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Why do companies delist voluntarily from the stock market?

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Title: Why do companies delist voluntarily from the stock market?

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Why Do Companies Delist Voluntarily from the Stock Market?

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Abstract

We analyse the motives and market valuation of various forms of stock market delisting. We show that firms that delist voluntarily are likely to have come to the market to rebalance their leverage rather than to finance their growth opportunities. During their public life, their leverage remained very high, they could not raise equity capital, and their profitability, growth opportunities, and trading volume declined substantially. Their stock prices decrease significantly on and before the announcement date. These results hold even after controlling for agency, asymmetric information, and liquidity effects, and suggest that firms delist voluntarily when they fail to benefit from listing.

Keywords: Small firms; AIM; London Stock Exchange; Leverage; Delisting; IPO

JEL classification: G14, G32

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Why Do Companies Delist Voluntarily from the Stock Market?

1. Introduction

Over the last few years, an increasing number of quoted firms delist from the London's Alternative Investment Market (AIM). The most common method, accounting for nearly half of the delisted firms from AIM, is “*at the request of the company*”, referred to thereafter as voluntary delisting,¹ where firms notify the London Stock Exchange to cancel their trading on the exchange at least 20 days before the actual event, get an approval from no less than 75% of shareholders at a general meeting, and then become private. Their existing shareholders have two options: either sell their shares before the delisting date or remain shareholders in what will become a privately owned company. Unlike other forms of delisting, such as transfer to the more regulated Main market, breach of regulation, takeovers or going private through buyouts, shareholders can still keep their old shares. However, in contrast to US firms that deregister with the SEC to become “dark companies” with their shares traded over-the-counter (OTC) on the Pink Sheets (Marosi and Massoud, 2007 and Leuz et al., 2008), in the UK, the delisted firms' shares remain private and illiquid.

The reasons and consequences of such delisting decision remain an open question. In this paper, we contrast the different methods of delisting, focussing particularly on voluntarily delisting. We assess whether firms trade off the costs and benefits of being listed in the stock market when they decide to delist as shown by Maupin et al. (1984), Kaplan

¹ The Financial Times dated April 28, 2011 reports that “the first quarter saw 30 delistings, down from 51 in the first quarter of 2010. But news emerged ahead of the Easter break of two more companies asking shareholders for permission to leave. Both have been on AIM for several years....” The number of listed firms on AIM reached a peak of 1,694 in 2007, including 394 international companies, but in February 2012 there are only 1,122 split into 897 domestic and 225 foreign firms. The total market valuation also decreased over the same period from £98bn to £71bn.

(1991) and Bharath and Dittmar (2010) in the case of going private. We test the hypothesis that firms delist voluntarily because they are unable to obtain funding from AIM to rebalance their capital structure, even though this factor is one of the major motivations for IPOs (e.g., Aslan and Kumar, 2011; Bharath and Dittmar, 2010; Kim and Weisbach, 2005; Marosi and Massoud, 2007). We also use hand-collected data from prospectuses to assess the reasons for listing and whether the delisting decision can be predicted at the IPO date, and stock price data to evaluate whether such a decision creates or destroys shareholder value.

We find that voluntarily delisted firms are significantly different from size and IPO-date control firms, and from firms that delist to transfer to the Main market, or because of takeovers or breach of legislation. We show that voluntary delisting, like delisting because of breach of regulation, is more likely to occur about 4 years after the IPO date, compared to the 2 years for IPOs that transfer to Main market and takeovers. At the IPO date, voluntary delisted firms and those that delisted because of regulation have significantly higher leverage than their control groups, in contrast to those that delist to transfer to the Main market or through takeovers, but the other IPO fundamental characteristics, including first day return and venture capital backing, cannot predict any of the delisting methods. However, when we measure our variables over the quotation period, or one year before the delisting date, we find that voluntary delisted firms remain highly leveraged, with low growth opportunities and profitability, and generate significantly lower returns than the control firms, in contrast to firms that transfer to the Main market which have significantly higher excess returns and lower beta. The voluntary delisted firms and those that delisted because of regulation are also less likely to have raised equity capital or to be from high tech sector. Thus, in line with the market access hypothesis, voluntary delisted firms are likely to have come to the market to rebalance their capital structure, but during their public life, they failed to raise additional capital and to create growth options, and their insider ownership remained significantly high.

Interestingly, these firms are not likely to have lower liquidity and financial visibility, as measured by stock turnover, trading volume and stock volatility, than the control firms and firms that transfer to the Main market.

We find similar results when we follow our firms throughout their listing period. We show that during the first two years of listing, leverage of delisted firms increased, but their profitability and equity market value decreased, while their market to book, used as a proxy for growth opportunities, remained relatively constant. These results are in contrast to firms that transferred to the Main market which continue to exhibit lower leverage but higher growth opportunities, profitability and market value of equity. We also compare changes in these characteristics between the IPO and delisting year. We find significant increase in leverage and a decrease in firm value and trading volume. Interestingly, insider ownership increased from 44 to 56%, suggesting that the owners wanted to maintain significant control and probably not to keep their firm public indefinitely. In contrast, insider ownership of firms that transfer to the Main market declined from 20 to 12% and their equity market value, trading volume and stock turnover, increased significantly over the two periods.

