	0.912	0.529	1.298	0.775	2.036	3.940
no_man_hol	68	25,457	2	1	2.529	1.279	2.032	1.328	1.130	1.557
no_block_hol	68	25,457	2	1	1.912	1.423	1.124	1.035	0.774	1.573
family_ind	67	22,457	1	1	0.750	0.601	0.436	0.490	-1.183	-0.414
VC	164	51,747	0	0	0.067	0.005	0.481	0.150	-0.624	6.365
multi_class	69	27,654	0	0	0.029	0.032	0.169	0.175	5.741	5.348

Table 3: Ex Ante Informational Determinants of IPO on LSE
– Independent IPOs and Carve-Outs

Cox's (1972) proportional hazard models are estimated on the likelihood $h_i(t) = h_0(t) \exp(X_{it}\beta)$ that a firm i with characteristics X_{it} will go public on London Stock Exchange (LSE). Only the characteristics related to informational costs or benefits are included together with the control variables. The dependent variable is 1 for private companies going public on LSE from 1993 to 2005, and 0 for companies eligible to list on LSE but staying private. In each model, the first to the third columns are results for the whole sample, the independent companies, and the subsidiaries of public companies (carve-outs). Firms not observed to make these choices by December 2005 are treated as right-censored. Models 1 and 2 include one of the two highly correlated variables ROA and Free Cash Flow, respectively. The accounting variables are lagged by one year except sales growth. The static variables such as age and MTB ratios are measured in the year of IPO. The variables are defined in Appendix 2. The results reported are the coefficient estimate (in bold) and hazard ratio (in italic). The hazard ratio gives an estimate of how much the hazard of the event increases for a unit change in the covariate. The accounting variables are in GBP. The sample period is from 1992 to 2005. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Model 1			Model 2		
	Whole Sample	Independent IPOs	Carve-outs	Whole Sample	Independent IPOs	Carve-outs
high_tech	-1.476 *** <i>0.228</i>	-1.512 *** <i>0.22</i>	-2.082 * <i>0.125</i>	-1.223 *** <i>0.294</i>	-1.206 *** <i>0.299</i>	-1.936 * <i>0.144</i>
big4_ind	1.273 *** <i>3.573</i>	1.397 *** <i>4.042</i>	0.186 <i>1.204</i>	1.281 *** <i>3.602</i>	1.427 *** <i>4.164</i>	0.200 <i>1.222</i>
dividend_ind	0.695 *** <i>2.004</i>	0.774 *** <i>2.168</i>	0.368 <i>1.444</i>	0.499 *** <i>1.646</i>	0.611 *** <i>1.841</i>	-0.038 <i>0.963</i>
industry_pub	1.187 *** <i>3.277</i>	1.174 *** <i>3.235</i>	1.296 *** <i>3.656</i>	1.104 *** <i>3.016</i>	1.073 *** <i>2.923</i>	1.251 *** <i>3.492</i>
year_MTB	1.823 *** <i>6.193</i>	1.907 *** <i>6.733</i>	1.892 *** <i>6.631</i>	1.642 *** <i>5.165</i>	1.723 *** <i>5.600</i>	1.752 *** <i>5.766</i>
industry_MTB	0.019 <i>1.019</i>	0.099 <i>1.104</i>	-0.443 <i>0.642</i>	0.073 <i>1.075</i>	0.159 <i>1.172</i>	-0.429 <i>0.651</i>
logTA	0.356 *** <i>1.428</i>	0.378 *** <i>1.460</i>	0.422 *** <i>1.525</i>	0.343 *** <i>1.409</i>	0.353 *** <i>1.423</i>	0.431 *** <i>1.538</i>
sales_growth	3.883 *** <i>48.57</i>	3.925 *** <i>50.64</i>	3.618 *** <i>37.25</i>	4.075 *** <i>58.85</i>	4.110 *** <i>60.96</i>	3.770 *** <i>43.39</i>
capex	1.079 *** <i>2.941</i>	0.943 *** <i>2.567</i>	2.473 *** <i>11.85</i>	0.914 *** <i>2.494</i>	0.868 *** <i>2.383</i>	2.288 *** <i>9.856</i>
leverage	0.832 *** <i>2.298</i>	0.608 * <i>1.836</i>	2.667 *** <i>14.38</i>	0.698 ** <i>2.009</i>	0.465 <i>1.592</i>	2.725 *** <i>15.251</i>
logAge	-0.734 *** <i>0.48</i>	-0.751 *** <i>0.472</i>	-0.917 *** <i>0.400</i>	-0.743 *** <i>0.475</i>	-0.742 *** <i>0.476</i>	-1.008 *** <i>0.365</i>
ROA				1.337 * <i>3.809</i>	0.282 <i>1.325</i>	7.250 *** <i>1408</i>
FCF	-1.164 *** <i>0.312</i>	-1.550 *** <i>0.212</i>	2.410 <i>11.13</i>			
export	1.006 *** <i>2.735</i>	0.741 ** <i>2.098</i>	2.747 *** <i>15.60</i>	1.080 *** <i>2.945</i>	0.809 *** <i>2.246</i>	2.884 *** <i>17.89</i>
No. of IPOs	191	156	35	191	156	35
No. of Controls	21031	18169	2862	21056	18189	2867
Log likelihood	3095.871	2450.855	435.128	3103.091	2464.835	425.402
Pr > χ^2	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001

**Table 4: Ex Ante Informational Determinants of IPO on LSE or AIM/Ofex
- The Complete Samples**

Cox's (1972) proportional hazard models are estimated on the likelihood $h_i(t)=h_0(t)\exp(X_{it}\beta)$ that a firm i with characteristics X_{it} will go public on the second-tier stock exchanges in the U.K., i.e. Alternative Investment Market (AIM) or Ofex. Only the characteristics related to informational costs or benefits are included together with the control variables. The dependent variable is 1 for independent private companies going public on AIM/Ofex from 1993 to 2005, and 0 for independent companies eligible to list on LSE but staying private. Firms not observed to make these choices by December 2005 are treated as right-censored. Models 1 and 2 include one of the two highly correlated variables ROA and Free Cash Flow, respectively. The accounting variables are lagged by one year except sales growth. The static variables such as age and MTB ratios are measured in the year of IPO. The variables are defined in Appendix 2. The results reported are the coefficient estimate (in bold) and hazard ratio (in italic). The hazard ratio gives an estimate of how much the hazard of the event increases for a unit change in the covariate. The accounting variables are in GBP. The sample period is from 1992 to 2005. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Model 1		Model 2	
	LSE	AIM/Ofex	LSE	AIM/Ofex
high_tech	-1.512 *** <i>0.220</i>	-1.151 * <i>0.316</i>	-1.206 *** <i>0.299</i>	-1.292 ** <i>0.275</i>
big4_ind	1.397 *** <i>4.042</i>	-0.050 <i>0.951</i>	1.427 *** <i>4.164</i>	0.133 <i>1.142</i>
dividend_ind	0.774 *** <i>2.168</i>	1.201 *** <i>3.324</i>	0.611 *** <i>1.841</i>	1.231 *** <i>3.425</i>
industry_pub	1.174 *** <i>3.235</i>	0.737 *** <i>2.090</i>	1.073 *** <i>2.923</i>	0.691 *** <i>1.996</i>
year_MTB	1.907 *** <i>6.733</i>	0.494 * <i>1.639</i>	1.723 *** <i>5.600</i>	0.503 * <i>1.653</i>
industry_MTB	0.099 <i>1.104</i>	0.080 <i>1.083</i>	0.159 <i>1.172</i>	0.131 <i>1.140</i>
logTA	0.378 *** <i>1.460</i>	0.374 *** <i>1.453</i>	0.353 *** <i>1.423</i>	0.282 *** <i>1.326</i>
sales_growth	3.925 *** <i>50.64</i>	-0.009 * <i>0.991</i>	4.110 *** <i>60.96</i>	-0.009 * <i>0.991</i>
capex	0.943 *** <i>2.567</i>	1.803 *** <i>6.069</i>	0.868 *** <i>2.383</i>	1.860 *** <i>6.424</i>
leverage	0.608 * <i>1.836</i>	-0.933 *** <i>0.393</i>	0.465 <i>1.592</i>	-0.982 *** <i>0.375</i>
logAge	-0.751 *** <i>0.472</i>	0.584 *** <i>1.794</i>	-0.742 *** <i>0.476</i>	0.511 *** <i>1.666</i>
ROA			0.282 <i>1.325</i>	-2.375 *** <i>0.093</i>
FCF	-1.550 *** <i>0.212</i>	-1.809 *** <i>0.164</i>		
export	0.741 ** <i>2.098</i>	0.289 <i>1.335</i>	0.809 *** <i>2.246</i>	0.221 <i>1.248</i>
No. of IPOs	156	92	156	93
No. of Controls	18169	4583	18189	4598
Log likelihood	2450.86	1450.94	2464.84	1485.63
Pr > χ^2	<.0001	<.0001	<.0001	<.0001

Table 5: Ex Ante Informational Determinants of IPO on LSE or AIM/Ofex with Smaller Control Samples

Logistic models of the likelihood that a firm i with characteristics X_{it} will go public on London Stock Exchange (LSE) or Alternative Investment Market (AIM) or Ofex are estimated 10,000 times and 2,000 times respectively with 1/100 and 1/20 of the control samples. Reported are the 25% trimmed means of coefficients and p-values, and the median of the model statistics such as the number of IPOs and adjusted R-square. Only the characteristics related to informational costs or benefits are included together with the control variables. The dependent variable is 1 for independent private companies going public on LSE or AIM/Ofex from 1993 to 2005, and 0 for independent companies eligible to list on LSE but staying private, matched by industry and size. Models 1 and 2 include one of the two highly correlated variables ROA and Free Cash Flow, respectively. The accounting variables are lagged by one year except sales growth. The static variables such as age and MTB ratios are measured in the year of IPO. The variables are defined in Appendix 2. The results reported are the coefficient estimate (in bold) and exponentiated odds ratio (in italic). The accounting variables are in GBP. The sample period is from 1992 to 2005. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Model 1		Model 2	
	LSE	AIM/Ofex	LSE	AIM/Ofex
high_tech	-1.047 * <i>0.355</i>	-0.702 * <i>0.496</i>	-0.879 * <i>0.419</i>	-0.766 ** <i>0.465</i>
big4_ind	0.696 *** <i>2.008</i>	-0.106 <i>0.900</i>	0.738 *** <i>2.094</i>	-0.063 <i>0.939</i>
dividend_ind	0.369 * <i>1.449</i>	0.526 *** <i>1.693</i>	0.204 <i>1.228</i>	0.497 *** <i>1.645</i>
industry_pub	0.727 *** <i>2.073</i>	0.429 ** <i>1.537</i>	0.690 *** <i>1.997</i>	0.414 ** <i>1.513</i>
year_MTB	2.781 *** <i>16.34</i>	0.557 <i>1.754</i>	2.646 *** <i>14.27</i>	0.615 <i>1.857</i>
industry_MTB	0.406 <i>1.510</i>	0.232 <i>1.263</i>	0.462 <i>1.597</i>	0.223 <i>1.252</i>
logTA	0.733 *** <i>2.084</i>	0.394 *** <i>1.484</i>	0.709 *** <i>2.034</i>	0.350 *** <i>1.420</i>
sales_growth	4.895 *** <i>136.4</i>	-0.015 <i>0.985</i>	5.149 *** <i>175.4</i>	-0.015 <i>0.985</i>
capex	2.404 *** <i>11.38</i>	2.091 *** <i>8.121</i>	1.998 ** <i>7.543</i>	2.185 *** <i>8.930</i>
leverage	2.143 ** <i>8.785</i>	-0.765 * <i>0.467</i>	1.724 * <i>5.760</i>	-0.843 ** <i>0.432</i>
logAge	-1.328 *** <i>0.265</i>	0.640 *** <i>1.898</i>	-1.333 *** <i>0.264</i>	0.586 *** <i>1.798</i>
ROA			-0.216 <i>0.862</i>	-2.002 *** <i>0.137</i>
FCF	-2.606 ** <i>0.076</i>	-1.787 *** <i>0.168</i>		
export	1.542 ** <i>4.763</i>	0.140 <i>1.159</i>	1.524 ** <i>4.677</i>	0.058 <i>1.069</i>
No. of IPOs	156	93	156	94
No. of Controls	520	337	520	338
Adj R-Square	0.815	0.367	0.809	0.345

Table 6: Ex Ante Informational Determinants of the Choices between IPO on LSE, M&A, and Remaining Private

Logistic models are estimated on the choices of acquisition by public companies over IPO on LSE (Model MA1_IPO), acquisition by private companies over IPO on LSE (Model MA2_IPO), acquisition by public companies over remaining private (Model MA1_PRI), acquisition by private companies over remaining private (Model MA2_PRI), and acquisition by public companies over acquisition by private companies (Model MA1_MA2). Only the characteristics related to informational costs or benefits are included together with the control variables. The accounting variables are lagged by one year except sales growth. The static variables such as age and MTB ratios are measured in the year of IPO. The variables are defined in Appendix 2. The results reported are the coefficient estimate (in bold) and exponentiated odds ratio (in italic). The accounting variables are in GBP. The sample period is from 1992 to 2005. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	MA1 IPO	MA2 IPO	MA1 PRI	MA2 PRI	MA1_MA2
high_tech	1.135 ***	0.956 **	0.173 *	0.181	-0.033
	<i>3.110</i>	<i>2.601</i>	<i>1.188</i>	<i>1.198</i>	<i>0.968</i>
big4_ind	-0.433 **	-0.500 ***	0.258 ***	0.103 **	0.127 *
	<i>0.649</i>	<i>0.606</i>	<i>1.294</i>	<i>1.109</i>	<i>1.135</i>
dividend_ind	0.145	0.096	0.097 **	0.118 ***	-0.032
	<i>1.156</i>	<i>1.101</i>	<i>1.102</i>	<i>1.125</i>	<i>0.968</i>
industry_pub	-0.335 *	-0.573 ***	0.317 ***	0.113 **	0.186 **
	<i>0.716</i>	<i>0.564</i>	<i>1.373</i>	<i>1.119</i>	<i>1.205</i>
year_MTB	-1.982 ***	-3.209 ***	0.208	-0.118	0.333 *
	<i>0.138</i>	<i>0.040</i>	<i>1.231</i>	<i>0.889</i>	<i>1.395</i>
industry_MTB	-0.732 **	-0.366	-0.094	-0.090	-0.007
	<i>0.481</i>	<i>0.694</i>	<i>0.910</i>	<i>0.914</i>	<i>0.993</i>
logTA	-0.942 ***	-0.888 ***	-0.028	0.049	-0.073
	<i>0.390</i>	<i>0.411</i>	<i>0.972</i>	<i>1.050</i>	<i>0.930</i>
sales_growth	-5.873 ***	-4.872 ***	0.389	0.415	-0.151
	<i>0.003</i>	<i>0.008</i>	<i>1.476</i>	<i>1.514</i>	<i>0.860</i>
capex	-1.533 **	-3.776 ***	0.678 ***	-0.104	0.923 ***
	<i>0.216</i>	<i>0.023</i>	<i>1.970</i>	<i>0.901</i>	<i>2.517</i>
leverage	-0.828	-0.914	0.049	0.514 **	-0.678
	<i>0.437</i>	<i>0.401</i>	<i>1.050</i>	<i>1.672</i>	<i>0.507</i>
logAge	1.192 ***	1.486 ***	-0.454 ***	-0.295 ***	-0.160 *
	<i>3.294</i>	<i>4.419</i>	<i>0.635</i>	<i>0.744</i>	<i>0.852</i>
ROA	-0.567	0.100	1.796 ***	1.706 ***	0.143
	<i>0.567</i>	<i>1.105</i>	<i>6.023</i>	<i>5.508</i>	<i>1.154</i>
export	-1.733 ***	-2.021 ***	0.260	-0.361	0.656 *
	<i>0.177</i>	<i>0.133</i>	<i>1.297</i>	<i>0.697</i>	<i>1.928</i>
No. of M&A	486	595	488	600	488
No. of Controls	191	191	54,747	54,747	600
Adj R-Square	0.757	0.797	0.040	0.015	0.053

Table 7: The Change of Auditors before IPO on LSE

The following table exhibits the change of auditors (Scenario 1), change from non-big4 auditors to big4 auditors (Scenario 2), and change from big4 auditors to non-big4 auditors (Scenario 3). For the IPO sample, the variables are 1 if the change of auditors scenarios took place 1 year (in Panel A) or 2 years (in Panel B) before the IPO year and 0 otherwise. For the Control sample, the variables are lagged by 1 year in Panel A and lagged by 2 years in Panel B. The reported statistics are, from left to right, number of observations, mean, median, standard deviation, t value, and p-value. The sample period is from 1992 to 2005. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Panel A: The Change of Auditors 1 Year before IPO

Scenario	Sample	N	Mean	Median	Std Dev	T Value	Pr > t
1. Change of auditors	IPO	380	0.037	0	0.189	2.00**	0.0461
	Control	231,382	0.056	0	0.230		
2. Change to big4	IPO	380	0.008	0	0.089	0.05	0.9601
	Control	231,382	0.008	0	0.090		
3. Change out of big4	IPO	380	0.008	0	0.089	-0.09	0.9279
	Control	231,382	0.007	0	0.086		

Panel B: The Change of Auditors 2 Years before IPO

Scenario	Sample	N	Mean	Median	Std Dev	T Value	Pr > t
1. Change of auditors	IPO	380	0.011	0	0.102	9.5***	<.0001
	Control	231,382	0.061	0	0.239		
2. Change to big4	IPO	380	0.000	0	0.000	47.17***	<.0001
	Control	231,382	0.010	0	0.097		
3. Change out of big4	IPO	380	0.005	0	0.072	0.74	0.4583
	Control	231,382	0.008	0	0.089		

Table 8: Ex Ante Determinants of IPO on LSE Related to Ownership
- The Complete Samples