We test for robustness by using the Cox proportional hazard model to investigate the determinants of the delisting decision given changes that happen to the firms' characteristics over time. We find that leverage and growth opportunities, as measured by market-to-book ratio or capital expenditure, and the lack of seasoned equity offerings explain significantly the decision to delist voluntarily. The results of hazard rates, used to assess how much the hazard of the delisting event increases for a unit change in the explanatory variable, show that the marginal effect of leverage is the most important factor. Our results imply that firms that do not raise equity capital, as they have high debt and low growth opportunities and capital expenditure, are more likely to choose to delist voluntarily. Unlike going private through buyouts where firms have high free cash flow (Lehn and Poulsen, 1989), and in contrast to

Pagano et al. (1998), Brav (2009) and Aslan and Kumar (2011), we show that firms delist when they are not able to reduce their leverage mainly because they are not able to raise additional equity capital during their public life. In contrast, firms that transfer to the Main market have good investment opportunities, are able to raise additional equity capital when they are quoted on AIM, and they are more likely to transfer to a bigger market to increase their funding potentials. Overall, these results suggest that the lack of financing opportunities is likely to motivate managers to delist voluntary from the stock market.

Finally, we investigate the market reaction to the delisting announcement. Using the standard event study methodology, we find that, over one year pre-event period, voluntary delisted firms, like firms that delist because of breach of regulation, generate significant negative returns of about 2%, compared to +14% for firms that transfer to the Main market. On the event period [-5, +5] their excess returns are -10%, in line with the -9% and -12% reported by Leuz et al. (2008) and Marosi and Massoud (2007), respectively, but we contribute to this literature by showing that over-levered firms generate significantly lower returns on the announcement date, suggesting that the market reaction depends on the severity of leverage, i.e., the inability of firms to raise equity capital. In contrast, firms that transfer to the Main market generate strong positive excess returns, but, unlike Jenkinson and Ramadorai (2008), these excess returns are limited to the pre-event period. Firms that delist through takeovers generate negative returns of about 20% over [-20, +20] period. These results suggest that, unlike Gerakos et al. (2011), not all firms quoted on AIM underperform. Some that do, find it more appropriate to delist, but others use AIM quotation as a backdoor to enter the Main market, when they prove that they can perform well and they can comply with its requirements, implying that AIM does not cater for IPOs that need more funding to finance their high growth prospects and those that came to rebalance their balance sheet.

We expand previous evidence in several ways. Croci and Del Giudice (2012) show that across a sample of European countries, minority shareholders do not earn lower abnormal returns when the controlling shareholder takes the company private, and there is no evidence of performance improvement after the delisting. In the U.S., Marosi and Massoud (2007) find that the Sarbanes-Oxley Act (SOX) and the compliance cost are the major determinant of the delisting decision. Leuz et al. (2008) find a large impact of the SOX and the free cash flow problem associated with the agency cost are highly significant. They also include leverage as a control variable but they provide mixed evidence as leverage is only significant in the post-SOX period. Both these studies include financial firms for which leverage is difficult to measure and its interpretation is affected by capital requirements and investor insurance schemes, making the comparison with non-financial companies difficult (e.g., Rajan and Zingales, 1995). Other studies also investigate delisted companies in the US (Hensler et al., 1997; Jain and Kini, 1999, 2000; and Fama and French, 2004), in Europe (Vismara et al., 2012), and in the UK (Espenlaub et al., 2012). However, these studies do not distinguish between the types of delisting, as they mainly assess the characteristics of companies which survive compared to firms that delist from the trading exchange for negative reasons. We find that the agency conflicts are less likely to affect the decision to delist, which is more likely to be related to the lack of access to financing. However, firms which transfer to the relatively more regulated Main market may do so to reduce the free cash flow problem given their low managerial ownership, small leverage, and high profitability. Overall, not all firms benefit from listing on the stock exchange, and when the motivations for listing are not achieved, firms prefer to delist even though this makes them forego the substantial costs incurred when they made the decision to come to the stock market. Moreover, since this decision is taken after an average of about four years of listing, our results imply that voluntary delisted firms were not able to benefit fully from their listing.

The rest of the paper is structured as follows. Section 2 provides a review of the literature and sets up the hypotheses. Section 3 presents the data and methodology. Section 4 discusses the results, and the conclusions are in Section 5.

2. Review of Literature and Hypotheses

In this section, we discuss the UK institutional setting and the theories underlying the delisting decision.

2.1. Delisting procedures in the US versus the UK

In the US, the delisting process goes through two steps. First, companies need to delist from the exchange (NYSE, AMEX, or NASDAQ), which may take about 21 days, depending on the exchange. In this situation, they will trade over the counter or on the Pink Sheets. The firm may then intend to deregister from the Securities and Exchange Commission (SEC). In doing so, the company needs to file a Form 15 and this needs only the approval of the company's board of directors. In general, the process of deregistration takes up to 60 days (Marosi and Massoud, 2007). Once they deregistered, they are not required to provide public information (Macey et al., 2008; Marosi and Massoud, 2007).

In contrast, in the UK, firms that delist should notify the London Stock Exchange to cancel their trading on the exchange at least 20 days before the actual event and get an approval from no less than 75% of shareholders at a general meeting.² Once agreed, the

²For AIM rules, see <http://www.londonstockexchange.com/companies-and-advisors/aim/advisers/rules/aim-rules-for-companies.pdf>. For the listing rules of companies listed on the Main market, see:

<http://www.londonstockexchange.com/companies-and-advisors/main-market/documents/brochures/admission-and-disclosure-standards.pdf>. In the Main market the 75% shareholders' approval is required only if the firm is premium-listed, i.e., if it must meet standards that are over and above (often described as 'super-equivalent') those set forth in the EU legislation, including the UK's corporate governance code. Such companies provide

exchange will announce the intention to cancel individual securities through the reference data service and the intention to cancel issuers through a regulated information service. The firm then becomes private and investors have two options; either sell their shares before the delisting date or remain shareholders in what will become a privately owned company.