Cox's (1972) proportional hazard models are estimated on the likelihood $h_i(t)=h_0(t)\exp(X_{it}\beta)$ that a firm i with characteristics X_{it} will go public on London Stock Exchange (LSE). Only the characteristics related to ownership and control are included together with the control variables. Panel A includes all the companies, and panel B only the independent companies. The dependent variable is 1 for private companies going public on LSE from 1993 to 2005, and 0 for companies eligible to list on LSE but staying private. Firms not observed to make these choices by December 2005 are treated as right-censored. The data for the IPO companies are measured one year before their IPOs. Eight industry dummies are used but not reported. The variables are defined in Appendix 2. The results reported are the coefficient estimate (in bold) and hazard ratio (in italic). The ownership variables are measured as the fraction of the total share, and the accounting variables are in GBP. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Panel A: All Companies					
	Model 1	Model 2	Model 3	Model 4	Model 5
pct_block	-1.826 *** <i>0.161</i>			-0.484 <i>0.616</i>	-1.230 *** <i>0.292</i>
pct_major		-1.886 *** <i>0.152</i>	-15.339 *** <i>0.000</i>		
logno_block_hol	0.475 * <i>1.608</i>				
pct_man_l				8.902 * <i>7349</i>	
pct_man_m				-1.045 <i>0.352</i>	
pct_man_h				-2.001 ** <i>0.135</i>	
family_ind					0.107 <i>1.113</i>
VC_ind	1.179 *** <i>3.252</i>	1.134 *** <i>3.108</i>	1.085 *** <i>2.960</i>	1.034 *** <i>2.812</i>	1.269 *** <i>3.556</i>
big4_ind	0.661 ** <i>1.936</i>	0.895 *** <i>2.446</i>	0.839 *** <i>2.315</i>		
multi_class	-1.306 * <i>0.271</i>	-1.457 ** <i>0.233</i>	-1.467 ** <i>0.231</i>	-1.293 * <i>0.275</i>	-1.426 * <i>0.240</i>
QuiScore	-0.002 <i>0.998</i>	-0.002 <i>0.998</i>	-0.003 <i>0.997</i>	0.003 <i>1.003</i>	0.004 <i>1.004</i>
major*TA			0.799 *** <i>2.224</i>		
year_MTB	1.122 *** <i>3.072</i>	0.998 *** <i>2.713</i>	0.893 *** <i>2.443</i>	1.167 *** <i>3.211</i>	1.178 *** <i>3.248</i>
logTA	0.289 *** <i>1.335</i>	0.285 *** <i>1.330</i>	0.002 <i>1.002</i>	0.354 *** <i>1.425</i>	0.352 *** <i>1.422</i>
sales_growth	2.581 *** <i>13.215</i>	2.708 *** <i>15.001</i>	2.886 *** <i>17.925</i>	3.010 *** <i>20.290</i>	3.131 *** <i>22.890</i>
capex	2.118 *** <i>8.315</i>	1.905 *** <i>6.723</i>	1.816 *** <i>6.147</i>	1.991 *** <i>7.326</i>	1.955 *** <i>7.061</i>
ROA	-0.936 <i>0.392</i>	-0.870 <i>0.419</i>	-0.612 <i>0.542</i>	-0.888 <i>0.411</i>	-1.145 <i>0.318</i>
leverage	0.428 <i>1.534</i>	0.560 <i>1.750</i>	0.609 <i>1.839</i>	0.897 <i>2.452</i>	0.955 <i>2.598</i>
logAge	-1.259 *** <i>0.284</i>	-1.172 *** <i>0.310</i>	-1.142 *** <i>0.319</i>	-1.211 *** <i>0.298</i>	-1.256 *** <i>0.285</i>
No. of IPOs	82	82	82	82	82
No. of Controls	14901	14901	14901	14901	14901
Log likelihood	1044.51	1101.33	1092.50	1108.45	1115.78
Pr > χ^2	<.0001	<.0001	<.0001	<.0001	<.0001

Panel B: Independent Companies

	Model 1	Model 2	Model 3	Model 4	Model 5
pct_block	-1.974 *** 0.139			-0.201 0.818	-1.106 ** 0.331
pct_major		-1.985 *** 0.137	-13.630 ** 0.000		
logno_block_hol	0.600 ** 1.821				
pct_man_l				10.720 * 45253	
pct_man_m				-0.700 0.497	
pct_man_h				-2.194 ** 0.111	
family_ind					0.228 1.256
VC_ind	1.297 *** 3.659	1.179 *** 3.250	1.099 *** 3.002	1.106 *** 3.021	1.362 *** 3.902
big4_ind	0.739 ** 2.094	0.939 *** 2.556	0.888 *** 2.431		
multi_class	-1.279 * 0.278	-1.359 * 0.257	-1.351 * 0.259	-1.094 0.335	-1.309 * 0.270
QuiScore	-0.003 0.997	-0.003 0.997	-0.004 0.996	0.002 1.002	0.003 1.003
major_TA			0.694 ** 2.002		
year_MTB	1.247 *** 3.481	1.100 *** 3.004	0.994 *** 2.702	1.330 *** 3.781	1.363 *** 3.907
logTA	0.284 *** 1.329	0.297 *** 1.346	0.063 1.066	0.375 *** 1.454	0.374 *** 1.454
sales_growth	2.210 *** 9.116	2.702 *** 14.908	2.887 *** 17.938	3.011 *** 20.299	3.120 *** 22.645
capex	2.563 *** 12.978	2.169 *** 8.751	2.062 *** 7.864	2.257 *** 9.557	2.201 *** 9.035
ROA	-1.837 0.159	-1.538 0.215	-1.218 0.296	-1.737 0.176	-1.992 0.136
leverage	0.772 2.164	0.834 2.302	0.829 2.292	1.088 * 2.968	1.166 * 3.209
logAge	-1.314 *** 0.269	-1.189 *** 0.304	-1.160 *** 0.313	-1.252 *** 0.286	-1.301 *** 0.272
No. of IPOs	65	65	65	65	65
No. of Controls	12945	12945	12945	12945	12945
Log likelihood	800.76	829.95	825.25	837.26	843.69
Pr > χ^2	<.0001	<.0001	<.0001	<.0001	<.0001

Table 9: Ex Ante Determinants of IPO on LSE Related to Ownership with Smaller Control Samples

Logistic models of the likelihood that a firm i with characteristics X_{it} will go public on London Stock Exchange (LSE) are estimated 10000 times with 1/100 of the control sample and 25% trimmed means are reported. Only the characteristics related to ownership and control are included together with the control variables. The dependent variable is 1 for independent private companies going public on LSE from 1993 to 2005, and 0 for independent companies matched by industry and size that are eligible to list on LSE but stay private. Eight industry dummies are used but not reported in each model. The data for the IPO companies are measured one year before their IPOs. The variables are defined in Appendix 2. The results reported are the coefficient estimate (in bold) and exponentiated odds ratio (in italic). The ownership variables are measured as the fraction of the total share, and the accounting variables are in GBP. The sample period is from 1992 to 2005. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Model 1	Model 2	Model 3	Model 4	Model 5
pct_block	-5.194 *** <i>0.007</i>			-2.163 <i>0.131</i>	-3.865 *** <i>0.023</i>
pct_major		-4.769 *** <i>0.010</i>	-35.592 * <i>0.000</i>		
logno_block_hol	2.192 ** <i>9.278</i>				
pct_man_l				14.088 <i>4.8E+08</i>	
pct_man_m				3.499 <i>130.026</i>	
pct_man_h				-6.936 * <i>0.001</i>	
family_ind					0.479 <i>1.624</i>
VC_ind	1.851 *** <i>6.548</i>	1.821 *** <i>6.336</i>	1.900 *** <i>6.947</i>	1.762 *** <i>6.022</i>	2.007 *** <i>7.656</i>
big4_ind	0.725 <i>2.086</i>	0.773 * <i>2.183</i>	0.783 * <i>2.208</i>		
multi_class	-3.396 <i>0.036</i>	-3.109 <i>0.047</i>	-3.260 <i>0.042</i>	-2.577 <i>0.081</i>	-2.698 <i>0.071</i>
QuiScore	-0.017 <i>0.983</i>	-0.018 <i>0.983</i>	-0.017 <i>0.984</i>	-0.012 <i>0.988</i>	-0.009 <i>0.991</i>
major_TA			1.816 * <i>6.502</i>		
year_MTB	2.843 ** <i>18.669</i>	2.242 * <i>9.935</i>	2.450 * <i>12.442</i>	2.416 ** <i>11.851</i>	2.290 ** <i>10.293</i>
logTA	1.096 ** <i>3.023</i>	0.985 *** <i>2.698</i>	0.232 <i>1.276</i>	1.116 *** <i>3.068</i>	1.144 *** <i>3.157</i>
sales_growth	3.244 <i>28.518</i>	3.739 ** <i>45.523</i>	4.265 ** <i>80.542</i>	4.632 ** <i>113.173</i>	3.849 ** <i>50.235</i>
capex	4.756 ** <i>137.072</i>	3.844 ** <i>51.736</i>	4.187 ** <i>76.223</i>	4.121 ** <i>69.888</i>	4.260 ** <i>79.121</i>
ROA	-3.653 <i>0.043</i>	-3.697 <i>0.036</i>	-3.901 <i>0.033</i>	-5.493 <i>0.007</i>	-5.522 <i>0.006</i>
leverage	4.988 * <i>195.458</i>	3.218 <i>29.208</i>	3.271 <i>31.887</i>	2.914 <i>21.692</i>	2.636 <i>16.083</i>
logAge	-1.674 *** <i>0.190</i>	-1.287 *** <i>0.277</i>	-1.313 *** <i>0.271</i>	-1.228 *** <i>0.294</i>	-1.330 *** <i>0.265</i>
No. of IPOs	64	65	65	65	65
No. of Controls	279	285	285	285	285
Adj R-Square	0.902	0.882	0.890	0.883	0.870

**Table 10: Ex Ante Determinants of IPOs on AIM/Ofex Related to Ownership
- The Complete Samples**

Cox's (1972) proportional hazard models are estimated on the likelihood $h_i(t) = h_0(t) \exp(X_{it}\beta)$ that a firm i with characteristics X_{it} will go public on Alternative Investment Market (AIM)/Ofex. Only the characteristics related to ownership and control are included together with the control variables. The dependent variable is 1 for independent private companies going public on AIM/Ofex from 1993 to 2005, and 0 for independent companies eligible to list on AIM/Ofex but staying private. Firms not observed to make these choices by December 2005 are treated as right-censored. Eight industry dummies are used but not reported in each model. The data for the IPO companies are measured one year before their IPOs. The variables are defined in Appendix 2. The results reported are the coefficient estimate (in bold) and hazard ratio (in italic). The hazard ratio gives an estimate of how much the hazard of the event increases for a unit change in the covariate. The ownership variables are measured as the fraction of the total share, and the accounting variables are in GBP. The sample period is from 1992 to 2005. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Model 1	Model 2	Model 3	Model 4	Model 5
pct_block	-2.299 *** <i>0.100</i>			-1.822 ** <i>0.162</i>	-1.777 *** <i>0.169</i>
pct_major		-2.389 *** <i>0.092</i>	-8.038 <i>0.000</i>		
logno_block_hol	1.097 *** <i>2.994</i>				
pct_man_l				-2.741 <i>0.065</i>	
pct_man_m				8.214 ** <i>3691</i>	
pct_man_h				-0.497 <i>0.609</i>	
family_ind					1.365 *** <i>3.914</i>
VC_ind	0.012 <i>1.012</i>	0.222 <i>1.249</i>	0.232 <i>1.261</i>	0.738 <i>2.092</i>	0.867 <i>2.380</i>
big4_ind	0.163 <i>1.177</i>	0.075 <i>1.078</i>	0.037 <i>1.038</i>		
multi_class	-1.389 <i>0.249</i>	-1.471 <i>0.230</i>	-1.476 <i>0.228</i>	-1.271 <i>0.280</i>	-1.171 <i>0.310</i>
QuiScore	0.024 *** <i>1.024</i>	0.024 *** <i>1.024</i>	0.025 *** <i>1.025</i>	0.025 *** <i>1.025</i>	0.025 *** <i>1.025</i>
major_TA			0.371 <i>1.449</i>		
year_MTB	1.409 *** <i>4.092</i>	1.340 *** <i>3.819</i>	1.352 *** <i>3.867</i>	1.386 *** <i>3.997</i>	1.233 *** <i>3.433</i>
logTA	0.363 *** <i>1.437</i>	0.391 *** <i>1.478</i>	0.240 <i>1.271</i>	0.556 *** <i>1.743</i>	0.464 *** <i>1.591</i>
sales_growth	-0.009 <i>0.991</i>	-0.008 <i>0.992</i>	-0.008 <i>0.992</i>	-0.003 <i>0.997</i>	-0.004 <i>0.996</i>
capex	1.803 *** <i>6.066</i>	1.891 *** <i>6.623</i>	1.877 *** <i>6.536</i>	1.846 *** <i>6.337</i>	1.699 *** <i>5.467</i>
ROA	-1.552 <i>0.212</i>	-1.624 <i>0.197</i>	-1.605 <i>0.201</i>	-1.776 <i>0.169</i>	-1.661 * <i>0.190</i>
leverage	-0.414 <i>0.661</i>	-0.454 <i>0.635</i>	-0.426 <i>0.653</i>	-0.400 <i>0.670</i>	-0.597 <i>0.551</i>
logAge	0.617 *** <i>1.853</i>	0.631 *** <i>1.880</i>	0.629 *** <i>1.875</i>	0.708 *** <i>2.030</i>	0.612 *** <i>1.844</i>
No. of IPOs	41	41	41	41	41
No. of Controls	1918	1918	1918	1918	1918
Log likelihood	526.56	544.18	542.84	549.40	561.61
Pr > χ^2	<.0001	<.0001	<.0001	<.0001	<.0001

Table 11: Ex Ante Determinants of IPOs on AIM/Ofex Related to Ownership with Smaller Control Samples

Logistic models of the likelihood that a firm i with characteristics X_{it} will go public on Alternative Investment Market (AIM)/Ofex are estimated 10000 times with 1/100 of the control sample and 25% trimmed means are reported. Only the characteristics related to ownership and control are included together with the control variables. The dependent variable is 1 for independent private companies going public on AIM/Ofex from 1993 to 2005, and 0 for independent companies matched by industry and size that are eligible to list on AIM/Ofex but stay private. Eight industry dummies are used but not reported. The data for the IPO companies are measured one year before their IPOs. The variables are defined in Appendix 2. The results reported are the coefficient estimate (in bold) and exponentiated odds ratio (in italic). The ownership variables are measured as the fraction of the total share, and the accounting variables are in GBP. The sample period is from 1992 to 2005. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Model 1	Model 2	Model 3	Model 4	Model 5
pct_block	-2.768 ** <i>0.067</i>			-2.689 ** <i>0.072</i>	-2.673 ** <i>0.073</i>
pct_major		-2.820 *** <i>0.062</i>	-11.483 <i>0.001</i>		
logno_block_hol	1.389 ** <i>4.060</i>				
pct_man_l				16.013 <i>2.7E+10</i>	
pct_man_m				5.908 <i>1446</i>	
pct_man_h				-0.493 <i>0.683</i>	
family_ind					1.059 *** <i>2.896</i>
VC_ind	0.195 <i>1.229</i>	0.305 <i>1.372</i>	0.312 <i>1.382</i>	0.642 <i>1.937</i>	0.374 <i>1.468</i>
big4_ind	0.094 <i>1.103</i>	0.030 <i>1.034</i>	0.033 <i>1.037</i>		
multi_class	-1.512 <i>0.224</i>	-1.488 * <i>0.229</i>	-1.461 * <i>0.235</i>	-1.518 <i>0.223</i>	-1.233 <i>0.295</i>
QuiScore	0.044 *** <i>1.045</i>	0.042 *** <i>1.043</i>	0.044 *** <i>1.045</i>	0.040 ** <i>1.041</i>	0.043 *** <i>1.043</i>
major_TA			0.571 <i>1.830</i>		
year_MTB	2.565 *** <i>13.374</i>	2.349 *** <i>10.720</i>	2.424 *** <i>11.583</i>	2.803 *** <i>17.257</i>	2.516 *** <i>12.785</i>
logTA	0.656 ** <i>1.934</i>	0.642 ** <i>1.908</i>	0.337 <i>1.419</i>	0.892 *** <i>2.456</i>	0.754 *** <i>2.136</i>
sales_growth	-0.016 <i>0.984</i>	-0.016 <i>0.985</i>	-0.016 <i>0.984</i>	-0.015 <i>0.985</i>	-0.014 <i>0.986</i>
capex	2.205 *** <i>9.249</i>	2.197 *** <i>9.167</i>	2.235 *** <i>9.524</i>	2.666 *** <i>14.861</i>	2.331 *** <i>10.514</i>
ROA	-1.986 <i>0.155</i>	-2.033 <i>0.145</i>	-2.006 <i>0.149</i>	-2.257 <i>0.121</i>	-2.376 <i>0.105</i>
leverage	-0.946 <i>0.401</i>	-0.899 <i>0.419</i>	-0.849 <i>0.440</i>	-0.947 <i>0.407</i>	-1.190 <i>0.317</i>
logAge	0.886 *** <i>2.434</i>	0.834 *** <i>2.311</i>	0.850 *** <i>2.349</i>	1.032 *** <i>2.824</i>	0.851 *** <i>2.352</i>
No. of IPOs	41	42	42	42	42
No. of Controls	121	125	125	125	125
Adj R-square	0.566	0.554	0.564	0.624	0.585

Table 12: The IPO Decision of Small Family Controlled Companies

Cox's (1972) proportional hazard models are estimated on the likelihood $h_i(t)=h_0(t)\exp(X_{it}\beta)$ that a firm i with characteristics X_{it} will go public on Alternative Investment Market (AIM)/Ofex. The sample is confined to the family controlled independent companies, i.e. those with family shareholders being the largest shareholder and controlling more than 20% of the total shares. The dependent variable is 1 for independent private companies going public on AIM/Ofex from 1993 to 2005, and 0 for independent companies that are eligible to list on AIM/Ofex but stay private. Firms not observed to make these choices by December 2005 are treated as right-censored. Eight industry dummies are used but not reported in each model. The data for the IPO companies are measured one year before the IPOs. The variables are defined in Appendix 2. The results reported are the coefficient estimate (in bold) and hazard ratio (in italic). The hazard ratio gives an estimate of how much the hazard of the event increases for a unit change in the covariate. The ownership variables are measured as the fraction of the total share, and the accounting variables are in GBP. The sample period is from 1992 to 2005. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Model 1	Model 2	Model 3	Model 4
pct_block	-1.616 * <i>0.199</i>			-0.180 <i>0.84</i>
pct_major		-1.344 * <i>0.261</i>	-7.891 <i>0.000</i>	
logno_block_hol	0.387 <i>1.472</i>			
pct_man_l				6.442 <i>627.4</i>
pct_man_m				4.938 <i>139.6</i>
pct_man_h				-2.197 * <i>0.111</i>
VC_ind	1.330 * <i>3.782</i>	1.205 * <i>3.337</i>	1.227 * <i>3.409</i>	1.267 * <i>3.549</i>
big4_ind	0.183 <i>1.201</i>	0.156 <i>1.169</i>	0.195 <i>1.216</i>	
multi_class	-1.041 <i>0.353</i>	-1.122 <i>0.325</i>	-1.096 <i>0.334</i>	-1.018 <i>0.361</i>
QuiScore	0.019 ** <i>1.019</i>	0.019 ** <i>1.019</i>	0.020 ** <i>1.020</i>	0.020 ** <i>1.021</i>
major_TA			0.434 <i>1.543</i>	
year_MTB	0.943 * <i>2.569</i>	1.025 ** <i>2.786</i>	1.016 ** <i>2.763</i>	0.928 * <i>2.530</i>
logTA	0.533 *** <i>1.705</i>	0.566 *** <i>1.760</i>	0.331 <i>1.393</i>	0.637 *** <i>1.891</i>
sales_growth	-0.003 <i>0.997</i>	-0.003 <i>0.997</i>	-0.003 <i>0.997</i>	0.000 <i>1.000</i>
capex	1.583 *** <i>4.870</i>	1.574 *** <i>4.825</i>	1.593 *** <i>4.917</i>	1.608 *** <i>4.990</i>
ROA	-0.736 <i>0.479</i>	-0.767 <i>0.464</i>	-0.767 <i>0.464</i>	-0.882 <i>0.414</i>
leverage	-0.944 <i>0.389</i>	-0.892 <i>0.410</i>	-0.832 <i>0.435</i>	-0.809 <i>0.445</i>
logAge	0.781 *** <i>2.185</i>	0.788 *** <i>2.199</i>	0.796 *** <i>2.216</i>	0.809 *** <i>2.246</i>
No. of IPOs	34	34	34	34
No. of Controls	1136	1136	1136	1136
Log likelihood	431.21	431.63	430.82	441.02
Pr > χ^2	<.0001	<.0001	<.0001	<.0001