We focus on AIM where young, risky and high growth firms with high asymmetric information and low liquidity chose to be quoted to finance their growth opportunities. Since its creation in 1995, the number companies quoted on AIM kept increasing, but from early 2000s, a significant number of firms delist, and in the last few years, the net flow of companies to the AIM is negative, as shown in Figure 1. Thus, this market allows us to distinguish between firms that do well and which chose to move to a more regulated London Main market and others that fail to generate positive returns and prefer to delist voluntarily.

[Insert Figure 1 here]

2.2. *The Survival and Failure of IPOs*

Previous studies investigate the survival of IPOs (Hensler et al., 1997; Jain and Kini, 1999, 2000; and Fama and French, 2004), but while comparing surviving relative to non-surviving firms in the post-IPO periods, they do not distinguish among the various reasons for delisting. Hensler et al. (1997) compare surviving IPOs with those delisted from NASDAQ for negative reasons to find that survival time increases with age, size, and initial return, while it decreases with risk factors. Jain and Kini (1999) find that survival increases with VC backing and higher investment bank prestige. Fama and French (2004) find that

additional protections to shareholders and they may have access to a broader range of investors and may enjoy a lower cost of capital owing to heightened shareholder confidence. A premium listing is only available to equity shares issued by commercial trading companies. In contrast, standard-listed firms do not require the shareholders' approval for delisting as they meet only the requirements laid down by EU legislation and the overall compliance burden is lighter, both in terms of preparing for listing and on an on-going basis.

newly listed firms on the NYSE, AMEX, and NASDAQ between 1973 and 1991 have higher growth and lower profitability which are likely to decrease their survival rates. Jain and Kini (2008) find that strategic investments at the time of IPO, such as diversification through an additional line of business, decrease the probability of failure significantly, but the R&D effects is positively related to the change in industry-adjusted operating returns on assets five years post-IPO but not the year prior to the IPO. In addition, they find no evidence to support the relationship between post-IPO performance and firms' advertising intensity. Bradley et al. (2006) show that Canadian penny stocks IPOs (offer price below \$5) generate higher initial returns but worst long-run underperformance than ordinary IPOs. Carpentier and Suret (2011) find that non-surviving companies are less likely to be backed by VC, but the impact of VC on the failure risk is not significant, and the probability of survival is significantly affected by the initial listing requirements, such as prestigious underwriters and audit firms. In the UK, Espenlaub et al. (2012) investigate the effect of AIM regulations to find that survival time is increased by tightening the listing requirement, but they do not distinguish across the different types of delisting.

Other studies relate delisting to costs and benefits of quotation. The benefits of listing on a stock exchange include relaxing borrowing constraints, greater liquidity, greater bargaining power with banks, and the recognition of investors (e.g., Ritter, 1987 and Pagano *et al.*, 1998). Despite those benefits, listing is subject to substantial direct costs such as, compliance and administrative costs, underwriting and registration fees, and indirect costs which relate to the adverse selection and agency conflicts. Bharath and Dittmar (2010) argue that since the decision to go public is a trade-off between the costs and benefits of listing, the decision to go out of the public market is also likely to be taken when the costs of listing exceed the benefits. These costs and benefits relate to access to financing, agency costs, asymmetric information, and financial visibility. We define these factors in the data section.

3. Data and Methodology

3.1. Sample

We first collect all newly-listed and delisted firms between 1995 and 2009 from the *London Stock Exchange (LSE)* website.³ The delisted firms are classified into four main categories: (i) voluntary delisting if the firms states that it is coming out of the market at its own request; (ii) transfers to the relatively more regulated Main market; (iii) takeovers, which occurred in our case when a quoted company takes over a private firm and changes its name, making the delisted firm a bidder;⁴ and (iii) market regulation, a case where the firm listed on AIM is asked to delist because of breach of listing requirements, such as the loss of the nominated advisor. Figure 2 shows the proportion of each of these categories.

We exclude financial companies because of their specific characteristics. We also exclude 69 firms for which we could not find data. Our final sample includes 380 delisted firms split into 155 that went private, 29 that transferred to the Main market, 81 takeovers, and 115 delisted due market regulations. We screen all sample firms in *DataStream* to verify that these delisted firms are no longer listed on AIM under their old name. Table 1, Column 2 presents the year in which the companies decide to delist. Column 3 shows the year in which those companies went public. The table indicates that there is an increase in the number of delisted firms since the 2000s but the transfers occurred mainly in 1998-2000 and the majority of firms that transferred are issued in 1996-1998.

[Insert Table 1 and Figure 2 here]

³ New Issues and IPO Summary spreadsheet in www.Londonstockexchange.co.uk.

⁴ The takeover cases are what are referred to as reverse takeovers. They are mainly shell companies created to takeover private companies and then to trade on the name of the private company. We find only two cases of normal takeovers where the quoted company is a target. We excluded these two cases.

3.2. *Definition and sources of the proxy variables*

We define in Table 2 a number of proxy variables to assess whether firms weigh the costs and benefits of listing, categorised into access to financing, agency costs, asymmetric information, and financial visibility, when they decide to delist from the stock market.

Getting access to public markets and enhanced transparency enables firms to have a greater bargaining power with banks resulting in lower borrowing constraints and diversification of sources of finance (Pagano *et al.*, 1998; Bharath and Dittmar, 2006). Some firms use this funding to finance their growth opportunities while others go public to rebalance their leverage (Pagano *et al.*, 1998). Aslan and Kumar (2011) find that leverage has a positive effect on the going-private decision. However, US survey evidence shows that financing is not the primary determinant of listing, as firms go public primarily to create public shares for use in future acquisitions (Brau, 2010), but in Europe they do so to enhance their bargaining power with bankers and to reduce their leverage, while firms that are not able to rebalance their leverage decide to go private (Bancel and Mittoo, 2008). Therefore, we expect firms to delist if they cannot raise equity capital to rebalance their capital structure. We test these arguments by including the probability of seasoned equity offering, leverage and growth opportunities, measured by market-to-book and capital expenditure ratios. We expect low growth firms with high leverage and low probability of raising equity offering to be more likely to delist voluntarily.