Table 13: The IPO Decision of Large Widely Held Companies

Cox's (1972) proportional hazard models are estimated on the likelihood $h_i(t)=h_0(t)\exp(X_{it}\beta)$ that a firm i with characteristics X_{it} will go public on London Stock Exchange (LSE). The sample is confined to the widely held independent companies, i.e. those with no shareholders control more than 20% of the total shares. The dependent variable is 1 for independent private companies going public on LSE from 1993 to 2005, and 0 for independent companies that are eligible to list on LSE but stay private. Firms not observed to make these choices by December 2005 are treated as right-censored. Eight industry dummies are used but not reported in each model. The data for the IPO companies are measured one year before the IPOs. The variables are defined in Appendix 2. The results reported are the coefficient estimate (in bold) and hazard ratio (in italic). The hazard ratio gives an estimate of how much the hazard of the event increases for a unit change in the covariate. The ownership variables are measured as the fraction of the total share, and the accounting variables are in GBP. The sample period is from 1992 to 2005. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Model 1	Model 2	Model 3	Model 4
pct_block	-6.516 <i>0.001</i>			1.427 <i>4.165</i>
pct_major		-3.412 <i>0.033</i>	15.924 <i>8239591</i>	
logno_block_hol	1.113 <i>3.045</i>			
pct_man_l				6.411 * <i>608.4</i>
pct_man_m				-7.541 * <i>0.001</i>
pct_man_h				-1.420 <i>0.242</i>
VC_ind	2.792 *** <i>16.309</i>	1.944 ** <i>6.988</i>	2.020 ** <i>7.537</i>	1.705 ** <i>5.502</i>
big4_ind	1.416 <i>4.122</i>	2.212 *** <i>9.136</i>	2.226 *** <i>9.261</i>	
multi_class	-15.767 <i>0.000</i>	-16.235 <i>0.000</i>	-15.676 <i>0.000</i>	-15.767 <i>0.000</i>
QuiScore	0.028 <i>1.028</i>	0.015 <i>1.015</i>	0.014 <i>1.014</i>	0.014 <i>1.014</i>
major_TA			-1.202 <i>0.300</i>	
year_MTB	-0.922 <i>0.398</i>	-0.503 <i>0.604</i>	-0.479 <i>0.619</i>	-0.604 <i>0.546</i>
logTA	0.073 <i>1.075</i>	-0.239 <i>0.787</i>	-0.105 <i>0.900</i>	-0.003 <i>0.997</i>
sales_growth	0.009 <i>1.009</i>	3.248 ** <i>25.741</i>	3.337 ** <i>28.135</i>	2.816 * <i>16.705</i>
capex	3.396 * <i>29.856</i>	2.195 <i>8.977</i>	2.185 <i>8.891</i>	2.169 <i>8.748</i>
ROA	-12.012 ** <i>0.000</i>	-4.991 * <i>0.007</i>	-4.997 * <i>0.007</i>	-5.810 * <i>0.003</i>
leverage	2.975 <i>19.596</i>	1.794 <i>6.015</i>	1.799 <i>6.044</i>	2.686 ** <i>14.674</i>
logAge	-0.948 * <i>0.387</i>	-0.285 <i>0.752</i>	-0.272 <i>0.762</i>	-0.501 <i>0.606</i>
No. of IPOs	16	16	16	16
No. of Controls	893	893	893	893
Log likelihood	92.74	135.29	135.21	141.13
Pr > χ^2	<.0001	<.0001	<.0001	<.0001

Table 14: Ex Ante Ownership Related Determinants of the Choices between IPO on LSE, M&A, and Remaining Private

Logistic models are estimated on the choices of acquisition by public companies over IPO on LSE (Panel A), acquisition by private companies over IPO on LSE (Panel B), acquisition by public companies over remaining private (Panel C), acquisition by private companies over remaining private (Panel D), and acquisition by public companies over acquisition by private companies (Panel E). Only the characteristics related to ownership and control are included together with the control variables. Eight industry dummies are used but not reported in each model. The data for the IPO companies are measured one year before their IPOs. The variables are defined in Appendix 2. The results reported are the coefficient estimate (in bold) and exponentiated odds ratio (in italic). The ownership variables are measured as the fraction of the total share, and the accounting variables are in GBP. The sample period is from 1992 to 2005. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Panel A: The Choice of Acquisition by Public Companies over IPO on LSE

	Model 1	Model 2	Model 3	Model 4	Model 5
pct_block	2.765 ** <i>15.886</i>			1.206 <i>3.341</i>	2.672 ** <i>14.474</i>
pct_major		2.054 * <i>7.798</i>	42.397 ** <i>2.6E+18</i>		
logno_block_hol	-0.779 <i>0.459</i>				
pct_man_l				-11.815 <i>0.000</i>	
pct_man_m				-0.536 <i>0.585</i>	
pct_man_h				4.014 <i>55.386</i>	
family_ind					-1.128 * <i>0.324</i>
VC_ind	-0.860 *** <i>0.423</i>	-0.933 *** <i>0.393</i>	-1.050 *** <i>0.350</i>	-0.903 *** <i>0.405</i>	-1.174 *** <i>0.309</i>
big4_ind	-0.304 <i>0.738</i>	-0.354 <i>0.702</i>	-0.382 <i>0.683</i>		
multi_class	3.055 <i>21.211</i>	4.358 ** <i>78.085</i>	3.755 * <i>42.750</i>	4.112 ** <i>61.068</i>	4.280 ** <i>72.262</i>
QuiScore	0.000 <i>1.000</i>	0.002 <i>1.002</i>	0.002 <i>1.002</i>	0.004 <i>1.004</i>	-0.005 <i>0.995</i>
major_TA			-2.463 ** <i>0.085</i>		
year_MTB	-1.831 ** <i>0.160</i>	-1.638 ** <i>0.194</i>	-1.798 ** <i>0.166</i>	-1.868 ** <i>0.154</i>	-1.816 ** <i>0.163</i>
logTA	-1.217 *** <i>0.296</i>	-1.267 *** <i>0.282</i>	-0.197 <i>0.821</i>	-1.391 *** <i>0.249</i>	-1.444 *** <i>0.236</i>
sales_growth	-4.101 *** <i>0.017</i>	-4.144 *** <i>0.016</i>	-4.452 *** <i>0.012</i>	-4.470 *** <i>0.011</i>	-4.691 *** <i>0.009</i>
capex	-2.309 * <i>0.099</i>	-2.470 ** <i>0.085</i>	-2.173 * <i>0.114</i>	-2.759 ** <i>0.063</i>	-2.362 * <i>0.094</i>
ROA	0.020 <i>1.020</i>	0.613 <i>1.845</i>	0.322 <i>1.380</i>	-0.002 <i>0.998</i>	1.530 <i>4.620</i>
leverage	0.128 <i>1.137</i>	0.339 <i>1.403</i>	1.020 <i>2.775</i>	0.927 <i>2.526</i>	0.801 <i>2.228</i>
logAge	1.224 *** <i>3.402</i>	1.085 *** <i>2.960</i>	1.030 *** <i>2.802</i>	1.073 *** <i>2.925</i>	1.160 *** <i>3.190</i>
No. of M&A	218	224	224	224	224
No. of IPOs	79	82	82	82	82
Adj R-Square	0.808	0.800	0.815	0.809	0.808

Panel B: The Choice of Acquisition by Private Companies over IPO on LSE

	Model 1	Model 2	Model 3	Model 4	Model 5
pct_block	1.243 3.467			-0.406 0.666	1.306 3.692
pct_major		2.225 ** 9.255	56.693 *** 4.2E+24		
logno_block_hol	-1.792 *** 0.167				
pct_man_l				-14.655 0.000	
pct_man_m				0.878 2.407	
pct_man_h				5.000 ** 148.4	
family_ind					-0.465 0.628
VC_ind	-1.051 ** 0.350	-1.220 *** 0.295	-1.421 *** 0.242	-0.973 ** 0.378	-1.310 *** 0.270
big4_ind	-0.089 0.915	-0.226 0.797	-0.310 0.733		
multi_class	5.188 179.1	5.045 155.2	5.684 * 294.1	4.213 * 67.6	4.653 104.9
QuiScore	-0.006 0.994	0.000 1.000	-0.003 0.997	-0.003 0.997	-0.005 0.995
major_TA			-3.270 *** 0.038		
year_MTB	-2.897 *** 0.055	-2.216 *** 0.109	-2.437 *** 0.087	-2.093 *** 0.123	-2.173 *** 0.114
logTA	-1.482 *** 0.227	-1.350 *** 0.259	0.026 1.027	-1.344 *** 0.261	-1.419 *** 0.242
sales_growth	-4.262 *** 0.014	-4.148 *** 0.016	-4.709 *** 0.009	-4.793 *** 0.008	-4.384 *** 0.012
capex	-5.411 *** 0.004	-4.986 *** 0.007	-5.225 *** 0.005	-4.155 *** 0.016	-4.880 *** 0.008
ROA	1.836 6.270	1.566 4.788	1.823 6.188	2.094 8.116	2.293 9.909
leverage	-1.709 0.181	-1.024 0.359	-0.940 0.391	-0.343 0.709	-0.611 0.543
logAge	1.592 *** 4.914	1.207 *** 3.343	1.055 *** 2.873	1.151 *** 3.161	1.247 *** 3.479
No. of M&A	298	306	306	306	306
No. of IPOs	79	82	82	82	82
Adj R-Square	0.853	0.840	0.859	0.845	0.834

Panel C: The Choice of Acquisition by Public Companies over Remaining Private

	Model 1	Model 2	Model 3	Model 4	Model 5
pct_block	-1.037 *** 0.354			-0.195 0.823	-0.824 *** 0.439
pct_major		-0.923 *** 0.397	2.123 8.359		
logno_block_hol	0.420 *** 1.522				
pct_man_l				8.534 ** 5083	
pct_man_m				-0.055 0.946	
pct_man_h				-1.062 ** 0.346	
family_ind					0.151 1.163
VC_ind	0.451 *** 1.570	0.489 *** 1.630	0.491 *** 1.633	0.451 *** 1.570	0.570 *** 1.769
big4_ind	0.100 1.105	0.122 1.130	0.122 1.130		
multi_class	0.125 1.133	0.241 1.273	0.241 1.273	0.248 1.282	0.301 1.351
QuiScore	-0.015 *** 0.985	-0.013 *** 0.987	-0.014 *** 0.987	-0.013 *** 0.987	-0.013 *** 0.987
major_TA			-0.196 0.822		
year_MTB	0.040 1.041	0.057 1.058	0.054 1.056	0.040 1.041	0.015 1.015
logTA	-0.012 0.988	-0.021 0.979	0.082 1.085	0.026 1.026	0.003 1.003
sales_growth	0.059 1.060	0.100 1.105	0.105 1.110	0.093 1.097	0.132 1.141
capex	0.808 ** 2.244	0.949 *** 2.582	0.946 *** 2.576	0.980 *** 2.665	0.928 *** 2.529
ROA	3.030 *** 20.707	2.324 ** 10.214	2.309 ** 10.065	2.389 ** 10.900	2.353 ** 10.520
leverage	0.045 1.047	0.142 1.153	0.133 1.142	0.141 1.151	0.116 1.123
logAge	-0.350 *** 0.705	-0.338 *** 0.713	-0.341 *** 0.711	-0.348 *** 0.706	-0.353 *** 0.703
No. of M&A	218	225	225	225	225
No. of Private Obs	29468	30170	30170	30170	30170
Adj R-Square	0.060	0.060	0.061	0.063	0.058

Panel D: The Choice of Acquisition by Private Companies over Remaining Private

	Model 1	Model 2	Model 3	Model 4	Model 5
pct_block	-0.979 *** 0.376			-0.382 0.682	-0.811 *** 0.444
pct_major		-0.647 *** 0.523	2.054 7.803		
logno_block_hol	0.112 1.118				
pct_man_l				7.081 ** 1.190	
pct_man_m				-0.110 0.896	
pct_man_h				-0.389 0.678	
family_ind					0.379 *** 1.461
VC_ind	0.365 *** 1.441	0.378 *** 1.460	0.379 *** 1.461	0.379 *** 1.461	0.481 *** 1.617
big4_ind	0.100 1.105	0.106 1.111	0.106 1.112		
multi_class	0.576 *** 1.778	0.492 ** 1.636	0.492 ** 1.635	0.481 ** 1.618	0.524 *** 1.688
QuiScore	-0.015 *** 0.985	-0.015 *** 0.985	-0.015 *** 0.985	-0.015 *** 0.985	-0.015 *** 0.985
major_TA			-0.172 0.842		
year_MTB	-0.174 0.840	-0.092 0.912	-0.093 0.911	-0.082 0.921	-0.118 0.888
logTA	0.021 1.021	0.021 1.021	0.115 1.122	0.076 1.079	0.060 1.062
sales_growth	0.257 1.293	0.255 1.290	0.258 1.294	0.226 1.253	0.244 1.276
capex	0.005 1.005	-0.095 0.909	-0.100 0.905	-0.038 0.963	-0.068 0.935
ROA	3.507 *** 33.348	3.427 *** 30.780	3.420 *** 30.571	3.543 *** 34.554	3.529 *** 34.100
leverage	0.575 1.777	0.528 1.695	0.521 1.684	0.500 1.648	0.477 1.611
logAge	-0.290 *** 0.748	-0.254 *** 0.775	-0.257 *** 0.773	-0.272 *** 0.762	-0.279 *** 0.756
No. of M&A	300	308	308	308	308
No. of Private Obs	29468	30170	30170	30170	30170
Adj R-Square	0.046	0.043	0.043	0.046	0.045

Panel E: The Choice of Acquisition by Public Companies over Acquisition by Private Companies

	Model 1	Model 2	Model 3	Model 4	Model 5
pct_block	0.035 <i>1.035</i>			0.368 <i>1.445</i>	0.129 <i>1.138</i>
pct_major		-0.178 <i>0.837</i>	1.744 <i>5.722</i>		
logno_block_hol	0.308 * <i>1.361</i>				
pct_man_l				3.190 <i>24.291</i>	
pct_man_m				-0.450 <i>0.638</i>	
pct_man_h				-0.757 <i>0.469</i>	
family_ind					-0.263 <i>0.769</i>
VC_ind	0.139 <i>1.149</i>	0.143 <i>1.153</i>	0.145 <i>1.156</i>	0.097 <i>1.102</i>	0.107 <i>1.112</i>
big4_ind	-0.015 <i>0.985</i>	0.013 <i>1.013</i>	0.010 <i>1.010</i>		
multi_class	-0.344 <i>0.709</i>	-0.127 <i>0.881</i>	-0.126 <i>0.882</i>	-0.180 <i>0.835</i>	-0.128 <i>0.880</i>
QuiScore	0.001 <i>1.001</i>	0.001 <i>1.001</i>	0.001 <i>1.001</i>	0.002 <i>1.002</i>	0.001 <i>1.001</i>
major_TA			-0.124 <i>0.884</i>		
year_MTB	0.267 <i>1.306</i>	0.183 <i>1.201</i>	0.184 <i>1.202</i>	0.179 <i>1.196</i>	0.193 <i>1.213</i>
logTA	-0.016 <i>0.984</i>	-0.017 <i>0.983</i>	0.050 <i>1.051</i>	-0.004 <i>0.996</i>	-0.012 <i>0.988</i>
sales_growth	-0.072 <i>0.931</i>	-0.048 <i>0.953</i>	-0.051 <i>0.950</i>	0.014 <i>1.015</i>	-0.005 <i>0.995</i>
capex	0.838 * <i>2.312</i>	1.038 ** <i>2.824</i>	1.048 ** <i>2.851</i>	1.044 ** <i>2.841</i>	1.036 ** <i>2.819</i>
ROA	-0.580 <i>0.560</i>	-1.046 <i>0.351</i>	-1.060 <i>0.346</i>	-1.177 <i>0.308</i>	-1.115 <i>0.328</i>
leverage	-0.733 <i>0.480</i>	-0.645 <i>0.525</i>	-0.645 <i>0.525</i>	-0.704 <i>0.494</i>	-0.658 <i>0.518</i>
logAge	-0.070 <i>0.933</i>	-0.103 <i>0.902</i>	-0.105 <i>0.901</i>	-0.095 <i>0.909</i>	-0.107 <i>0.899</i>
No. of Public M&A	218	225	225	225	225
No. of Private M&A	300	308	308	308	308
Adj R-Square	0.067	0.061	0.062	0.067	0.065

**Table 15: Ex Ante Determinants of IPOs on LSE
– The Complete Samples**

Cox's (1972) proportional hazard models are estimated on the likelihood $h_i(t)=h_0(t)\exp(X_{it}\beta)$ that a firm i with characteristics X_{it} will go public on London Stock Exchange (LSE). The dependent variable is 1 for private companies going public on LSE from 1993 to 2005, and 0 for companies eligible to list on LSE but staying private. Firms not observed to make these choices by December 2005 are treated as right-censored. Only independent companies are included. The data for the IPO companies are measured one year before their IPOs. The variables are defined in Appendix 2. There are 8 models because of the correlation among some independent variables. The results reported are the coefficient estimate (in bold) and hazard ratio (in italic). The hazard ratio gives an estimate of how much the hazard of the event increases for a unit change in the covariate. The ownership variables are measured as the fraction of the total share, and the accounting variables are in GBP. The sample period is from 1992 to 2005. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
pct_block	-0.244 <i>0.784</i>	-0.274 <i>0.760</i>	-1.938 *** <i>0.144</i>	-2.021 *** <i>0.133</i>			-1.051 ** <i>0.35</i>	-1.125 ** <i>0.325</i>
pct_maj					-14.141 *** <i>0.000</i>	-14.92 *** <i>0.000</i>		
major_TA					0.724 ** <i>2.063</i>	0.767 ** <i>2.154</i>		
logno_block_hol			0.581 * <i>1.789</i>	0.576 * <i>1.778</i>				
pct_man_l	9.189 * <i>9789.8</i>	9.562 * <i>14208</i>						
pct_man_m	-0.659 <i>0.517</i>	-0.808 <i>0.446</i>						
pct_man_h	-2.003 * <i>0.135</i>	-2.019 * <i>0.133</i>						
family_ind							0.297 <i>1.346</i>	0.300 <i>1.350</i>
VC_ind	0.992 *** <i>2.696</i>	0.988 *** <i>2.685</i>	1.180 *** <i>3.255</i>	1.228 *** <i>3.413</i>	1.040 *** <i>2.83</i>	1.093 *** <i>2.982</i>	1.254 *** <i>3.506</i>	1.269 *** <i>3.557</i>
multi_class	-0.983 <i>0.374</i>	-0.921 <i>0.398</i>	-1.002 <i>0.367</i>	-0.943 <i>0.389</i>	-1.119 * <i>0.326</i>	-1.075 * <i>0.341</i>	-1.108 * <i>0.33</i>	-1.011 <i>0.364</i>
big4_ind			0.783 ** <i>2.188</i>	0.825 ** <i>2.282</i>	1.009 *** <i>2.743</i>	1.073 *** <i>2.925</i>		
QuiScore	0.001 <i>1.001</i>	0.000 <i>1.000</i>	-0.005 <i>0.995</i>	-0.007 <i>0.993</i>	-0.004 <i>0.996</i>	-0.007 <i>0.993</i>	0.003 <i>1.003</i>	0.001 <i>1.001</i>
cash_deficit		-0.163 <i>0.849</i>		-0.492 <i>0.611</i>		-0.521 <i>0.594</i>		-0.209 <i>0.811</i>
high_tech	0.161 <i>1.174</i>	0.237 <i>1.268</i>	0.001 <i>1.001</i>	0.085 <i>1.089</i>	0.100 <i>1.106</i>	0.213 <i>1.238</i>	0.197 <i>1.218</i>	0.294 <i>1.342</i>
dividend_ind	0.408 <i>1.504</i>	0.298 <i>1.346</i>	0.136 <i>1.146</i>	0.028 <i>1.028</i>	0.263 <i>1.301</i>	0.150 <i>1.162</i>	0.442 * <i>1.556</i>	0.300 <i>1.350</i>
industry_pub	0.948 ** <i>2.581</i>	0.872 ** <i>2.392</i>	1.070 *** <i>2.916</i>	1.001 ** <i>2.721</i>	1.179 *** <i>3.251</i>	1.094 *** <i>2.986</i>	0.897 ** <i>2.452</i>	0.789 ** <i>2.202</i>
industry_MTB	-0.052 <i>0.949</i>	-0.029 <i>0.971</i>	-0.070 <i>0.933</i>	-0.068 <i>0.935</i>	-0.200 <i>0.819</i>	-0.188 <i>0.829</i>	0.018 <i>1.018</i>	0.069 <i>1.071</i>

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
year_MTB	1.402 *** 4.064	1.281 *** 3.601	1.420 *** 4.138	1.308 *** 3.700	1.209 *** 3.351	1.079 ** 2.942	1.405 *** 4.075	1.235 *** 3.437
LogTA	0.377 *** 1.458	0.370 *** 1.448	0.287 *** 1.333	0.269 *** 1.308	0.036 1.036	0.000 1.000	0.390 *** 1.477	0.381 *** 1.464
sales_growth	3.108 *** 22.37	3.304 *** 27.21	2.318 *** 10.15	2.574 *** 13.11	3.010 *** 20.28	3.331 *** 27.96	3.217 *** 24.96	3.462 *** 31.89
capex	1.960 *** 7.099	1.942 *** 6.971	2.253 *** 9.518	2.274 *** 9.715	1.849 *** 6.354	1.817 *** 6.152	1.874 *** 6.513	1.845 *** 6.330
ROA	-1.194 0.303		-0.310 0.733		-0.529 0.589		-1.522 0.218	
leverage	1.205 * 3.335	1.093 * 2.984	0.790 2.202	0.774 2.169	0.899 2.457	0.875 2.398	1.210 * 3.354	1.075 * 2.929
LogAge	-1.105 *** 0.331	-1.095 *** 0.335	-1.049 *** 0.35	-1.071 *** 0.343	-0.955 *** 0.385	-0.971 *** 0.379	-1.140 *** 0.32	-1.123 *** 0.325
export	1.227 ** 3.41	1.270 ** 3.562	1.565 *** 4.783	1.621 *** 5.057	1.476 *** 4.374	1.531 *** 4.621	1.419 *** 4.134	1.465 *** 4.326
No. of IPOs	65	65	65	65	65	65	65	65
No. of Controls	12945	12937	12945	12937	12945	12937	12945	12937
Log likelihood	843.548	844.08	805.821	804.81	827.615	826.58	848.005	848.87
Pr > χ^2	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001

Table 16: Ex Ante Determinants of IPOs on LSE with Smaller Control Samples

Logistic models of the likelihood that a firm i with characteristics X_{it} will go public on London Stock Exchange (LSE) are estimated 10,000 times with 1/100 of the control sample and 25% trimmed means are reported. The dependent variable is 1 for private companies going public on LSE from 1993 to 2005, and 0 for companies eligible to list on LSE but staying private. Only independent companies are included. The control firms are matched by size and industry. The data for the IPO companies are measured one year before their IPOs. The variables are defined in Appendix 2. There are 8 models because of the correlation among some independent variables. The results reported are the coefficient estimate (in bold) and exponentiated odds ratio (in italic). The ownership variables are measured as the fraction of the total share, and the accounting variables are in GBP. The sample period is from 1992 to 2005. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
pct_block	-2.051 <i>0.145</i>	-1.465 <i>0.264</i>	-5.056 ** <i>0.008</i>	-4.101 * <i>0.020</i>			-3.877 *** <i>0.023</i>	-3.881 ** <i>0.023</i>
pct_maj					-36.641 ** <i>0.000</i>	-29.357 <i>0.000</i>		
major_TA					1.873 * <i>6.855</i>	1.471 <i>4.590</i>		
logno_block_hol			2.147 ** <i>8.854</i>	2.038 ** <i>8.004</i>				
pct_man_l	16.277 <i>4.4E+09</i>	27.163 <i>1.8E+15</i>						
pct_man_m	3.122 <i>76.35</i>	2.351 <i>43.76</i>						
pct_man_h	-7.059 * <i>0.001</i>	-7.926 * <i>0.001</i>						
family_ind							0.477 <i>1.619</i>	0.716 <i>2.062</i>
VC_ind	1.632 ** <i>5.269</i>	1.658 ** <i>5.495</i>	1.792 *** <i>6.163</i>	1.800 ** <i>6.259</i>	1.809 *** <i>6.308</i>	1.799 ** <i>6.284</i>	1.922 *** <i>7.006</i>	1.959 *** <i>7.351</i>
multi_class	-2.841 <i>0.062</i>	-3.429 <i>0.036</i>	-3.575 <i>0.030</i>	-3.939 <i>0.022</i>	-3.278 <i>0.041</i>	-3.516 <i>0.032</i>	-2.961 <i>0.055</i>	-3.401 <i>0.036</i>
big4_ind			0.706 <i>2.044</i>	0.475 <i>1.624</i>	0.722 <i>2.075</i>	0.560 <i>1.765</i>		
QuiScore	-0.019 <i>0.981</i>	-0.007 <i>0.993</i>	-0.021 <i>0.979</i>	-0.006 <i>0.994</i>	-0.023 <i>0.978</i>	-0.013 <i>0.987</i>	-0.014 <i>0.986</i>	-0.003 <i>0.997</i>
cash_deficit		6.192 *** <i>561.2</i>		4.585 ** <i>110.9</i>		3.789 * <i>48.54</i>		5.562 *** <i>286.1</i>
high_tech	-0.657 <i>0.535</i>	-2.387 <i>0.099</i>	-0.887 <i>0.429</i>	-1.839 <i>0.170</i>	-1.044 <i>0.366</i>	-1.822 <i>0.171</i>	-0.646 <i>0.538</i>	-1.899 <i>0.157</i>
dividend_ind	0.185 <i>1.211</i>	0.315 <i>1.384</i>	0.180 <i>1.207</i>	0.319 <i>1.389</i>	0.164 <i>1.188</i>	0.250 <i>1.293</i>	0.179 <i>1.203</i>	0.250 <i>1.292</i>
industry_pub	0.978 * <i>2.685</i>	1.015 * <i>2.795</i>	0.730 <i>2.102</i>	0.654 <i>1.951</i>	1.183 ** <i>3.308</i>	1.148 * <i>3.193</i>	0.960 * <i>2.632</i>	0.974 * <i>2.675</i>

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
industry_MTB	0.942	0.876	0.889	0.778	0.511	0.344	0.700	0.537
	2.659	2.535	2.546	2.295	1.727	1.462	2.059	1.761
year_MTB	1.931	1.901	2.462 *	2.484	2.226 *	2.073	1.928	1.751
	7.333	7.335	12.67	13.23	9.970	8.591	7.195	6.111
LogTA	1.041 ***	1.228 ***	1.023 **	1.188 **	0.112	0.381	1.047 ***	1.204 ***
	2.846	3.446	2.806	3.322	1.134	1.493	2.863	3.361
sales_growth	4.230 **	5.764 **	2.712	3.918 *	3.619 *	4.507 **	3.604 **	4.648 **
	74.19	389.1	16.52	59.79	41.14	105.26	38.71	115.9
capex	4.044 **	3.902 *	4.936 **	5.243 **	3.948 *	3.955 *	4.272 **	4.060 **
	65.08	60.43	167.6	243.9	59.82	61.85	79.89	67.24
leverage	2.927	4.016	5.141 *	6.007 **	3.247	3.640	2.786	3.300
	22.00	71.33	233.3	565.7	31.04	45.67	18.48	32.20
LogAge	-1.172 ***	-1.439 ***	-1.705 ***	-2.043 ***	-1.259 ***	-1.387 ***	-1.291 ***	-1.558 ***
	0.311	0.239	0.184	0.132	0.285	0.251	0.276	0.212
ROA	-3.874		-2.749		-2.725		-4.677	
	0.032		0.097		0.099		0.012	
export	1.424	2.136	1.204	1.325	1.785	1.821	1.210	1.437
	4.551	9.856	3.805	4.324	6.818	7.023	3.656	4.638
No. of IPOs	65	65	64	64	65	65	65	65
No. of Controls	285	285	279	279	285	285	285	285
Adj R-square	0.883	0.903	0.902	0.913	0.890	0.899	0.869	0.888

Table 17: Wilcoxon Signed Rank Tests on Post-IPO Accounting Performances

This table shows the post-IPO changes of accounting variables of the companies that choose to list on London Stock Exchange, and compares them with the companies matched by industry and size in the same year that choose to stay private. The column IPO0 shows the changes of each variable at the end of the IPO year relative to one year before the IPO. Columns IPO1-IPO4 report the changes 1-4 years after IPO relative to one year before IPO, and column IPO5 shows the changes more than 4 years after IPO relative to one year before IPO. Wilcoxon signed rank tests are conducted on the differences of the median changes of the variables for the IPO or control group. For each group, the reported statistics are, from top to bottom, the mean changes, the median changes (in bold), and the number of observations (in italic). The t score is reported on the difference of the variables between the IPO and private groups. The variables are defined in Appendix 2. The accounting variables are in GBP. The sample period is from 1992 to 2005. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Variable	Group	IPO0	IPO1	IPO2	IPO3	IPO4	IPO5
ROA	IPO	0.02	-0.02	-0.04	-0.05	-0.05	-0.08
		0 *	0	-0.01 ***	-0.03 ***	-0.03 ***	-0.07 ***
		<i>269</i>	<i>255</i>	<i>238</i>	<i>225</i>	<i>210</i>	<i>638</i>
	Private	-0.01	-0.01	-0.01	-0.02	-0.02	-0.03
		0 ***	0 ***	-0.01 ***	-0.02 ***	-0.02 ***	-0.03 ***
		<i>2523</i>	<i>2254</i>	<i>2019</i>	<i>1835</i>	<i>1641</i>	<i>5402</i>
	T score	2.55 **	-0.61	-1.52	-1.85 *	-1.51	-4.88 ***
sales_growth	IPO	0.07	0.1	0.09	-0.03	0.05	-0.33
		0.01	0.03 ***	0.06 ***	0.04 *	0.05 **	0.02 *
		<i>147</i>	<i>225</i>	<i>218</i>	<i>199</i>	<i>168</i>	<i>423</i>
	Private	-0.01	0.01	0.03	0.01	0	-0.02
		0	0.01 ***	0.02 ***	0.01 ***	0	0
		<i>2250</i>	<i>1930</i>	<i>1723</i>	<i>1546</i>	<i>1288</i>	<i>3753</i>
	T score	1.45	0.97	1.13	-0.57	0.82	-0.89
capex (without scaling)	IPO	5632734	6804362	4703698	5741024	6174308	3761087
		538000 ***	1E+06 ***	895000 ***	772500 ***	964000 ***	394000 ***
		<i>162</i>	<i>141</i>	<i>123</i>	<i>106</i>	<i>93</i>	<i>179</i>
	Private	-548117	-419977	-520876	-1E+06	120512	-2E+06
		-751	4000	-6196	-7165	-5035	-29000 ***
		<i>663</i>	<i>575</i>	<i>481</i>	<i>433</i>	<i>370</i>	<i>715</i>
	T score	4.34 ***	5.87 ***	5.23 ***	6.11 ***	4.98 ***	5.20 ***
capex (scaled by TA)	IPO	0.06	0.02	0.03	0	0	-0.11
		0.04 **	0.07 *	0.02	0.01	0	-0.03 **
		<i>157</i>	<i>139</i>	<i>119</i>	<i>101</i>	<i>88</i>	<i>170</i>
	Private	-0.02	-0.01	-0.02	-0.03	-0.04	-0.05
		-0.01 **	0	-0.02 **	-0.02 ***	-0.01 ***	-0.03 ***
		<i>651</i>	<i>565</i>	<i>473</i>	<i>426</i>	<i>365</i>	<i>703</i>
	T score	2.39 **	0.84	1.08	0.63	0.93	-1.41

Variable	Group	IPO0	IPO1	IPO2	IPO3	IPO4	IPO5
invest_long	IPO	0	-0.01	0.01	0.02	0.01	0.01
		0	0 *	0 **	0 ***	0 ***	0 ***
		276	261	242	228	214	666
	Private	0	0	0	0	0	0
		0 ***	0 ***	0	0	0	0 ***
logSales (without scaling)	IPO	2230	1983	1629	1342	1115	2167
		-0.04	-0.99	0.68	1.98 **	1.31	0.16
		0.38	0.69	0.83	0.97	1.11	1.15
	Private	0.26 ***	0.51 ***	0.66 ***	0.77 ***	0.87 ***	1.05 ***
		266	250	230	210	193	565
sales (scaled by TA)	IPO	0.04	0.07	0.12	0.12	0.16	0.24
		0.05 ***	0.09 ***	0.14 ***	0.17 ***	0.18 ***	0.26 ***
		2280	2028	1828	1643	1451	4805
	Private	0.02	-0.01	0	-0.02	-0.07	-0.09
		0.01 ***	0	0.01	0	-0.04 ***	-0.08 ***
leverage	IPO	2239	1984	1782	1606	1414	4695
		-6.65 ***	-6.23 ***	-4.36 ***	-4.09 ***	-2.2 **	-6.35 ***
		-0.13	-0.14	-0.14	-0.14	-0.14	-0.12
	Private	-0.13 ***	-0.18 ***	-0.19 ***	-0.16 ***	-0.14 ***	-0.22 ***
		263	248	226	206	190	552
solvency_ratio	IPO	-0.01	-0.01	-0.01	-0.01	-0.02	-0.03
		0 ***	0 ***	0 ***	0 ***	0 ***	0 ***
		2533	2266	2056	1870	1670	5434
	Private	-0.13	-0.14	-0.14	-0.14	-0.14	-0.12
		-0.03 ***	-0.05 ***	-0.03 ***	-0.04 ***	-0.04 ***	-0.04 ***
QuiScore	IPO	269	256	242	226	210	655
		0.18	0.24	0.2	0.19	0.19	0.16
		0.1 ***	0.17 ***	0.12 ***	0.12 ***	0.13 ***	0.13 ***
	Private	271	257	243	227	209	647
		0.01	0	0	0.01	0.01	0.03
invest_long	IPO	0.01 ***	0.01 ***	0.01 ***	0.02 ***	0.02 ***	0.03 ***
		2531	2265	2043	1851	1644	5363
		8.66 ***	10.46 ***	8.66 ***	7.47 ***	6.96 ***	9.07 ***
	Private	11.69	11.31	7.93	3.64	5	2.1
		10.5 ***	12 ***	6 ***	3 **	6 ***	2 **
logSales (without scaling)	IPO	170	171	160	152	144	490
		0.16	-0.86	-1.1	-0.57	-1.2	-1.73
		0	0	0 **	0	0	-1 ***
	Private	2310	2109	1932	1776	1615	5351
		7.01 ***	7.14 ***	5.02 ***	2.1 **	3.21 ***	3.36 ***

Variable	Group	IPO0	IPO1	IPO2	IPO3	IPO4	IPO5
interest_coverage	IPO	8.53	-5.53	28.09	-3.54	42.74	20.45
		1.82 ***	2.59 ***	1.28 *	0.46	-0.41	-0.74 *
		205	199	183	170	160	508
	Private	8.05	16.93	6.06	15.62	23.33	23.84
		0.26 ***	0.24 ***	0.1	0.23 **	-0.29	-0.16
		1951	1729	1548	1389	1218	3856
	T score	-2.45 **	-0.23	-1.61	-2.18 **	-2 **	-2.52 **
cash_deficit	IPO	-0.02	0.03	0.01	-0.04	-0.05	-0.02
		0.01	0.03 *	0.04	0.03	0	0.02
		157	135	113	102	89	172
	Private	0.01	0.01	0.03	0.03	0.03	0.03
		0	0.01 ***	0.02 ***	0.02 ***	0.02 ***	0.02 ***
		655	568	473	427	365	704
	T score	-0.88	0.61	-0.58	-2.08 **	-1.77 *	-1.35
tax	IPO	0.03	0.07	0.02	0.03	-0.02	-0.03
		0 ***	0.02 ***	0 **	0.01 **	0	0 **
		256	245	221	203	186	558
	Private	-0.01	0.01	-0.02	-0.03	-0.06	-0.07
		0	0	-0.01 ***	-0.01 ***	-0.02 ***	-0.03 ***
		2275	2073	1891	1705	1529	4850
	T score	3.27 ***	2.28 **	2.19 **	3.03 ***	1.37	2.22 **
audit_fee	IPO	0	0	0	0	0	0
		0 ***	0 ***	0 ***	0 ***	0 ***	0 ***
		249	244	222	205	186	551
	Private	0	0	0	0	0	0
		0 **	0 ***	0 ***	0 ***	0 ***	0 ***
		2226	2001	1832	1644	1456	4612
	T score	-5.59 ***	-4.62 ***	-3.87 ***	-4.65 ***	-3.36 ***	-3.99 ***
dividend	IPO	0.02	0.08	0.05	0.04	0.03	0.03
		0 ***	0.02 ***	0 ***	0 ***	0 **	0 ***
		265	252	231	211	197	569
	Private	0.05	0.04	0.05	0.05	0.02	0.03
		0 ***	0 ***	0 ***	0 ***	0	0
		2409	2154	1965	1767	1570	5108
	T score	-1.8 *	1.95 *	0.08	-0.63	0.45	-0.11
export	IPO	0.01	0.05	0.06	0.04	0.06	0.07
		0 *	0 ***	0 ***	0 **	0 ***	0 ***
		263	248	228	209	192	563
	Private	0.01	0.01	0.01	0.01	0.01	0.02
		0 ***	0 ***	0 ***	0 ***	0 ***	0 ***
		2247	2001	1809	1619	1424	4690
	T score	0.64	2.49 **	2.7 ***	1.6	2.62 ***	4.69 ***