Publicly listed companies potentially suffer from the agency conflict between managers and shareholders that emanates from the free cash flow problem, particularly in large firms with low growth opportunities (Jensen and Meckling, 1976). The literature on the going-private decision suggests that the agency conflict between managers and shareholders would be mitigated through concentrating residual claims among management. Therefore, companies with significant free cash flow as well as low growth opportunities are more likely

to go private. However, empirical studies report mixed results. Lehn and Poulsen (1989) find that free cash flow is a significant factor affecting the going-private decision, in contrast to Aslan and Kumar (2011). Marosi and Massoud (2007) report that free cash flow is significant for firms with high undistributed cash flow and low growth opportunities. High growth companies are likely to benefit from listing on a market as they will overcome their financial constraints by getting access to low-cost external financing (e.g. Pagano *et al.*, 1998; Fischer, 2000; Bharath and Dittmar, 2006). Bharath and Dittmar (2006), Marosi and Massoud (2007), and Aslan and Kumar (2011) find that firms with high growth opportunities prefer to stay in the market to raise further capital. However, survey evidence is mixed, as Bancel and Mittoo (2008) show that CFOs of European firms consider the financing growth opportunities to be a significant determinant of the going-public decision, unlike Brau and Fawcett (2006) for US firms. We expect firms with low growth opportunities, high free cash flow and high insider ownership to choose to delist voluntarily.

When a company is publicly traded, investors are less informed than insiders about the true value of firms resulting in the adverse selection problem. This problem inversely affects firms' quality as well as their share prices. Therefore, firms with asymmetric information are more likely to go private to avoid the cost of adverse selection (Bharath and Dittmar, 2010). Empirical studies use size and the proportion of intangible assets over total assets as proxies for the adverse selection problem, but the evidence is mixed. Pagano *et al.* (1998) and Bharath and Dittmar (2010) provide support for this hypothesis, but Marosi and Massoud (2007) find that the estimated coefficients for intangible asset ratios are insignificant, implying that information asymmetry is not a factor in the delisting decision. We use two proxies to control the asymmetric information, size of the firms and the ratio of intangible assets to total assets, and expect small firms with high intangible assets to delist.

Mehran and Peristiani (2010) and Bharath and Dittmar (2010) test the financial visibility and investor interest as crucial factors over firms' life cycle. They suggest that IPOs that fail to attract investors' interest because of their lack of financial visibility tend to have higher stock price volatility and are more likely to go private. For example, Mehran and Peristiani (2010) use analysts' forecasts, stock turnover, and stock volatility as proxies for financial visibility. They find that IPOs that fail to attract investor interest because of lack of financial visibility have higher stock price volatility, and are more likely to go private. Their result shows that the significance of financial visibility increased since the 1990s. Bancel and Mittoo (2008) confirm that investor recognition is a major factor affecting the listing-decision. We use stock turnover and stock volatility to control for financial visibility. We expect firms with high stock volatility and low stock turnover to have low financial visibility, and, hence they are more likely to delist.

Enhanced liquidity is an additional benefit for publicly listed companies as IPOs demand ownership dispersion and higher level of liquidity driven by low transaction costs (Pagano *et al.*, 1998). Survey evidence also document that share liquidity is an important motivation for the decision to go public, and its significance is greater in the UK than in Continental Europe (Bancel and Mittoo, 2008). Moreover, Bharath and Dittmar (2010) find that firms with less liquidity are more likely to go private. We expect the higher the liquidity, the lower the probability of delisting voluntarily.

[Insert Table 2 here]

We use the LSE website to gather information on subsequent raising capital in the post-IPO period and *investegate.co.uk* website to find the announcement date of the delisting. For the missing companies, we hand collect the relevant data from *Factiva* database. We use *Thomson One Banker* Database to collect the accounting data on balance sheets and income statements during the sample period from 1995 to 2009. We extract the stock market data,

which includes daily stock prices and indices to compute the stock returns, market capitalization, and market-to-book ratio from *DataStream*. In order to find the market and accounting data at the time of IPO, we download the prospectuses from *Perfect Filings* database and hand-collect all data including total debt, total assets, directors' ownership, venture capital, under-pricing, and market capitalisation.

3.2 Methodology

We first use a matched logit model to predict the factors that affect the delisting decision. The dependent variable is binary, one if the company is delisted and zero otherwise. We match each delisted firms (test sample) with a firm that remained public (control sample) using the date of the IPO and the firm's first day market capitalisation within 15% range.

We also use the Cox's Proportional hazard model to investigate the factors that contribute to the delisting decision. Following Mehran and Prestiani (2010) and Bharath and Dittmar (2010) we predict the length of time it takes to delist after controlling for related variables as follows:

$$h(t, X(t)) = h(t, 0) \exp(B X(t)) \quad (1)$$

Where $h(t, X(t))$ is the hazard rate at time t for a firm with covariates $X(t)$. This model controls for the effects of differences between firms as well as changes over time. The hazard ratio ($\exp(B)$) indicates the change in the hazard for a unit increase in the independent variable. However, for continuous explanatory variables, the hazard ratio measures the marginal effect of a unit increase in the independent variable. For discrete explanatory variables, the hazard ratio indicates the marginal effect when the event occurs. A hazard ratio higher than one means that the delisted firm has a shorter time to the event, but when it is equal to one there is no difference between the delisted and control firms.

Finally, we use the standard event study methodology to assess the market reaction to the delisting announcement. The market model coefficients α and β are computed over the estimation period which spans -270 to -21 days relative to the announcement date, with a minimum of 60 observations if the firm is delisted in the first 270 days relative to its IPO date. We use the FTSE AIM index as a proxy for the market return.

4. Empirical Results

4.1. Descriptive statistics

Table 3 shows that on average, firms are quoted on AIM for about 3 years before they delist, in contrast to 13 years reported by Bharath and Dittmar (2010) for firms that go private through leverage buyouts. However, while voluntary and regulatory delisting occur about 3.5 years after the IPO, transfers to Main market are more likely to occur within two years of IPOs, probably when they satisfy the 3 year trading statements requirements, and 61% of takeovers occur during the IPO year or one year after the IPO date.

[Insert Table 3 here]

Table 4, provides the characteristics of delisted companies over their public life. In Panel A, we measure the variables over the IPO period. For the going private sample, consistent with the access to capital markets hypothesis, the results show that delisted firms are over-levered, indicating that they are less likely to have raised equity capital during their public life. They also have lower growth opportunities, as measured by the market-to-book ratio. While leverage is also higher for firms in the transfer and takeover categories, their growth opportunities and capital expenditure are significantly higher than the control firms. These findings imply that voluntary delisted firms did not need new capital as they do not have any growth opportunities, or they were not able to invest in their growth opportunities because they could not raise equity capital. Moreover, voluntary delisted firms have

significantly higher managerial ownership than the control firms, but their profitability and cash flows are relatively the same, in contrast to firms that transfer to the Main market which are more profitable and have higher free cash flow but lower insider ownership.

In line with the US evidence (Marosi and Massoud, 2007), our results show that voluntary delisted firms have higher intangible assets, but they are relatively smaller than the control firms, implying that they have a higher probability of asymmetric information, particularly since small firms are less likely to be followed by a large number of financial analysts. The results also show that voluntary delisted firms, together with those that delist because of regulation, have lower liquidity and financial visibility as measured by stock turnover, trading volume and stock volatility, although the economic significance of these factors is likely to be small. Overall, our results suggest that voluntary delisted firms are likely to have low growth opportunities, liquidity and financial visibility, but high leverage, and information asymmetries, suggesting that their delisting decision is likely to emanate from the relatively higher costs of listing.

In contrast, firms that delist from AIM to transfer to the Main market or through takeovers are more likely to increase their funding opportunities to finance their high growth potentials. They are larger and they have higher stock turnover and trading volume, but lower stock price volatility. Our results imply that firms transfer to the Main market when they satisfy the listing requirement to finance their growth opportunities, while those that cannot raise funds prefer to delist from AIM voluntarily and become private.

Following Bharath and Dittmare (2010), we test for robustness of our results by measuring our data for both the test and control samples one year after the IPO date. The results reported in Table 4, Panel B, are relatively the same as those reported in Panel A. They show that voluntary delisted firms have significantly higher leverage, greater insider ownership, but lower growth opportunities. However, since few IPOs in our sample delisted

within one year of their public life, our results may suffer from survivorship bias. We overcome this problem by comparing the characteristics of both our samples at the exact time of the IPO using data collected by hand from prospectuses. The results reported in Table 4, Panel C, are relatively similar; they show that voluntary delisted firms are more likely to have high leverage and low growth opportunities even when they came as IPOs. Although these IPOs may have come to the market for other reasons than financing their growth opportunities, our results suggest that they are less likely to have used their quotation to rebalance their capital structure. In contrast, firms that transferred to the Main market had high growth opportunities that the control firms even at the IPO date. In addition, they are larger and have higher free cash flow, profitability, and stock turnover, but lower insider ownership and stock volatility than the control firms.

Insert Table 4 here]

In Table 5, we assess how the firms' characteristics have changed from their IPO date to the delisting date. Following Bharath and Dittmare (2010), we present the data for the year following the IPO and the year prior to the delisting time. The results show that leverage of the voluntary delisted firms increased significantly over the two periods from 16 to 21 percent. At the same time, their market to book declined from 2.35 to 1.72, their market value went down from 2.37 to 2.02 and their trading volume from 2.60 to 1.89, but their insider ownership and proportion of intangible assets went up from 46 to 58 percent and 24 to 38 percent, respectively. The results based on the medians are qualitatively similar. The results suggest that during their public life, firms that delisted voluntarily came up to the market as high growth firms but drifted towards maturity. These firms may, thus, have less need for additional capital to finance their investments, and, consequently, they prefer to delist. Alternatively, they were not able to access the financial market to raise capital to create new investment opportunities and to maintain their high growth status. Interestingly, their capital

expenditure, free cash flow, return on assets and stock turnover declined but not significantly. The increase in managerial ownership and the decrease in the free cash flow do not provide support for the agency costs explanation of the decision delist voluntarily, unlike the going private through buyout (Lehn and Poulsen, 1989).

In contrast, firms that delisted for other reasons exhibit significantly different characteristics. Although leverage of firms that transferred to the Main market did not change significantly over the two periods, and it is relatively similar to that of voluntary delisted firms, they maintained their high investments, growth opportunities, free cash flow and profitability, their insider ownership is lower and declined over the listing period, and they are larger. Moreover, their market value, stock turnover and trading volume increased significantly from their IPO to the delisting date. Overall, these results suggest that these firms transfer to the Main market to expand and to finance their growth opportunities and to mitigate their free cash flow problems, as in the Main market, the corporate governance requirements are much higher than AIM's.