Variable	Group	IPO0	IPO1	IPO2	IPO3	IPO4	IPO5
accruals		-0.03	-0.03	0	0	0	0.01
	IPO	-0.01 ***	-0.02 ***	0	-0.01	0	0.01
		115	89	87	76	65	154
	Private	0	0	0	0 *	0	0 ***
		750	608	524	445	373	638
	T score	-3.6 ***	-3.31 ***	-0.5	-0.74	-0.16	0.33
operating_ratio		-0.01	0.2	0.09	0.07	0.01	0.11
	IPO	-0.01 ***	0	0	0.01 **	0.01 **	0.03 ***
		262	241	223	204	186	549
	Private	0	0 **	0 ***	0.01 ***	0.01 ***	0.01 ***
		2247	1998	1793	1604	1419	4687
	T score	-0.33	2.11 **	1.34	0.98	-0.04	2.38 **
quick_ratio		0.42	0.51	0.26	0.16	0.04	-0.21
	IPO	0.11 ***	0.21 ***	0.11 ***	0.04 **	-0.01	-0.2 ***
		270	261	245	231	214	663
	Private	0.01 ***	0.02 ***	0.02 ***	0.02 ***	0.03 ***	0.03 ***
		2216	1975	1624	1342	1123	2134
	T score	3.66 ***	3.88 ***	1.92 *	0.82	-0.51	-6.54 ***
equity_turnover		-1.43	-1.99	-1.01	-1.25	-1.91	-2.07
	IPO	-0.69 ***	-1 ***	-0.76 ***	-0.78 ***	-0.96 ***	-1.2 ***
		262	247	228	208	190	554
	Private	-0.03 ***	-0.06 **	-0.07	-0.13 ***	-0.21 ***	-0.29 ***
		2268	2003	1796	1611	1429	4699
	T score	-2.3 **	-3.32 ***	-1.67 *	-1.69 *	-2.59 **	-4.63 ***
intang_ratio		0.01	0.03	0.05	0.05	0.06	0.07
	IPO	0	0 ***	0 ***	0 ***	0 ***	0 ***
		276	264	248	230	215	667
	Private	0 ***	0 ***	0	0	0 ***	0 ***
		2522	2262	2050	1863	1662	5429
	T score	1.3	3.62 ***	5.52 ***	5.18 ***	5.5 ***	10.69 ***

Table 18: The Ownership Structures of the IPO versus the Control Groups

This table shows the different ownership structures of the companies that choose to list on London Stock Exchange around the IPO year, measured in terms of the fraction of the total shares. The columns IPO_4, IPO_3 and IPO_2 stand for more than 3 years, 3 years, and 2 years before IPO, and IPO0-IPO3 stand for the year of IPO, 1 year, 2 years, and more than 2 years after IPO. Signed rank tests are conducted on the differences of the median changes of ownership structures in the IPO or control group. The reported statistics are, from top to bottom, the mean, median (in bold), and the number of observations (in italic). Finally, t score is reported on the differences of the ownership structures between the IPO and the control groups. The variables are defined in Appendix 2. The period is from 1992 to 2005. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Variable	Group	IPO_4	IPO_3	IPO_2	IPO_1	IPO0	IPO1	IPO2	IPO3
pct_fam	IPO	0.28	0.293	0.289	0.32	0.28	0.3	0.28	0.2
		0.2	0.213	0.227	0.23	0.24	0.27	0.25	0.14
		<i>373</i>	<i>170</i>	<i>187</i>	<i>222</i>	<i>358</i>	<i>395</i>	<i>368</i>	<i>1355</i>
	Private	0.22	0.288	0.301	0.32	0.29	0.3	0.3	0.3
		0	0	0	0	0	0	0	0
		<i>875</i>	<i>568</i>	<i>723</i>	<i>866</i>	<i>1049</i>	<i>1278</i>	<i>1389</i>	<i>4434</i>
	T score	3.5 ***	0.21	-0.49	-0.01	-0.72	0.01	-1.01	-11.76 ***
pct_man	IPO	0.22	0.224	0.223	0.27	0.21	0.23	0.2	0.14
		0.1	0.108	0.106	0.14	0.16	0.17	0.13	0.06
		<i>373</i>	<i>170</i>	<i>187</i>	<i>222</i>	<i>358</i>	<i>395</i>	<i>368</i>	<i>1355</i>
	Private	0.2	0.26	0.268	0.29	0.26	0.28	0.28	0.29
		0	0	0	0	0	0	0	0
		<i>875</i>	<i>568</i>	<i>723</i>	<i>866</i>	<i>1049</i>	<i>1278</i>	<i>1389</i>	<i>4434</i>
	T score	1.27	-1.39	-1.89 *	-0.9	-2.89 ***	-3.22 ***	-4.91 ***	-18.57 ***
pct_VC	IPO	0.02	0.041	0.047	0.06	0.04	0.02	0.01	0.02
		0	0	0	0	0	0	0	0
		<i>373</i>	<i>170</i>	<i>187</i>	<i>222</i>	<i>358</i>	<i>395</i>	<i>368</i>	<i>1355</i>
	Private	0.03	0.027	0.022	0.02	0.02	0.02	0.01	0.01
		0	0	0	0	0	0	0	0
		<i>875</i>	<i>568</i>	<i>723</i>	<i>866</i>	<i>1049</i>	<i>1278</i>	<i>1389</i>	<i>4434</i>
	T score	-2.07 **	1.03	2.03 **	3.43 ***	2.96 ***	1.3	0.07	1.79 *
pct_block	IPO	0.37	0.395	0.42	0.48	0.35	0.32	0.33	0.28
		0.29	0.335	0.396	0.44	0.3	0.29	0.28	0.17
		<i>373</i>	<i>170</i>	<i>187</i>	<i>222</i>	<i>358</i>	<i>395</i>	<i>368</i>	<i>1355</i>
	Private	0.87	0.877	0.882	0.89	0.88	0.89	0.89	0.89
		1	1	1	1	1	1	1	1
		<i>875</i>	<i>568</i>	<i>723</i>	<i>866</i>	<i>1049</i>	<i>1278</i>	<i>1389</i>	<i>4434</i>
	T score	-25.51 ***	-17 ***	-18.71 ***	-16.41 ***	-32.89 ***	-39.9 ***	-34.69 ***	-66.6 ***

Variable	Group	IPO_4	IPO_3	IPO_2	IPO_1	IPO0	IPO1	IPO2	IPO3
pct_com	IPO	0.17	0.188	0.221	0.23	0.2	0.17	0.2	0.2
		0.05	0.063	0.107	0.12	0.13	0.09	0.09	0.07
		373	170	187	222	358	395	368	1355
	Private	0.65	0.59	0.584	0.57	0.59	0.59	0.6	0.6
		1	0.979	0.986	0.97	1	0.99	0.99	1
		875	568	723	866	1049	1278	1389	4434
	T score	-24.21 ***	-13.96 ***	-13.65 ***	-14.38 ***	-20.85 ***	-24.54 ***	-22.03 ***	-37.6 ***
no_sharehol	IPO	26.81	26.015	23.884	20.44	23.66	30.3	28.45	30.57
		26	11	10	9	14	31	28	33
		452	201	225	267	422	456	464	1660
	Private	2.43	2.233	2.412	2.45	2.16	2.31	2.2	2.51
		1	1	1	1	1	1	1	2
		982	631	797	957	1152	1396	1512	4843
	T score	20.52 ***	11.78 ***	13.14 ***	13.14 ***	20.96 ***	29.68 ***	25.08 ***	47.47 ***
no_man_hol	IPO	3.03	3.413	3.431	3.59	4.5	4.03	3.63	3.32
		2	2	3	3	4	3.5	3	2
		452	201	225	267	422	456	464	1660
	Private	0.59	0.786	0.87	1.07	0.91	1.02	1.04	1.27
		0	0	0	0	0	0	0	0
		982	631	797	957	1152	1396	1512	4843
	T score	15.73 ***	10.07 ***	10.61 ***	11.93 ***	18.91 ***	16.21 ***	13.18 ***	22.17 ***
no_block_hol	IPO	1.07	1.219	1.391	1.43	1.31	1.21	1.05	0.82
		1	1	1	1	1	1	1	1
		452	201	225	267	422	456	464	1660
	Private	1.08	1.233	1.256	1.34	1.29	1.33	1.39	1.38
		1	1	1	1	1	1	1	1
		982	631	797	957	1152	1396	1512	4843
	T score	-0.29	-0.15	1.4	1.05	0.25	-1.99 **	-5.6 ***	-20.3 ***
no_com_hol	IPO	3.04	3.06	3.364	2.98	3.51	3.85	3.24	3.25
		2	2	2	2	2	3	3	2
		452	201	225	267	422	456	464	1660
	Private	0.96	0.859	0.836	0.83	0.84	0.81	0.82	0.86
		1	1	1	1	1	1	1	1
		982	631	797	957	1152	1396	1512	4843
	T score	13.03 ***	9.62 ***	11.19 ***	10.69 ***	14.96 ***	17.15 ***	16.62 ***	31.55 ***

Table 19: Changes of Ownership Structures around IPO

This table shows the changes of ownership structure of the companies that choose to list on London Stock Exchange relative to one year before IPO, measured in terms of changes in percentages of the total shares. The columns IPO_4, IPO_3 and IPO_2 stand for more than 3 years, 3 years, and 2 years before IPO, and IPO0-IPO3 stand for the year of IPO, 1 year, 2 years, and more than 2 years after IPO. Signed rank tests are conducted on the differences of the median changes of ownership structures in the IPO or control group. The reported statistics are, from top to bottom, the mean changes, the median changes (in bold), and the number of observations (in italic). Finally, t score is reported on the differences of the changes of ownership structures between the IPO and the control groups. The variables are defined in Appendix 2. The period is from 1992 to 2005. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Variable	Group	IPO_4	IPO_3	IPO_2	IPO0	IPO1	IPO2	IPO3
pct_fam		0.033	-0.029	0.001	-0.057	-0.127	-0.102	-0.12
	IPO	0 *	0	0	-0.017 ***	-0.065 ***	-0.059 ***	-0.04 ***
		<i>139</i>	<i>69</i>	<i>65</i>	<i>122</i>	<i>73</i>	<i>57</i>	<i>102</i>
	Private	0 ***	0 ***	0 ***	0	0	0	0 ***
		<i>441</i>	<i>348</i>	<i>471</i>	<i>558</i>	<i>521</i>	<i>460</i>	<i>686</i>
	T score	2.81 ***	-0.25	0.73	-2.92 ***	-4.34 ***	-2.78 ***	-5.15 ***
pct_man		0.003	-0.037	-0.022	-0.061	-0.145	-0.117	-0.12
	IPO	0	0 *	0	-0.009 ***	-0.05 ***	-0.057 ***	-0.02 ***
		<i>139</i>	<i>69</i>	<i>65</i>	<i>122</i>	<i>73</i>	<i>57</i>	<i>102</i>
	Private	0 ***	0 ***	0 ***	0	0	0 *	0 ***
		<i>441</i>	<i>348</i>	<i>471</i>	<i>558</i>	<i>521</i>	<i>460</i>	<i>686</i>
	T score	1.15	-0.29	-0.35	-3.75 ***	-4.4 ***	-3.74 ***	-5.62 ***
pct_VC		-0.02	-0.006	0.001	-0.021	-0.024	-0.053	-0.03
	IPO	0	0	0	0 ***	0 *	0 ***	0 **
		<i>139</i>	<i>69</i>	<i>65</i>	<i>122</i>	<i>73</i>	<i>57</i>	<i>102</i>
	Private	0 **	0	0	0	0	0	0
		<i>441</i>	<i>348</i>	<i>471</i>	<i>558</i>	<i>521</i>	<i>460</i>	<i>686</i>
	T score	-0.88	-0.7	0.25	-1.99 **	-2.56 **	-3.04 ***	-2.45 **
pct_block		0.007	-0.048	0.018	-0.165	-0.228	-0.266	-0.2
	IPO	0	0 **	0	-0.09 ***	-0.185 ***	-0.28 ***	-0.2 ***
		<i>139</i>	<i>69</i>	<i>65</i>	<i>122</i>	<i>73</i>	<i>57</i>	<i>102</i>
	Private	0 ***	0 ***	0 ***	0 ***	0 ***	0 ***	0 ***
		<i>441</i>	<i>348</i>	<i>471</i>	<i>558</i>	<i>521</i>	<i>460</i>	<i>686</i>
	T score	0.98	-0.55	2.01 **	-7.08 ***	-7.1 ***	-7.29 ***	-7.02 ***

Variable	Group	IPO_4	IPO_3	IPO_2	IPO0	IPO1	IPO2	IPO3
pct_com		-0.012	-0.028	-0.005	-0.048	-0.003	-0.063	-0.03
	IPO	0	0 *	0	-0.011 ***	0	0	-0.01 *
		139	69	65	122	73	57	102
	Private	0 **	0 **	0 ***	0 ***	0 ***	0 ***	0 ***
		441	348	471	558	521	460	686
	T score	0.1	-0.44	0.93	-3.9 ***	-1.05	-2.39 **	-2.47 **
no_sharehol		5.139	2.688	0.133	3.653	11.743	17.494	8.31
	IPO	0 *	0	-1	0 **	13 ***	19 ***	1.5 ***
		223	93	90	147	101	85	170
	Private	0 ***	0 ***	0 ***	0 ***	0 ***	0 ***	0 ***
		504	392	524	634	587	515	796
	T score	2.69 ***	1.12	0.09	1.86 *	3.78 ***	6.59 ***	3.64 ***
no_man_hol		0.031	0	-0.4	0.435	0.02	0.588	0.38
	IPO	0	0	0	0	0	0	0
		223	93	90	147	101	85	170
	Private	0 ***	0 ***	0 ***	0	0 ***	0 ***	0 ***
		504	392	524	634	587	515	796
	T score	1.72 *	1.3	-0.3	1.54	-0.39	0.78	0.04
no_block_hol		0.054	-0.011	0.178	-0.333	-0.475	-0.741	-0.38
	IPO	0	0	0 *	0 ***	0 ***	-1 ***	0 ***
		223	93	90	147	101	85	170
	Private	0 ***	0 ***	0 ***	0 ***	0 *	0 ***	0 ***
		504	392	524	634	587	515	796
	T score	1.89 *	1.12	2.9 ***	-3.72 ***	-3.22 ***	-5.06 ***	-4.89 ***
no_com_hol		0.211	-0.011	-0.056	0.381	1.238	1.447	0.17
	IPO	0	0	0	0	1 ***	1 ***	0
		223	93	90	147	101	85	170
	Private	0 ***	0 **	0 ***	0 **	0 ***	0 ***	0 ***
		504	392	524	634	587	515	796
	T score	1.27	0.08	-0.03	1.08	2.71 ***	3.86 ***	-0.17

Table 20: Selling Behavior of Initial Shareholders

This table shows the changes of stakes of the initial shareholders relative to one year before IPO, measured in terms of percentages of the total shares. The sample is the companies that choose to list on London Stock Exchange. The variables are defined in Appendix 2. The left column reports the total ownership changes by each type of shareholder. The right column reports the percentage changes by each type of shareholder, regarding each type as a single group. The columns IPO0, IPO1, IPO2 and IPO3 stand for the year of IPO, 1 year, 2 years, and more than 2 years after IPO. The mean, median (in bold), and number of observations (in italic) are in the first to third rows of each part. The period is from 1992 to 2005. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Variable	IPO0		IPO1		IPO2		IPO3	
	Total	%	Total	%	Total	%	Total	%
pct_all	-0.227	-13.30% ***	-0.137	-14.16% ***	-0.1118	-13.43% ***	-0.1926	-21.65% ***
	-0.189	-23.40% ***	-0.0918	-15.99% ***	-0.0765	-10.93% **	-0.1701	-17.97% ***
	<i>136</i>	<i>134</i>	<i>37</i>	<i>37</i>	<i>24</i>	<i>24</i>	<i>20</i>	<i>20</i>
pct_fam	-0.129	-14.3% ***	-0.173	-13.1% **	-0.209	-41.9% **	-0.252	-41.9% ***
	-0.090	-16.0% ***	-0.050	-20.8% **	-0.116	-39.9% ***	-0.128	-39.9% ***
	<i>147</i>	<i>135</i>	<i>30</i>	<i>29</i>	<i>22</i>	<i>22</i>	<i>26</i>	<i>26</i>
pct_man	-0.068	-4.40% ***	-0.0622	-5.04% **	-0.0775	-33.79% **	-0.1467	-33.00% ***
	-0.021	-26.70% ***	-0.0185	-14.93% ***	-0.035	-27.41% **	-0.1052	-41.41% ***
	<i>60</i>	<i>59</i>	<i>17</i>	<i>16</i>	<i>10</i>	<i>10</i>	<i>13</i>	<i>13</i>
pct_VC	-0.125	-42.70% ***	-0.1182	-39.38% **	-0.1264	-44.79% **	-0.1205	-41.88% **
	-0.084	-37.50% ***	-0.0922	-39.53% ***	-0.0953	-43.10% ***	-0.1005	-47.88% **
	<i>69</i>	<i>65</i>	<i>14</i>	<i>14</i>	<i>14</i>	<i>14</i>	<i>12</i>	<i>12</i>
pct_com	-0.181	-30.20% ***	-0.161	-35.62% ***	-0.1325	-22.69% ***	-0.1215	-14.24% *
	-0.151	-32.80% ***	-0.1148	-36.72% ***	-0.1221	-34.82% **	-0.076	-12.15% **
	<i>121</i>	<i>117</i>	<i>25</i>	<i>24</i>	<i>17</i>	<i>17</i>	<i>12</i>	<i>12</i>
pct_maj	-0.133	-21.50% ***	-0.1423	-9.74% ***	-0.1001	-7.16%	-0.1148	-12.60% *
	-0.1	-30.10% ***	-0.0971	-31.98% ***	-0.0704	-23.86% *	-0.1267	-38.82% *
	<i>134</i>	<i>132</i>	<i>18</i>	<i>18</i>	<i>17</i>	<i>17</i>	<i>19</i>	<i>19</i>
pct_sec	-0.068	-33.40% ***	-0.0814	-28.56% **	-0.1343	-21.75%	-0.1259	-64.26% ***
	-0.051	-29.30% ***	-0.0862	-28.21% **	-0.0889	-25.32% *	-0.1159	-61.26% ***
	<i>101</i>	<i>97</i>	<i>17</i>	<i>16</i>	<i>14</i>	<i>13</i>	<i>12</i>	<i>12</i>
pct_block	-0.247	-37.10% ***	-0.127	-17.25% ***	-0.1361	-10.33% **	-0.1045	-1.36% **
	-0.213	-30.90% ***	-0.0775	-13.53% ***	-0.1145	-14.16% ***	-0.1149	-16.29% **
	<i>131</i>	<i>131</i>	<i>24</i>	<i>23</i>	<i>12</i>	<i>12</i>	<i>16</i>	<i>16</i>

Appendix 1: Testable Hypotheses and Predictions

Theory	Model	Ex Ante Predictions	Ex Post Predictions
A. Information			
1. Information Asymmetry	Leland & Pyle (1977), Chemmanur & Fulghieri (1995), Rock (1986), Ross (1977), Ravid & Sarig (1991), Miller & Rock (1985), John & Williams (1985), Titman & Trueman (1986), Beatty (1989), Michaely & Shaw (1995)	<i>H3.1a Young companies, small companies and/or high tech companies are less likely to go public. Companies paying dividend, audited by a Big 4 auditing firm and/or having high leverage are more likely to go public.</i>	<i>H3.1b After IPO, the profitability, efficiency ratios, leverage and dividend will decline.</i>
2. Information Spillover	Subrahmanyam & Titman (1999), Benveniste, Busaba & Wilhelm (2002), Mello & Parsons (1998), Merton (1987), Van Bommel (2002)	<i>H3.2a Companies in the retail, transportation, and services industries are more likely to go public.</i>	
3. Market Timing	Ritter (1987)	<i>H3.3a The probability of going public is positively related to the industry median MTB and/or the median MTB of each year.</i>	<i>H3.3b After flotation, the profitability and growth will decline, and capital expenditure will not increase.</i>
B. Ownership and Control			
4. Control	Demsetz & Lehn (1985), Burkart, Panunzi & Shleifer (2003), Jensen & Meckling (1976), Zingales (1995a), Bebchuk (1999), Morck, Shleifer & Vishny (1988), DeAngelo & DeAngelo (1985), Shleifer & Vishny (1986), Ellingsen and Rydqvist (1997), Mello & Parsons (2000),	<i>H3.4a Companies controlled closely, companies controlled by families, and/or companies with multi-class shares are less likely to go public, while companies audited by Big Four accounting firms and/or companies backed by venture capital or private equity are more likely to go public. The relation between the probability of an IPO and managerial ownership is positive at the low level and negative at the high level of managerial ownership.</i>	<i>H3.4b After the IPO, family controlling shareholders will maintain their stakes, and the venture capital or private equity shareholders will cash out. The accruals will increase.</i>

	Brau, Francis & Kohers (2003), Black & Gilson (1998)		
5. Liquidity	Zingales (1995a), Mello & Parsons (1998), Booth & Chua (1996), Chemmanur & Fulghieri (1999), Pagano (1993), Leland & Pyle (1977)	H3.5a Large firms with large controlling shareholders (interaction term) are more likely to go public. The probability of going public is negatively related to credit rating and the number of (block) shareholders.	H3.5b After floating, the major and block shareholders will divest their stakes.
C. Others			
6. Capital Structure	Myers and Majluf (1984), Helwege and Liang (1996)	H3.6a The probability of going public is positively related to cash deficit and leverage, and negatively related to credit rating. Alternatively, the probability of IPO is positively related to leverage and not related to cash deficit.	H3.6b The leverage ratio will decline after IPO.
7. Financial Considerations	Ritter (1987), Brav (2005), Leary (2005), Welch (1989), Amihud & Mendelson (1988)	H3.7a The propensity to go public is positively related to firm size, cash deficit, capital expenditure, growth, and leverage.	H3.7b After IPO, the audit fee, corporate taxes and capital expenditure will go up and cash deficit will decrease.
8. The Product Market	Campbell (1979), Yosha (1995), Stoughton, Wong & Zechner (2001)	H3.8a Companies with large exports have higher propensity to go public.	H3.8b After floating, the corporate tax and exports will go up.

Appendix 2: Variable Definitions

The variables used in the empirical tests in this paper are defined below. Panel A reports the definitions of the accounting variables, and Panel B reports the definitions of the ownership variables. All the accounting variables are adjusted for inflation by dividing the values by the CPI index of the same year.

Panel A: Accounting Variables

LogTA	= log(total assets)
LogSales	= log(sales)
Equity	= book value of equity
ROA	= EBIT/TA
Sales_growth	= annualized sales growth rate
LogAge	= log(the number of years at the statement date since the date of incorporation)
Capex	= (capital expenditure+financial investments)/tangible assets
Leverage	= long-term debts/total capital Note: total capital=book value of equity+book value of debts
Solvency_ratio	= equity/TA
QuiScore	= the credit rating score by a credit rating company Qui Credit Assessment It ranges from 0 to 100 with higher scores standing for higher credit.
Interest_coverage	= EBIT/interest
Interest	= interest/operating profit
Big4_ind	= 1 if the auditor is among the Big 4 accounting firms and 0 otherwise
Industry_MTB	= the median market-to-book ratio of the industry that a firm belongs to
Year_MTB	= the median market-to-book ratio of the industry of a specific year
FCF (Free cash flow)	= EBITDA/TA Note: EBITDA = EBIT+depreciation+amortization
Cash deficit	= (capital expenditure+acquisitions and disposals+dividend-EBITDA)/TA
Accrual	= (short-term accruals+long-term accruals)/TA
Dividend	= dividend/(net income+depreciation)
Dividend_ind	= 1 if the company pays dividend and 0 otherwise
Export	= export/sales
Intang_ratio	= intangible assets/TA
Tax	= tax/operating profit
Audit_fee	= audit fee/TA
Oper_ratio	= (sales-operating profit)/sales
Quick_ratio	= (accounts receivable+cash)/current liabilities
Asset_coverage	= (TA-intangible assets-current liabilities+short-term loans)/(short-term loans +long-term debts)
Industry1 (agriculture, forestry, and fishing)	= 1 if 2-digit US SIC is between 1 and 9 inclusive and 0 otherwise
Industry2 (mining)	= 1 if 2-digit US SIC is between 10 and 14 inclusive and 0 otherwise
Industry3 (construction)	= 1 if 2-digit US SIC is between 15 and 17 inclusive and 0 otherwise
Industry4 (manufacturing)	= 1 if 2-digit US SIC is between 20 and 39 inclusive and 0 otherwise
Industry5 (transportation)	= 1 if 2-digit US SIC is between 40 and 49 inclusive and 0 otherwise
Industry6 (wholesale)	= 1 if 2-digit US SIC is between 50 and 51 inclusive and 0 otherwise
Industry7 (retail)	= 1 if 2-digit US SIC is between 52 and 59 inclusive and 0 otherwise
Industry8 (services)	= 1 if 2-digit US SIC is between 70 and 89 inclusive and 0 otherwise

Panel B: Ownership Variables

Pct_man	= percentage of shares held by managers
Pct_man_l	= percentage of shares held by managers at the low range (0-0.1)
Pct_man_m	= percentage of shares held by managers at the middle range (0.1-0.4)
Pct_man_h	= percentage of shares held by managers at the high range (0.4-1)
Pct_fam	= percentage of shares held by individuals or a family
Pct_all	= percentage of shares of all recognized shareholders
Pct_VC	= percentage of shares held by venture capital or private equity
Pct_com	= percentage of shares held by institutions except venture capital and private equity
Pct_major	= percentage of shares held by the shareholder with the largest shareholding
Pct_second	= percentage of shares held by the shareholder with the second largest shareholding
Pct_block	= percentage of shares held by the shareholders with at least 10% of the total shares
No_sharehol	= number of recognized shareholders
Logno_sharehol	= log(number of recognized shareholders)
No_man_hol	= number of shareholders that are also managers
No_com_hol	= number of institutional shareholders except venture capital and private equity
No_block_hol	= number of shareholders with at least 10% of the total shares
Logno_block_hol	= log(number of shareholders with at least 10% of the total shares)
No_director	= number of directors/managers
VC_ind	= 1 if the ownership of venture capital or private equity is greater than 20% of the total shares or the company name matches the VC/PE list, and 0 otherwise
Family_ind	= 1 if the largest shareholder is an individual or family and its ownership is greater than 20% of the total shares, and 0 otherwise
Multi_class	= 1 if there are more than one classes of shares, and 0 otherwise

Appendix 3: IPO Number Reconciliation

Panel A reports the detailed change of the IPO sample size in the sample construction process. Panel B shows the IPO sample distribution by year and by offer type. Panel C compares the number of the IPO companies reported in SDC with that used in this paper. The sample is U.K. domestic IPOs in 1992-2005.

Panel A: Sample Construction

Data Source	LSE (Jan1993-Dec1997)	LSE (Jan1998- Dec2005)	LSE (Total)	AIM (Jun1995- Jan2006)	Ofex (Oct1995- Jan2006)	AIM/Ofex (Total)
	Goergen et al. (2006)	LSE website ⁴		LSE website	FAME database ⁵	
All IPOs	-	560	-	1990	-	1990
Domestic IPOs	-	456	-	1109	-	1109
Excluding Financial, public and regulated utilities companies	265	169	434	637	229	866
Matched with Registration Number¹	244	178	422	383	115	498
After de-dup & manual correction²	250	151	401	-	-	497
Matched with FAME database	248	134	382	-	-	375
Firms with data at least one year before IPO	244	121	365	-	-	331
Removing invalid observations³	184	152	336	-	-	127
Final	184	152	336	-	-	127

Note: 1. The firms are matched by company names. Therefore, as the AIM companies change names often, a lot of firms fail to be matched with registration number.

2. Remove firms that have the same registration number.

3. Exclude observations without income statement information, no total asset or equity, and current assets(liabilities) and long-term assets(liabilities) sum to zero.

4. <http://www.londonstockexchange.com/en-gb/about/statistics/>

5. Only those identified as IPO through change of company types are included in the sample.

Panel B: IPO Sample Distribution by Year and by Offer Type

Year	Placing Offer	Public Offer	Open Offer	Offer for Subscription	Offer for Sale	Placing & Public Offer	Placing & Open Offer	Placing & Offer for Subscription	Placing & Intermediaries Offer	International Offering	Unknown	Total
1993	-	-	-	-	-	-	-	-	-	-	27	27
1994	-	-	-	-	-	-	-	-	-	-	71	71
1995	33	0	1	0	0	0	0	3	8	1	0	46
1996	52	0	0	1	2	0	1	1	4	3	0	64
1997	51	0	0	1	0	0	1	1	0	3	0	57
1998	32	1	0	0	0	0	0	0	0	2	0	35
1999	16	1	0	0	0	1	0	0	0	3	0	21
2000	37	3	0	1	0	0	2	0	0	16	0	59
2001	3	0	0	0	0	0	0	0	0	3	0	6
2002	6	0	0	0	0	0	0	0	0	6	0	12
2003	3	0	0	0	0	0	0	0	0	2	0	5
2004	9	0	0	0	0	0	0	0	0	7	0	16
2005	6	0	0	0	0	0	0	0	0	9	0	15
Total	248	5	1	3	2	1	4	5	12	55	98	434

Panel C: Comparison with IPO Numbers in SDC

Year	IPO No. in This Paper	IPO No. in SDC
1993	27	19
1994	71	91
1995	46	47
1996	64	67
1997	57	55
1998	35	28
1999	21	16
2000	59	56
2001	6	8
2002	12	13
2003	5	5
2004	16	20
2005	15	13
Total	434	438

Appendix 4: Correlations among Ownership Variables

The following table shows Pearson correlations (in bond) and p-values (in italic) among the ownership variables. The sample is the eligible sample used in this paper, i.e., all the private companies going public in the U.K. or those satisfying the listing requirements but remaining private. The variables are defined in Appendix 2. The mean, standard deviation and number of observations are in the last three rows. The sample period is from 1992 to 2005.

	pct_major	pct_block	logno_block_hol	VC_ind	multi_class	family_ind	pct_man	pct_man_l	pct_man_m	pct_man_h
pct_major	1	0.55	-0.79	-0.02	-0.1	-0.42	-0.41	-0.59	-0.52	-0.33
pct_block	-	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
logno_block_hol	0.55	1	-0.07	-0.03	-0.07	-0.15	0	-0.26	-0.18	0.07
	<.0001	-	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
VC_ind	-0.79	-0.07	1	0.03	0.09	0.43	0.48	0.56	0.54	0.44
	<.0001	-	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
multi_class	-0.02	-0.03	0.03	1	0.05	-0.08	-0.06	-0.02	-0.04	-0.07
	<.0001	<.0001	<.0001	-	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
family_ind	-0.1	-0.07	0.09	0.05	1	0	0.01	0.04	0.02	-0.01
	<.0001	<.0001	<.0001	<.0001	-	0.6611	0.3318	<.0001	<.0001	<.0001
pct_man	-0.42	-0.15	0.43	-0.08	0	1	0.84	0.83	0.88	0.83
	<.0001	<.0001	<.0001	<.0001	0.6611	-	<.0001	<.0001	<.0001	<.0001
pct_man_l	-0.41	0	0.48	-0.06	0.01	0.84	1	0.9	0.91	0.97
	<.0001	<.0001	<.0001	<.0001	0.3318	<.0001	-	<.0001	<.0001	<.0001
pct_man_m	-0.59	-0.26	0.56	-0.02	0.04	0.83	0.9	1	0.95	0.82
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
pct_man_h	-0.52	-0.18	0.54	-0.04	0.02	0.88	0.91	0.95	1	0.9
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	-0.33	0.07	0.44	-0.07	-0.01	0.83	0.97	0.82	0.9	1
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	-
Mean	0.72	0.89	0.39	0.01	0.04	0.54	0.47	0.06	0.17	0.25
Std Dev	0.29	0.2	0.5	0.09	0.19	0.5	0.44	0.05	0.15	0.27
No Obs.	121,860	121,860	120,204	328,737	153,759	121,860	121,860	121,860	121,860	121,860

Appendix 5: Logistic Models with the Complete Samples

The following tables report the logistic regressions results with the complete control samples for Tables 4, 8, 10, 12, 13 and 15. These are robustness tests to the previously reported proportional hazard models using the complete control samples.

**Table 4b: Ex Ante Informational Determinants of IPO on LSE or AIM/Ofex
- The Complete Samples**

Logistic models are estimated on the likelihood that a firm i with characteristics X_{it} will go public on the second-tier stock exchanges in the U.K., i.e. Alternative Investment Market (AIM) or Ofex. Only the characteristics related to informational costs or benefits are included together with the control variables. The dependent variable is 1 for independent private companies going public on AIM/Ofex from 1993 to 2005, and 0 for independent companies eligible to list on LSE but staying private. Models 1 and 2 include one of the two highly correlated variables ROA and Free Cash Flow, respectively. The accounting variables are lagged by one year except sales growth. The static variables such as age and MTB ratios are measured in the year of IPO. The variables are defined in Appendix 2. The results reported are the coefficient estimate (in bold) and exponentiated odds ratio (in italic). The accounting variables are in GBP. The sample period is from 1992 to 2005. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Model 1		Model 2	
	LSE	AIM/Ofex	LSE	AIM/Ofex
high_tech	-1.222 *** <i>0.295</i>	-0.649 ** <i>0.522</i>	-1.026 *** <i>0.358</i>	-0.706 ** <i>0.494</i>
big4_ind	0.681 *** <i>1.975</i>	-0.021 <i>0.979</i>	0.709 *** <i>2.031</i>	0.043 <i>1.044</i>
dividend_ind	0.389 *** <i>1.476</i>	0.540 *** <i>1.715</i>	0.272 ** <i>1.313</i>	0.500 *** <i>1.649</i>
industry_pub	0.576 *** <i>1.779</i>	0.413 *** <i>1.511</i>	0.537 *** <i>1.710</i>	0.392 *** <i>1.480</i>
year_MTB	2.113 *** <i>8.275</i>	0.539 * <i>1.715</i>	1.939 *** <i>6.949</i>	0.533 * <i>1.704</i>
industry_MTB	0.269 <i>1.308</i>	0.110 <i>1.117</i>	0.304 * <i>1.355</i>	0.124 <i>1.132</i>
logTA	0.462 *** <i>1.587</i>	0.354 *** <i>1.424</i>	0.444 *** <i>1.558</i>	0.287 *** <i>1.333</i>
sales_growth	4.757 *** <i>116.4</i>	-0.010 * <i>0.990</i>	4.974 *** <i>144.5</i>	-0.010 * <i>0.990</i>
capex	1.618 *** <i>5.044</i>	2.010 *** <i>7.461</i>	1.514 *** <i>4.546</i>	2.039 *** <i>7.681</i>
leverage	1.254 *** <i>3.503</i>	-0.816 ** <i>0.442</i>	1.043 ** <i>2.839</i>	-0.892 *** <i>0.410</i>
logAge	-1.114 *** <i>0.328</i>	0.583 *** <i>1.791</i>	-1.119 *** <i>0.327</i>	0.516 *** <i>1.676</i>
ROA			0.811 <i>2.250</i>	-2.257 *** <i>0.105</i>
FCF	-1.856 *** <i>0.156</i>	-2.101 *** <i>0.122</i>		
export	1.238 *** <i>3.450</i>	0.242 <i>1.274</i>	1.228 *** <i>3.415</i>	0.183 <i>1.201</i>
No. of IPOs	156	92	156	93
No. of Controls	18169	4583	18189	4598
Adj R-Square	0.494	0.185	0.487	0.160

Table 8b: Ex Ante Determinants of IPO on LSE Related to Ownership
- The Complete Samples