[Insert Table 5 here]

In Figure 3, we trace the changes in some of these fundamental factors two years after the IPO date. In line with the results reported above, Figure 3, Panel A, shows that, relative to the control firms, leverage at the time of the IPO is higher for both sets of delisted firms. However, we note that leverage increased in the first two years after their IPO for voluntarily delisted firms, while it decreased for those that transferred to the Main market. This suggests that voluntary delisted firms did not raise equity after their IPOs, and thus they probably had to use more debt to finance their investments, unless if they were making losses with subsequent decrease in equity. We assess further the annual performance of our firms during their first two years of being public by analysing their trends in profitability, growth opportunities and size. Panel B. shows that growth opportunity as measured by the market-to-

book ratio increased and then declined for voluntary delisted firms, but the reverse occurred for firms that transferred to the Main market. In conjunction with the results reported in Tables 4, these findings suggest that voluntary delisted firms needed more capital to finance their investments in their first year of trading, but in year 2, their growth potentials decreased. We find, but not report for space and comparative purposes, that this decline in growth opportunities carried on up to their delisting year. In contrast, the market-to-book ratio of firms that transferred to the Main market is higher than the remaining firms at the IPO date, decreased in year 1 but increased in subsequent years. In terms of profitability, Panel C shows the contrasting differences between our sample firms. In particular, firms that delisted voluntarily generate consistent losses compared to control firms and those that transferred to Main market. Finally, Panel D shows that voluntary delisted firms kept losing value, in contrast to those that transferred to the Main market which created value since their IPO date. Overall, these results are in line with our findings from the univariate analysis. They highlight the stark contrast between our sample firms, and suggest that fundamental factors, such as size, financing, profitability and growth options explain the decision to delist from the AIM market and to either transfer to the Main market or to delist voluntarily.

[Insert Figure 3 here]

4.2. *Logit regression results*⁵

We use the data at the exact time of the IPO and estimate the logit regression in order to investigate whether the inherent characteristics of the firm at the time of the IPO could predict the ultimate delisting decision. The results are reported in Table 6, Panel A. Data

⁵ We use, but not report, two goodness-of-fit tests, Hosmer and Lemeshow (1989) and Andrews (1988) to compare the fitted expected values to the actual values *by group*, and if these differences are large, we reject the model as providing an insufficient fit to the data. We report Deviance statistics which support the goodness-fit in all our regressions.

unavailability in prospectuses has lead us not to consider variables such as capital expenditure and free cash flow, but we assess the impact of under-pricing, VC backing and Nomad reputations. The dependent variable is a dummy set to one if a firm is delisted and zero otherwise. The results provide strong evidence of the impact of leverage and growth opportunities on the voluntary delisting decision and those that delisted because of regulation. For firms that transfer to the Main market, we find only underpricing that is negative and significant, consistent with Michaely and Shaw (1994), who argue that firms with higher degree of asymmetric information offer their share at a discount to their true market value to entice less informed investors. They find that firms that underprice less have better future performance and more likely to issue seasoned equity offerings. In line with these arguments, our results suggest that firms with lower initial returns have lower adverse selection problem and stronger future performance. As a result, they are more likely to transfer to the Main market. The remaining variables, including VC backing, Nomad reputation and insider ownership, do not affect the decision to delist voluntarily or to transfer to the Main market.

In Panel B, we test for robustness of our results when we measure our explanatory variables one year before the delisting date. The results confirm the strong positive impact of leverage and insider ownership, and the negative effect of growth opportunities, and the probability of a seasoned equity offering on the decision to delist voluntarily. The pre-delisting stock price performance is also negative, in line with Hansen and Öqvist (2012). The results for ownership structure are in line with Amihud et al. (1990), who find that firms controlled by major shareholders are reluctant to use equity, and thus prefer to delist. In contrast, firms that transfer to the Main market are likely to be large, to have raised equity capital, and to have high free cash flow, profitability, and pre-delisting stock returns, and lower stock price volatility. The high profitability of firms that transfer to Main market is in line with the agency conflict predictions and consistent with the argument of Arcot et al.

(2007) who find that AIM companies are encouraged to join to the Main market when they demonstrate their profitability.

Interestingly, the results only support the market access hypothesis in Panel A, since leverage and market-to-book as a proxy for growth opportunities, are the only constantly significant coefficients in our regression, in line with Marosi and Massoud (2007) and Leuz et al. (2008) who find that delisted companies in the US have significantly higher leverage. However, these results apply only to firms that delist voluntarily or those that do so because of regulation. For firms that transfer to the Main market other factors such as performance and stock price volatility appear to be the main drivers of the delisting decision, while for or takeovers insider ownership and SEO dummy are the main factors. The recent literature for going private firms report mixed evidence for the impact of leverage as Mehran and Peristiani (2010) find a positive and significant effect on the decision to go private. In contrast, Witmer (2005) does not find any impact of leverage and growth opportunities on the voluntary cross-delisting decision, but shows that size and stock turnover are the key determinants of cross-delisting as smaller firms with low stock turnover are more likely to delist, suggesting that the factors which affect the cross-delisting are different from the delisting decision.

Our results do not provide strong support for the agency conflicts as free cash flow and return on assets, as proxies for the agency conflict between shareholders and managers are negative and statistically significant. In particular, firms that generate higher return on assets are less likely to delist voluntarily. Similarly our results do not provide strong support for the information asymmetry, liquidity and financial visibility hypothesis. In particular, at the time of the IPO, these hypotheses cannot forecast the determinants of the delisting decision. Our results are not consistent with those of Liu et al. (2012) who find the delisting from the Tokyo Stock Exchange is driven by liquidity.

[Insert Table 6 here]

4.3. *Cox proportional hazard regression results*

In this section, we use the Cox proportional hazard model to investigate the factors that contribute to the delisting decision. The hazard ratios defined in Equation (1) are reported in Table 7 for all samples. The results show that voluntary delisted companies have a higher hazard rate of delisting if they have greater leverage and lower growth opportunities as measured by the market-to-book ratio. These results are in line with the market access prediction. The impact of leverage on the hazard rate of delisting is also positive for those companies that delisted because of regulations while it is negatively related to the hazard rate of delisting for takeovers. Thus, apart from transferred companies, leverage has the highest marginal effect on the delisting decision. However, for voluntary delisted companies and those delisted due to regulations, leverage increases the hazard rate of delisting, indicating that the hazard rate of the voluntary delisting and delisting due to regulations increases about 1.52, and 2.87 times, respectively, for a unit increase in leverage. While for takeovers, an increase in leverage decreases the hazard rate of delisting about 2.80 times. For transferred companies, return on assets has the higher marginal effect on the delisting decision. Unlike voluntary delisted companies, growth opportunities are not statistically significant for other forms of delisting.

In line with the agency hypothesis, we find a positive and significant relationship between insider ownership and the probability of voluntary delisting, suggesting that the delisting decision is smoother for firms that are more closely held. However, insider ownership is negative and significant for takeovers and insignificant for delisted companies that transferred to the main market or those delisted because of regulations.

The results also suggest that firms with greater operating performance are likely to upgrade to the bigger market while they have a lower hazard rate of delisting as a breach of legislation. Firms also have a greater hazard rate of delisting if they are smaller, supporting

the asymmetric information hypothesis. These results are robust across all models. Moreover, asset tangibility does not affect the decision to transfer to the Main market or takeovers, but it is positively related to the voluntary delisting decision or breaching the legislation.

Following Mehran and Peristiani (2010), we also include stock volatility and stock turnover to assess the liquidity and financial visibility effects. The results show that the impact of stock turnover on the voluntary delisting decision is negative but not significant. We also use the log of trading volume as an additional proxy for liquidity and, in contrast to the stock turnover evidence, the coefficient is significant. The results also show that firms are more likely to upgrade to the Main market if they have higher liquidity as measured by trading volume. Moreover, in contrast to our prediction, the relationship between stock volatility and the probability of the delisting decision is not statistically significant. Mehran and Peristiani (2010) also do not support the impact of stock volatility, as they find the negative coefficient of stock volatility which is not consistent with the financial visibility hypothesis. They suggest that firms with higher probability of failure are less likely to go private supporting the financial distress notion.

We control for seasoned equity offerings and high-tech industries in all specifications. The effect of the firms' ability to conduct a seasoned equity offering is negative and significant for voluntary delisted and breach of legislation, indicating that the hazard rate of delisting decreases as firms have a greater market access to issue equity, while it has a positive impact on takeovers and an insignificant effect on the probability of upgrading to the Main market. In addition, firms that operate in high-tech industries are less likely to delist because of regulations or takeovers. However, the impact of industry is not consistent in all specifications, as for transfers and voluntary delisting, the impact is insignificant.

[Insert Table 7 here]

4.4. Analysis of the ex-post market access

We expand these arguments by investigating further the consequences of leverage and debt-equity financing over the IPO life cycle of delisted companies. Previous results show that leverage is significantly greater for voluntarily delisted firms, compared to those that remained public. We follow Pagano et al. (1998) to assess how leverage of the delisted and the remained public companies evolve over the IPO life cycle. We also investigate the impact of return on assets over the IPO period to expand further the results reported in Tables 6 and 7. We use the following alternative specification to compare the ex-post performance of the voluntary delisted companies relative to those companies that remained public:

$$y_{it} = \alpha + \sum_{j=0}^3 \beta_j IPO_{t-j} + \beta_4 IPO_{t-n} + u_i + d_t + e_{it} \quad (2)$$

Where u_i and d_t are a firm specific and calendar year specific effect, respectively. IPO_{t-j} are dummy variables equal to one if year $t-j$ was the IPO year, and IPO_{t-n} is a dummy variable set to one if the IPO took place more than 4 years before. This estimation is based on the fixed-effects model, which controls for the effect of the IPO and the four subsequent years by dummy variables.

Table 8, Panels A, B, and C show that firms that remained public deleverage after the IPO. This finding is in line with Pagano et al. (1998) and Aslan and Kumar (2011), who find that leverage decreases in the post-IPO period due to substantial equity issued. Panels A and B also show that firms that remained public are more likely to have raised equity capital over three years after their IPO, but debt issuance is not significant. These results are consistent with Pagano et al. (1998), who find that equity issuance increases significantly over three years after the IPO. However, Table 8, Panel A, shows that for voluntary delisted firms leverage increases in the second year after the IPO, debt financing increases from the first year after the IPO, while there is no considerable change in the equity financing except the second and the fourth year after the IPO, which shows that equity financing declines

significantly for those companies that delist voluntarily, probably due to share repurchases. For other delisted firms, debt and equity financing do not change significantly over their IPO period. The results also show that return on assets declines mainly in the second year after the IPO for firms that delisted voluntarily, or through takeovers, or breach of legislation, while it increases for firms that transferred to the Main market.

[Insert Table 8 here]

4.5. *The market valuation of the delisting decision*

We investigate the market reaction to the delisting decision using the standard event study methodology. We collect stock prices from the DataStream for the period from January 1994 to December 2010. We then use the *investegate.co.uk* website, which offers a large archive for announcements to find delisting announcements. In addition, we use *Factiva* and hand-collect delisting announcements for the remaining firms with missing data. In Table 9, Panel A, we analysed six different windows, $[-360,-2]$, $[-20,-2]$, $[-5,+5]$, $[-1,+1]$, $[0,+1]$, and $[+2,+20]$. We report results based on event window $[0, 1]$, but our results are relatively similar when we use $[-1,+1]$, and $[-5,+5]$ days relative to the delisting announcement date.