Logistic models are estimated on the likelihood that a firm i with characteristics X_{it} will go public on London Stock Exchange (LSE). Only the characteristics related to ownership and control are included together with the control variables. The samples only include independent companies. The dependent variable is 1 for private companies going public on LSE from 1993 to 2005, and 0 for companies eligible to list on LSE but staying private. The data for the IPO companies are measured one year before their IPOs. Eight industry dummies are used but not reported. The variables are defined in Appendix 2. The results reported are the coefficient estimate (in bold) and exponentiated odds ratio (in italic). The ownership variables are measured as the fraction of the total share, and the accounting variables are in GBP. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Model 1	Model 2	Model 3	Model 4	Model 5
pct_block	-2.908 *** <i>0.055</i>			-1.136 ** <i>0.321</i>	-2.107 *** <i>0.122</i>
pct_major		-2.366 *** <i>0.094</i>	-11.520 ** <i>0.000</i>		
logno_block_hol	0.715 ** <i>2.045</i>				
pct_man_l				11.707 ** <i>1.2E+05</i>	
pct_man_m				0.557 <i>1.746</i>	
pct_man_h				-3.224 *** <i>0.040</i>	
family_ind					0.510 <i>1.665</i>
VC_ind	0.979 *** <i>2.662</i>	0.970 *** <i>2.639</i>	0.926 *** <i>2.524</i>	0.959 *** <i>2.610</i>	1.156 *** <i>3.176</i>
big4_ind	0.251 <i>1.285</i>	0.396 ** <i>1.486</i>	0.386 ** <i>1.472</i>		
multi_class	-2.418 ** <i>0.089</i>	-2.689 *** <i>0.068</i>	-2.648 *** <i>0.071</i>	-2.694 *** <i>0.068</i>	-2.865 *** <i>0.057</i>
QuiScore	-0.009 <i>0.991</i>	-0.008 <i>0.992</i>	-0.008 <i>0.992</i>	-0.005 <i>0.995</i>	-0.004 <i>0.996</i>
major*TA			0.538 * <i>1.712</i>		
year_MTB	1.091 ** <i>2.976</i>	1.070 *** <i>2.916</i>	1.068 *** <i>2.911</i>	1.127 *** <i>3.087</i>	1.069 *** <i>2.911</i>
logTA	0.626 *** <i>1.869</i>	0.562 *** <i>1.754</i>	0.336 * <i>1.400</i>	0.677 *** <i>1.968</i>	0.632 *** <i>1.881</i>
sales_growth	4.715 *** <i>111.632</i>	4.611 *** <i>100.570</i>	4.620 *** <i>101.543</i>	4.766 *** <i>117.394</i>	4.910 *** <i>135.683</i>
capex	3.257 *** <i>25.963</i>	2.938 *** <i>18.873</i>	2.907 *** <i>18.303</i>	3.288 *** <i>26.790</i>	3.096 *** <i>22.113</i>
ROA	-1.595 <i>0.203</i>	-1.211 <i>0.298</i>	-1.051 <i>0.350</i>	-1.215 <i>0.297</i>	-1.484 <i>0.227</i>
leverage	0.965 <i>2.625</i>	1.202 <i>3.326</i>	1.195 <i>3.304</i>	1.282 * <i>3.603</i>	1.294 * <i>3.648</i>
logAge	-1.566 *** <i>0.209</i>	-1.471 *** <i>0.230</i>	-1.464 *** <i>0.231</i>	-1.510 *** <i>0.221</i>	-1.601 *** <i>0.202</i>
No. of IPOs	79	82	82	82	82
No. of Controls	32064	32861	32861	32861	32861
Log likelihood	0.631	0.611	0.614	0.614	0.605

**Table 10b: Ex Ante Determinants of IPOs on AIM/Ofex Related to Ownership
- The Complete Samples**

Logistic models are estimated on the likelihood that a firm i with characteristics X_{it} will go public on Alternative Investment Market (AIM)/Ofex. Only the characteristics related to ownership and control are included together with the control variables. The dependent variable is 1 for independent private companies going public on AIM/Ofex from 1993 to 2005, and 0 for independent companies eligible to list on AIM/Ofex but staying private. Eight industry dummies are used but not reported in each model. The data for the IPO companies are measured one year before their IPOs. The variables are defined in Appendix 2. The results reported are the coefficient estimate (in bold) and exponentiated odds ratio (in italic). The ownership variables are measured as the fraction of the total share, and the accounting variables are in GBP. The sample period is from 1992 to 2005. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Model 1	Model 2	Model 3	Model 4	Model 5
pct_block	-2.880 *** <i>0.056</i>			-2.714 *** <i>0.066</i>	-2.346 *** <i>0.096</i>
pct_major		-2.778 *** <i>0.062</i>	-10.463 ** <i>0.000</i>		
logno_block_hol	1.166 *** <i>3.209</i>				
pct_man_l				-5.569 <i>0.004</i>	
pct_man_m				9.295 *** <i>10886</i>	
pct_man_h				-0.042 <i>0.959</i>	
family_ind					1.583 *** <i>4.871</i>
VC_ind	0.318 <i>1.374</i>	0.368 <i>1.445</i>	0.366 <i>1.441</i>	0.672 ** <i>1.959</i>	0.693 ** <i>2.000</i>
big4_ind	-0.052 <i>0.950</i>	-0.094 <i>0.910</i>	-0.112 <i>0.894</i>		
multi_class	-1.650 <i>0.192</i>	-1.759 * <i>0.172</i>	-1.766 * <i>0.171</i>	-1.517 <i>0.219</i>	-1.451 <i>0.234</i>
QuiScore	0.029 *** <i>1.029</i>	0.030 *** <i>1.031</i>	0.031 *** <i>1.031</i>	0.030 *** <i>1.031</i>	0.030 *** <i>1.030</i>
major_TA			0.501 <i>1.650</i>		
year_MTB	1.265 *** <i>3.543</i>	1.254 *** <i>3.504</i>	1.273 *** <i>3.570</i>	1.203 *** <i>3.329</i>	1.068 ** <i>2.908</i>
logTA	0.534 *** <i>1.706</i>	0.565 *** <i>1.759</i>	0.346 * <i>1.414</i>	0.721 *** <i>2.056</i>	0.603 *** <i>1.827</i>
sales_growth	-0.009 <i>0.991</i>	-0.008 <i>0.992</i>	-0.008 <i>0.992</i>	-0.004 <i>0.996</i>	-0.005 <i>0.995</i>
capex	2.074 *** <i>7.957</i>	2.125 *** <i>8.371</i>	2.144 *** <i>8.535</i>	2.150 *** <i>8.588</i>	1.960 *** <i>7.102</i>
ROA	-1.765 * <i>0.171</i>	-1.914 * <i>0.147</i>	-1.896 * <i>0.150</i>	-1.839 <i>0.159</i>	-1.804 * <i>0.165</i>
leverage	-0.721 <i>0.486</i>	-0.732 <i>0.481</i>	-0.677 <i>0.508</i>	-0.794 <i>0.452</i>	-0.905 * <i>0.405</i>
logAge	0.816 *** <i>2.262</i>	0.823 *** <i>2.276</i>	0.817 *** <i>2.264</i>	0.944 *** <i>2.571</i>	0.818 *** <i>2.265</i>
No. of IPOs	46	48	48	48	48
No. of Controls	2841	2929	2929	2929	2929
Adj R-Square	0.262	0.264	0.270	0.306	0.277

Table 12b: The IPO Decision of Small Family Controlled Companies

Logistic models are estimated on the likelihood that a firm i with characteristics X_{it} will go public on Alternative Investment Market (AIM)/Ofex. The sample is confined to the family controlled independent companies, i.e. those with family shareholders being the largest shareholder and controlling more than 20% of the total shares. The dependent variable is 1 for independent private companies going public on AIM/Ofex from 1993 to 2005, and 0 for independent companies that are eligible to list on AIM/Ofex but stay private. Eight industry dummies are used but not reported in each model. The data for the IPO companies are measured one year before the IPOs. The variables are defined in Appendix 2. The results reported are the coefficient estimate (in bold) and exponentiated odds ratio (in italic). The ownership variables are measured as the fraction of the total share, and the accounting variables are in GBP. The sample period is from 1992 to 2005. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Model 1	Model 2	Model 3	Model 4
pct_block	-1.599 * <i>0.202</i>			-0.149 <i>0.862</i>
pct_major		-1.468 * <i>0.230</i>	-8.619 <i>0.000</i>	
logno_block_hol	0.502 <i>1.651</i>			
pct_man_l				7.698 <i>2204</i>
pct_man_m				5.294 <i>199</i>
pct_man_h				-2.362 * <i>0.094</i>
VC_ind	0.795 ** <i>2.214</i>	0.762 ** <i>2.143</i>	0.777 ** <i>2.175</i>	0.716 * <i>2.047</i>
big4_ind	0.077 <i>1.080</i>	0.071 <i>1.074</i>	0.088 <i>1.092</i>	
multi_class	-1.140 <i>0.320</i>	-1.191 <i>0.304</i>	-1.159 <i>0.314</i>	-1.082 <i>0.339</i>
QuiScore	0.023 ** <i>1.024</i>	0.024 ** <i>1.024</i>	0.025 ** <i>1.025</i>	0.023 ** <i>1.023</i>
major_TA			0.474 <i>1.607</i>	
year_MTB	1.006 * <i>2.736</i>	1.046 ** <i>2.845</i>	1.048 ** <i>2.851</i>	1.011 * <i>2.749</i>
logTA	0.614 *** <i>1.848</i>	0.640 *** <i>1.897</i>	0.385 <i>1.469</i>	0.717 *** <i>2.048</i>
sales_growth	-0.002 <i>0.998</i>	-0.002 <i>0.998</i>	-0.002 <i>0.998</i>	0.000 <i>1.000</i>
capex	1.763 *** <i>5.832</i>	1.779 *** <i>5.927</i>	1.805 *** <i>6.078</i>	1.853 *** <i>6.379</i>
ROA	-1.078 <i>0.340</i>	-1.153 <i>0.316</i>	-1.173 <i>0.310</i>	-0.955 <i>0.385</i>
leverage	-1.056 <i>0.348</i>	-1.023 <i>0.360</i>	-0.965 <i>0.381</i>	-0.890 <i>0.411</i>
logAge	0.863 *** <i>2.370</i>	0.870 *** <i>2.387</i>	0.880 *** <i>2.410</i>	0.911 *** <i>2.487</i>
No. of IPOs	35	35	35	35
No. of Controls	1428	1428	1428	1428
Log likelihood	0.224	0.223	0.226	0.242

Table 13b: The IPO Decision of Large Widely Held Companies

Logistic models are estimated on the likelihood that a firm i with characteristics X_{it} will go public on London Stock Exchange (LSE). The sample is confined to the widely held independent companies, i.e. those with no shareholders control more than 20% of the total shares. The dependent variable is 1 for independent private companies going public on LSE from 1993 to 2005, and 0 for independent companies that are eligible to list on LSE but stay private. Eight industry dummies are used but not reported in each model. The data for the IPO companies are measured one year before the IPOs. The variables are defined in Appendix 2. The results reported are the coefficient estimate (in bold) and exponentiated odds ratio (in italic). The ownership variables are measured as the fraction of the total share, and the accounting variables are in GBP. The sample period is from 1992 to 2005. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Model 1	Model 2	Model 3	Model 4
pct_block	-13.189 <i>0.000</i>			1.787 <i>5.972</i>
pct_major		-3.009 <i>0.049</i>	22.785 <i>7.9E+09</i>	
logno_block_hol	2.971 <i>19.517</i>			
pct_man_l				8.809 <i>6693</i>
pct_man_m				-7.527 <i>0</i>
pct_man_h				-2.412 <i>0.090</i>
VC_ind	1.821 *** <i>6.179</i>	1.349 ** <i>3.855</i>	1.411 ** <i>4.100</i>	1.106 ** <i>3.023</i>
big4_ind	1.028 * <i>2.795</i>	1.351 *** <i>3.863</i>	1.368 *** <i>3.928</i>	
multi_class	-12.243 <i>0.000</i>	-11.687 <i>0.000</i>	-11.673 <i>0.000</i>	-11.661 <i>0.000</i>
QuiScore	0.040 <i>1.041</i>	0.016 <i>1.016</i>	0.015 <i>1.015</i>	0.017 <i>1.017</i>
major_TA			-1.609 <i>0.200</i>	
year_MTB	-1.147 <i>0.318</i>	-0.686 <i>0.504</i>	-0.700 <i>0.497</i>	-0.442 <i>0.643</i>
logTA	-0.239 <i>0.787</i>	-0.303 <i>0.739</i>	-0.140 <i>0.869</i>	0.037 <i>1.038</i>
sales_growth	0.521 <i>1.683</i>	3.846 ** <i>46.803</i>	3.894 ** <i>49.113</i>	3.297 * <i>27.028</i>
capex	5.281 ** <i>196.5</i>	2.526 <i>12.502</i>	2.535 <i>12.621</i>	2.785 <i>16.196</i>
ROA	-18.042 ** <i>0.000</i>	-4.966 <i>0.007</i>	-4.771 <i>0.008</i>	-5.853 <i>0.003</i>
leverage	4.868 * <i>129.998</i>	2.776 <i>16.048</i>	2.772 <i>15.986</i>	3.229 * <i>25.246</i>
logAge	-1.641 * <i>0.194</i>	-0.431 <i>0.650</i>	-0.427 <i>0.653</i>	-0.662 <i>0.516</i>
No. of IPOs	13	16	16	16
No. of Controls	1689	2486	2486	2486
Log likelihood	0.764	0.671	0.671	0.637

Table 15b: Ex Ante Determinants of IPOs on LSE
– The Complete Samples

Logistic models are estimated on the likelihood that a firm i with characteristics X_{it} will go public on London Stock Exchange (LSE). The dependent variable is 1 for private companies going public on LSE from 1993 to 2005, and 0 for companies eligible to list on LSE but staying private. Only independent companies are included. The data for the IPO companies are measured one year before their IPOs. The variables are defined in Appendix 2. There are 8 models because of the correlation among some independent variables. The results reported are the coefficient estimate (in bold) and exponentiated odds ratio (in italic). The ownership variables are measured as the fraction of the total share, and the accounting variables are in GBP. The sample period is from 1992 to 2005. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
pct_block	-1.133 ** <i>0.322</i>	-1.061 * <i>0.346</i>	-2.813 *** <i>0.060</i>	-2.716 *** <i>0.066</i>			-2.141 *** <i>0.118</i>	-2.059 *** <i>0.128</i>
pct_maj					-15.700 *** <i>0.000</i>	15.027 *** <i>0.000</i>		
major_TA					0.782 ** <i>2.187</i>	0.747 ** <i>2.112</i>		
logno_block_hol			0.782 ** <i>2.187</i>	0.749 ** <i>2.115</i>				
pct_man_l	12.006 ** <i>1.6E+05</i>	12.037 ** <i>1.7E+05</i>						
pct_man_m	0.965 <i>2.625</i>	0.801 <i>2.227</i>						
pct_man_h	-3.244 *** <i>0.039</i>	-3.166 *** <i>0.042</i>						
family_ind							0.610 * <i>1.840</i>	0.627 * <i>1.873</i>
VC_ind	0.983 *** <i>2.674</i>	0.955 *** <i>2.598</i>	0.964 *** <i>2.623</i>	0.939 *** <i>2.559</i>	0.912 *** <i>2.489</i>	0.888 *** <i>2.431</i>	1.191 *** <i>3.290</i>	1.149 *** <i>3.155</i>
multi_class	-2.471 *** <i>0.084</i>	-2.655 *** <i>0.070</i>	-2.338 ** <i>0.096</i>	-2.570 ** <i>0.077</i>	-2.389 *** <i>0.092</i>	-2.532 *** <i>0.080</i>	-2.582 *** <i>0.076</i>	-2.755 *** <i>0.064</i>
big4_ind			0.267 <i>1.306</i>	0.251 <i>1.286</i>	0.401 ** <i>1.493</i>	0.382 ** <i>1.465</i>		
QuiScore	-0.006 <i>0.994</i>	-0.004 <i>0.996</i>	-0.012 <i>0.988</i>	-0.010 <i>0.990</i>	-0.011 <i>0.989</i>	-0.009 <i>0.991</i>	-0.005 <i>0.995</i>	-0.003 <i>0.997</i>
cash_deficit		1.459 * <i>4.304</i>		1.615 * <i>5.026</i>		1.204 <i>3.335</i>		1.621 * <i>5.058</i>
high_tech	-0.389 <i>0.678</i>	-0.549 <i>0.577</i>	-0.413 <i>0.662</i>	-0.620 <i>0.538</i>	-0.438 <i>0.645</i>	-0.586 <i>0.556</i>	-0.338 <i>0.713</i>	-0.508 <i>0.602</i>
dividend_ind	-0.155 <i>0.856</i>	-0.123 <i>0.884</i>	-0.066 <i>0.936</i>	-0.040 <i>0.961</i>	-0.114 <i>0.893</i>	-0.079 <i>0.924</i>	-0.117 <i>0.889</i>	-0.090 <i>0.914</i>
industry_pub	0.861 *** <i>2.365</i>	0.885 *** <i>2.424</i>	0.750 *** <i>2.116</i>	0.774 *** <i>2.167</i>	0.891 *** <i>2.439</i>	0.912 *** <i>2.490</i>	0.804 *** <i>2.234</i>	0.836 *** <i>2.307</i>
year_MTB	1.288 *** <i>3.625</i>	1.308 *** <i>3.699</i>	1.231 *** <i>3.424</i>	1.252 *** <i>3.498</i>	1.248 *** <i>3.482</i>	1.269 *** <i>3.556</i>	1.209 *** <i>3.349</i>	1.225 *** <i>3.403</i>
industry_MTB	-0.253 <i>0.776</i>	-0.338 <i>0.713</i>	-0.152 <i>0.859</i>	-0.233 <i>0.792</i>	-0.345 <i>0.708</i>	-0.407 <i>0.665</i>	-0.209 <i>0.812</i>	-0.304 <i>0.738</i>

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
LogTA	0.640 *** <i>1.897</i>	0.648 *** <i>1.912</i>	0.585 *** <i>1.794</i>	0.590 *** <i>1.804</i>	0.176 <i>1.193</i>	0.199 <i>1.220</i>	0.593 *** <i>1.809</i>	0.603 *** <i>1.828</i>
sales_growth	4.692 *** <i>109.041</i>	4.430 *** <i>83.960</i>	4.724 *** <i>112.619</i>	4.425 *** <i>83.494</i>	4.748 *** <i>115.324</i>	4.533 *** <i>93.077</i>	4.866 *** <i>129.834</i>	4.565 *** <i>96.024</i>
capex	3.103 *** <i>22.275</i>	3.044 *** <i>20.979</i>	3.048 *** <i>21.074</i>	2.994 *** <i>19.968</i>	2.771 *** <i>15.968</i>	2.715 *** <i>15.099</i>	2.938 *** <i>18.883</i>	2.875 *** <i>17.719</i>
ROA	-0.148 <i>0.862</i>		-0.555 <i>0.574</i>		0.020 <i>1.020</i>		-0.478 <i>0.620</i>	
leverage	1.273 * <i>3.571</i>	1.150 <i>3.160</i>	0.963 <i>2.618</i>	0.901 <i>2.463</i>	1.187 <i>3.278</i>	1.134 <i>3.108</i>	1.287 * <i>3.623</i>	1.163 <i>3.201</i>
LogAge	-1.535 *** <i>0.215</i>	-1.527 *** <i>0.217</i>	-1.581 *** <i>0.206</i>	-1.574 *** <i>0.207</i>	-1.482 *** <i>0.227</i>	-1.482 *** <i>0.227</i>	-1.627 *** <i>0.197</i>	-1.617 *** <i>0.199</i>
export	2.361 *** <i>10.601</i>	2.316 *** <i>10.133</i>	2.591 *** <i>13.343</i>	2.559 *** <i>12.925</i>	2.684 *** <i>14.645</i>	2.634 *** <i>13.931</i>	2.458 *** <i>11.682</i>	2.432 *** <i>11.385</i>
No. of IPOs	82	82	79	79	82	82	82	82
No. of Controls	32835	32802	32038	32007	32835	32802	32835	32802
Log likelihood	0.628	0.631	0.646	0.649	0.631	0.633	0.620	0.623

Appendix 6: Proportional Hazard Models with Matched Samples

The following tables report the proportional hazard models with control samples matched by firm size and industry for Tables 5, 9, 11 and 16. These are robustness tests to the previously reported bootstrapping results with smaller control samples. Because the two matched groups are in the same industry, I exclude the industry median MTB and the dummy indicating industries with extensive public relations in the models. The high tech indicator is not excluded because it is based on finer segmentation, and may still have different values within the same industry as defined in the matching procedure.

Table 5b: Ex Ante Informational Determinants of IPO on LSE or AIM/Ofex with Matched Samples

Cox's (1972) proportional hazard models are estimated on the likelihood $h_i(t) = h_0(t) \exp(X_{it}\beta)$ that a firm i with characteristics X_{it} will go public on London Stock Exchange (LSE) or Alternative Investment Market (AIM) or Ofex. Only the characteristics related to informational costs or benefits are included together with the control variables. The dependent variable is 1 for independent private companies going public on LSE or AIM/Ofex from 1993 to 2005, and 0 for independent companies eligible to list on LSE but staying private, matched by industry and size. Firms not observed to make these choices by December 2005 are treated as right-censored. Models 1 and 2 include one of the two highly correlated variables ROA and Free Cash Flow, respectively. The accounting variables are lagged by one year except sales growth. The static variables such as age and MTB ratios are measured in the year of IPO. The variables are defined in Appendix 2. The results reported are the coefficient estimate (in bold) and hazard ratio (in italic). The hazard ratio gives an estimate of how much the hazard of the event increases for a unit change in the covariate. The accounting variables are in GBP. The sample period is from 1992 to 2005. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Model 1		Model 2	
	LSE	AIM/Ofex	LSE	AIM/Ofex
high_tech	-0.552 * <i>0.576</i>	-1.312 ** <i>0.269</i>	-0.484 * <i>0.616</i>	-1.363 ** <i>0.256</i>
big4_ind	0.971 *** <i>2.641</i>	-0.108 <i>0.898</i>	1.001 *** <i>2.72</i>	-0.006 <i>0.994</i>
dividend_ind	0.432 ** <i>1.541</i>	0.944 *** <i>2.571</i>	0.385 ** <i>1.47</i>	0.949 *** <i>2.584</i>
year_MTB	0.510 * <i>1.665</i>	0.269 <i>1.309</i>	0.425 * <i>1.529</i>	0.218 <i>1.243</i>
logTA	0.173 *** <i>1.189</i>	0.243 ** <i>1.275</i>	0.156 *** <i>1.169</i>	0.156 <i>1.169</i>
sales_growth	2.298 *** <i>9.957</i>	-0.007 <i>0.993</i>	2.394 *** <i>10.954</i>	-0.007 <i>0.993</i>
capex	0.327 <i>1.387</i>	1.025 *** <i>2.787</i>	0.255 <i>1.291</i>	1.040 *** <i>2.829</i>
leverage	0.613 * <i>1.845</i>	-1.290 *** <i>0.275</i>	0.550 * <i>1.734</i>	-1.321 *** <i>0.267</i>
logAge	-0.412 *** <i>0.663</i>	0.323 *** <i>1.381</i>	-0.411 *** <i>0.663</i>	0.297 *** <i>1.345</i>
ROA			-0.015 <i>0.985</i>	-1.033 ** <i>0.356</i>
FCF	-0.506 * <i>0.603</i>	-0.809 *** <i>0.445</i>		
export	0.105 <i>1.111</i>	-0.092 <i>0.912</i>	0.111 <i>1.118</i>	-0.107 <i>0.899</i>
No. of IPOs	156	92	156	93
No. of Controls	731	320	732	324
Log likelihood	2061.795	1036.725	2064.52	1054.28
Pr > χ^2	<.0001	<.0001	<.0001	<.0001

Table 9b: Ex Ante Determinants of IPO on LSE Related to Ownership with Matched Samples

Cox's (1972) proportional hazard models are estimated on the likelihood $h_i(t)=h_0(t)\exp(X_{it}\beta)$ that a firm i with characteristics X_{it} will go public on London Stock Exchange (LSE). Only the characteristics related to ownership and control are included together with the control variables. The dependent variable is 1 for independent private companies going public on LSE from 1993 to 2005, and 0 for independent companies matched by industry and size that are eligible to list on LSE but stay private. Firms not observed to make these choices by December 2005 are treated as right-censored. Eight industry dummies are used but not reported in each model. The data for the IPO companies are measured one year before their IPOs. The variables are defined in Appendix 2. The results reported are the coefficient estimate (in bold) and hazard ratio (in italic). The hazard ratio gives an estimate of how much the hazard of the event increases for a unit change in the covariate. The ownership variables are measured as the fraction of the total share, and the accounting variables are in GBP. The sample period is from 1992 to 2005. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Model 1	Model 2	Model 3	Model 4	Model 5
pct_block	-0.953 <i>0.386</i>			0.082 <i>1.085</i>	-0.644 <i>0.525</i>
pct_major		-1.480 ** <i>0.228</i>	-16.441 ** <i>0.000</i>		
logno_block_hol	0.644 ** <i>1.905</i>				
pct_man_l				8.746 <i>6287</i>	
pct_man_m				-0.685 <i>0.504</i>	
pct_man_h				-2.178 * <i>0.113</i>	
family_ind					0.064 <i>1.066</i>
VC_ind	0.826 *** <i>2.284</i>	0.762 ** <i>2.142</i>	0.645 ** <i>1.905</i>	0.670 ** <i>1.953</i>	0.837 *** <i>2.310</i>
big4_ind	0.663 * <i>1.940</i>	0.618 * <i>1.856</i>	0.544 <i>1.723</i>		
multi_class	-1.168 <i>0.311</i>	-1.226 <i>0.294</i>	-1.172 <i>0.310</i>	-0.625 <i>0.535</i>	-1.152 <i>0.316</i>
QuiScore	-0.005 <i>0.995</i>	-0.005 <i>0.995</i>	-0.006 <i>0.994</i>	-0.002 <i>0.998</i>	-0.002 <i>0.998</i>
major_TA			0.883 ** <i>2.418</i>		
year_MTB	0.218 <i>1.244</i>	0.143 <i>1.154</i>	0.190 <i>1.210</i>	0.190 <i>1.209</i>	0.243 <i>1.276</i>
logTA	0.032 <i>1.033</i>	0.035 <i>1.036</i>	-0.230 <i>0.795</i>	0.111 <i>1.118</i>	0.090 <i>1.094</i>
sales_growth	0.490 <i>1.633</i>	0.766 <i>2.150</i>	0.877 <i>2.405</i>	0.910 <i>2.484</i>	0.954 <i>2.596</i>
capex	0.951 * <i>2.587</i>	0.732 <i>2.079</i>	0.638 <i>1.893</i>	0.885 <i>2.423</i>	0.955 * <i>2.598</i>
ROA	-0.191 <i>0.826</i>	0.004 <i>1.004</i>	0.261 <i>1.298</i>	0.202 <i>1.224</i>	-0.427 <i>0.652</i>
leverage	0.139 <i>1.149</i>	0.156 <i>1.169</i>	0.078 <i>1.081</i>	-0.087 <i>0.916</i>	0.234 <i>1.263</i>
logAge	-0.628 *** <i>0.534</i>	-0.568 *** <i>0.567</i>	-0.558 *** <i>0.572</i>	-0.595 *** <i>0.552</i>	-0.679 *** <i>0.507</i>
No. of IPOs	65	65	65	65	65
No. of Controls	202	202	202	202	202
Log likelihood	600.92	616.81	611.85	617.63	623.71
Pr > χ^2	<.0001	<.0001	<.0001	<.0001	<.0001

Table 11b: Ex Ante Determinants of IPOs on AIM/Ofex Related to Ownership with Matched Samples

Cox's (1972) proportional hazard models are estimated on the likelihood $h_i(t)=h_0(t)\exp(X_{it}\beta)$ that a firm i with characteristics X_{it} will go public on Alternative Investment Market (AIM)/Ofex. Only the characteristics related to ownership and control are included together with the control variables. The dependent variable is 1 for independent private companies going public on AIM/Ofex from 1993 to 2005, and 0 for independent companies matched by industry and size that are eligible to list on AIM/Ofex but stay private. Firms not observed to make these choices by December 2005 are treated as right-censored. Eight industry dummies are used but not reported. The data for the IPO companies are measured one year before their IPOs. The variables are defined in Appendix 2. The results reported are the coefficient estimate (in bold) and hazard ratio (in italic). The hazard ratio gives an estimate of how much the hazard of the event increases for a unit change in the covariate. The ownership variables are measured as the fraction of the total share, and the accounting variables are in GBP. The sample period is from 1992 to 2005. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Model 1	Model 2	Model 3	Model 4	Model 5
pct_block	-1.101 <i>0.333</i>			-1.990 ** <i>0.137</i>	-1.734 ** <i>0.177</i>
pct_major		-1.450 ** <i>0.234</i>	-2.257 <i>0.105</i>		
logno_block_hol	0.614 * <i>1.847</i>				
pct_man_l				-7.972 <i>0.000</i>	
pct_man_m				7.270 <i>1437</i>	
pct_man_h				-0.374 <i>0.688</i>	
family_ind					1.149 ** <i>3.156</i>
VC_ind	-0.953 <i>0.385</i>	-0.991 <i>0.371</i>	-0.981 <i>0.375</i>	-0.575 <i>0.563</i>	-0.597 <i>0.551</i>
big4_ind	0.249 <i>1.282</i>	0.112 <i>1.118</i>	0.110 <i>1.116</i>		
multi_class	-1.474 <i>0.229</i>	-1.527 <i>0.217</i>	-1.517 <i>0.219</i>	-1.273 <i>0.280</i>	-1.182 <i>0.307</i>
QuiScore	0.023 ** <i>1.023</i>	0.022 ** <i>1.022</i>	0.022 ** <i>1.022</i>	0.020 * <i>1.021</i>	0.024 ** <i>1.024</i>
major_TA			0.053 <i>1.054</i>		
year_MTB	1.009 <i>2.742</i>	1.080 * <i>2.944</i>	1.079 * <i>2.943</i>	0.922 <i>2.515</i>	1.118 * <i>3.059</i>
logTA	0.176 <i>1.192</i>	0.231 <i>1.260</i>	0.210 <i>1.233</i>	0.254 <i>1.289</i>	0.336 * <i>1.399</i>
sales_growth	-0.004 <i>0.996</i>	-0.005 <i>0.995</i>	-0.005 <i>0.995</i>	0.003 <i>1.003</i>	0.001 <i>1.001</i>
capex	0.998 *** <i>2.713</i>	0.953 ** <i>2.593</i>	0.949 ** <i>2.583</i>	1.001 *** <i>2.720</i>	1.011 *** <i>2.749</i>
ROA	-1.206 <i>0.299</i>	-1.348 <i>0.260</i>	-1.343 <i>0.261</i>	-1.398 <i>0.247</i>	-1.865 <i>0.155</i>
leverage	-0.513 <i>0.599</i>	-0.526 <i>0.591</i>	-0.514 <i>0.598</i>	-0.756 <i>0.469</i>	-0.639 <i>0.528</i>
logAge	0.197 <i>1.218</i>	0.185 <i>1.203</i>	0.183 <i>1.201</i>	0.250 <i>1.284</i>	0.224 <i>1.250</i>
No. of IPOs	41	41	41	41	41
No. of Controls	110	110	110	110	110
Log likelihood	358.35	368.86	368.85	373.37	375.43
Pr > χ^2	0.0002	<.0001	0.0001	<.0001	<.0001

Table 16b: Ex Ante Determinants of IPOs on LSE with Matched Samples

Cox's (1972) proportional hazard models are estimated on the likelihood $h_i(t)=h_0(t)\exp(X_{it}\beta)$ that a firm i with characteristics X_{it} will go public on London Stock Exchange (LSE). The dependent variable is 1 for private companies going public on LSE from 1993 to 2005, and 0 for companies eligible to list on LSE but staying private. Firms not observed to make these choices by December 2005 are treated as right-censored. Only independent companies are included. The control firms are matched by size and industry. The data for the IPO companies are measured one year before their IPOs. The variables are defined in Appendix 2. There are 8 models because of the correlation among some independent variables. The results reported are the coefficient estimate (in bold) and hazard ratio (in italic). The hazard ratio gives an estimate of how much the hazard of the event increases for a unit change in the covariate. The ownership variables are measured as the fraction of the total share, and the accounting variables are in GBP. The sample period is from 1992 to 2005. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
pct_block	-0.046 <i>0.955</i>	-0.078 <i>0.925</i>	-1.029 * <i>0.357</i>	-1.083 * <i>0.339</i>			-0.696 <i>0.499</i>	-0.741 <i>0.477</i>
pct_maj					-14.768 ** <i>0.000</i>	-14.834 ** <i>0.000</i>		
major_TA					0.788 ** <i>2.199</i>	0.790 ** <i>2.203</i>		
logno_block_hol			0.648 ** <i>1.912</i>	0.658 ** <i>1.930</i>				
pct_man_l	6.623 <i>752.1</i>	6.591 <i>728.6</i>						
pct_man_m	-0.423 <i>0.655</i>	-0.391 <i>0.676</i>						
pct_man_h	-1.992 * <i>0.136</i>	-1.950 * <i>0.142</i>						
family_ind							0.161 <i>1.175</i>	0.158 <i>1.171</i>
VC_ind	0.681 ** <i>1.977</i>	0.694 ** <i>2.002</i>	0.770 ** <i>2.160</i>	0.781 ** <i>2.183</i>	0.703 ** <i>2.020</i>	0.718 ** <i>2.050</i>	0.828 ** <i>2.288</i>	0.835 <i>2.305</i>
multi_class	-0.908 <i>0.403</i>	-0.902 <i>0.406</i>	-0.988 <i>0.372</i>	-0.936 <i>0.392</i>	-1.090 * <i>0.336</i>	-1.077 * <i>0.341</i>	-1.082 <i>0.339</i>	-1.047 <i>0.351</i>
big4_ind			0.657 * <i>1.928</i>	0.664 * <i>1.942</i>	0.540 * <i>1.716</i>	0.540 * <i>1.716</i>		
QuiScore	-0.008 <i>0.992</i>	-0.007 <i>0.993</i>	-0.012 <i>0.988</i>	-0.012 * <i>0.988</i>	-0.011 <i>0.989</i>	-0.011 <i>0.989</i>	-0.007 <i>0.993</i>	-0.007 <i>0.993</i>
cash_deficit		-0.250 <i>0.778</i>		-0.326 <i>0.722</i>		-0.293 <i>0.746</i>		-0.163 <i>0.850</i>
high_tech	-0.194 <i>0.824</i>	-0.124 <i>0.884</i>	-0.187 <i>0.829</i>	-0.072 <i>0.931</i>	-0.311 <i>0.733</i>	-0.200 <i>0.819</i>	-0.104 <i>0.901</i>	-0.042 <i>0.959</i>
dividend_ind	0.204 <i>1.226</i>	0.203 <i>1.225</i>	0.144 <i>1.155</i>	0.109 <i>1.115</i>	0.116 <i>1.124</i>	0.102 <i>1.107</i>	0.223 <i>1.249</i>	0.173 <i>1.189</i>
industry_pub	0.154 <i>1.167</i>	0.158 <i>1.171</i>	0.005 <i>1.005</i>	-0.009 <i>0.992</i>	0.255 <i>1.290</i>	0.258 <i>1.294</i>	0.066 <i>1.068</i>	0.049 <i>1.051</i>
year_MTB	0.155 <i>1.168</i>	0.185 <i>1.203</i>	0.249 <i>1.282</i>	0.241 <i>1.273</i>	0.291 <i>1.338</i>	0.318 <i>1.375</i>	0.217 <i>1.242</i>	0.183 <i>1.201</i>
industry_MTB	0.207 <i>1.230</i>	0.185 <i>1.203</i>	0.163 <i>1.177</i>	0.148 <i>1.159</i>	0.031 <i>1.031</i>	0.012 <i>1.012</i>	0.233 <i>1.263</i>	0.237 <i>1.268</i>

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
LogTA	0.121	0.123	0.078	0.078	-0.202	-0.202	0.119	0.119
	<i>1.129</i>	<i>1.131</i>	<i>1.081</i>	<i>1.081</i>	<i>0.817</i>	<i>0.817</i>	<i>1.126</i>	<i>1.126</i>
sales_growth	1.085 *	1.149 *	0.705	0.820	1.063 *	1.142 *	1.192 *	1.259 *
	<i>2.961</i>	<i>3.156</i>	<i>2.025</i>	<i>2.271</i>	<i>2.896</i>	<i>3.132</i>	<i>3.294</i>	<i>3.523</i>
capex	1.061 *	1.048 *	1.078 *	1.085 *	0.842	0.847	1.051 *	1.071 *
	<i>2.890</i>	<i>2.853</i>	<i>2.938</i>	<i>2.959</i>	<i>2.322</i>	<i>2.333</i>	<i>2.862</i>	<i>2.920</i>
ROA	0.474		0.289		0.394		-0.108	
	<i>1.607</i>		<i>1.336</i>		<i>1.482</i>		<i>0.898</i>	
leverage	0.059	0.110	0.051	0.038	0.193	0.224	0.351	0.305
	<i>1.061</i>	<i>1.116</i>	<i>1.052</i>	<i>1.038</i>	<i>1.213</i>	<i>1.251</i>	<i>1.420</i>	<i>1.357</i>
LogAge	-0.601 ***	-0.626 ***	-0.566 ***	-0.589 ***	-0.522 ***	-0.547 ***	-0.638 ***	-0.644 ***
	<i>0.548</i>	<i>0.535</i>	<i>0.568</i>	<i>0.555</i>	<i>0.593</i>	<i>0.579</i>	<i>0.528</i>	<i>0.525</i>
export	0.538	0.546	0.555	0.561	0.681	0.702	0.665	0.667
	<i>1.713</i>	<i>1.727</i>	<i>1.742</i>	<i>1.752</i>	<i>1.975</i>	<i>2.018</i>	<i>1.945</i>	<i>1.949</i>
No. of IPOs	65	65	65	65	65	65	65	65
No. of Controls	374	374	374	374	374	374	374	374
Log likelihood	644.99	644.89	625.97	625.62	637.95	637.69	649.40	649.30
Pr > χ^2	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001