Table 9, Panel A, shows that, on the announcement date, voluntary delisted firms generate excess returns of -8.32%, in line with the -9% and -12% observed by Leuz et al. (2008) and Marosi and Massoud (2007), respectively, in the US. Similarly, Liu (2005) finds that foreign companies that delist from the US stock exchange markets because of involuntary reasons experience abnormal return of -4.5%, statistically higher than the -8.5% experienced by domestically-delisted companies in the US reported by Sanger and Peter (1990). This negative performance of delisted firms is different from the positive excess returns observed for firms that go private through leveraged buyouts (LBO, MBO, IBO), as Renneboog et al.(2007) report 11% for the $[-5, 5]$ window in the UK and Leuz et al.(2008) find +14% for both the $[0, 1]$ and $[0, 2]$ windows in the US. In the pre-announcement period,

the excess returns are also negative. This negative performance appears to be permanent as the post-event period excess returns are negative, but not significant. Similar negative performance is observed for firms that delist because of breach of legislation.

In contrast, firms that transfer to the Main Market generate positive returns throughout the event period, but unlike Jenkinson and Ramadorai (2008), who find that the announcement date excess returns amount to +5%, our results indicate that these excess returns for our sample firms is limited to the pre-event period.

Finally, the results indicate that firms that delist through takeovers generate strong negative returns. As stated above, these cases are reverse takeovers where the delisted firm is the bidder acquiring a target and trades subsequently under the name of the target.

The results of Table 9 do not control for firm characteristics while our focus is to investigate the leverage effects of the voluntary delisting decision, we distinguish between the delisted firms that experience an increased leverage in the year prior to the delisting decision and those with a decrease in leverage. The results reported in Table 9, Panel B, show that firms that increased their leverage in the year of delisting experience significantly lower excess returns. These firms appear to be the worst hit by their lack of raising capital constraints.

[Insert Table 9 here]

5. Conclusions

We find evidence that firms delist voluntarily from the London Alternative Investment Market when they are not able to raise equity, their growth opportunities and profitability are low, and they generate negative returns. In contrast, firms that transfer to the Main market generate positive returns and have high growth potential, suggesting that these firms move to the larger and more regulated stock market to increase their choice probability of raising external financing, even though this entails higher regulatory costs.

Firms that delist because of breach of regulation and those that delist through reverse takeovers generate also negative returns.

Recently, the US literature distinguishes between the going private decision, which happens mainly through leverage buyout and the voluntary delisting decision (Leuz et al., 2008; Marosi and Massoud, 2007). To the best of our knowledge, there have been no previous studies investigating the determinants and the consequences of the voluntary delisting decision under a special regulatory institutional setting in the UK where firms are allowed to delist and still to have their shares traded in the private market. We focus on the effects of leverage on the delisting decision, as previous studies suggest that access to capital markets is the main motivation for the going-public decision. Going public in order to raise further capital would affect firms' capital structure and thus we expect a significant impact of leverage on the delisting decision. We show that firms that could not raise further equity capital are more likely to opt for voluntary delisting. Unfortunately we do not have full data to assess what happens to these firms after they become private. Further research will assess the extent to which voluntary delisting increases the survival rate of these firms and leads them to become more profitable and to come back to the stock market.

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Table 1: Time Series Distribution of Delisted Companies

The table presents the annual distribution of our sample firm by event and IPO years and by delisting method.

Year	Voluntary Delisting		Transferred firms to Main market		Takeovers		Delisted due to regulation	
	Event Year	IPO Year	Event Year	IPO Year	Event Year	IPO Year	Event Year	IPO Year
1995		4						1
1996		14		5		2		4
1997		16		5		2		7
1998	0	4	1	3	1	3		5
1999	8	13	5	2	2	2		2
2000	12	20	6	2	8	11		12
2001	8	7	1	1	2	5	2	6
2002	5	8	3	1	2	2	4	3
2003	13	6	1	3		3	8	5
2004	10	24	3	5	7	18	1	29
2005	13	26	0	2	24	17		27
2006	24	10	1		15	9	2	13
2007	13	3	3		9	7	24	1
2008	13		3		9		42	
2009	36		2		2		32	
Total	155	155	29	29	81	81	115	115

The second, fourth, sixth, and eighth columns of this table present the number of firms in our sample that delist voluntarily, those that transferred to the Main market, Takeovers, and delisted companies due to regulations in each year. The third, fifth, seventh, and ninth columns show the time series distribution of those firms based on their IPO year.

Table 2: Definition of the Proxy variables and the hypotheses tested

Variables	Description	Hypothesis	Sign
Leverage	Total Debt/Total Assets	Access to capital/ Raising capital	+
MB	Market value over book value of equity	Access to capital/ Raising capital	-
Capex/Sales	Capital expenditure/ Total Sales	Access to capital/ Raising capital	-
ROA	EBIT/Total assets	Agency (Free cash flow problem)	+
Free cash flow	Free Cash Flow/Total Assets	Agency (Free cash flow problem)	+
Insider ownership	Directors' ownership/Outstanding shares	Agency (Free cash flow problem)	+
ROA	EBIT/Total assets	Agency (Free cash flow problem)	+
Size	Log market value of equity	Asymmetric information	-
Intangibility	Intangible Assets/Total Assets	Asymmetric information	+
Ln Volume	Natural Logarithm of daily shares traded in past 12 months	Liquidity	-
Stock Turnover	Volume/Outstanding shares	Liquidity/ Financial visibility	-
Stock volatility	Stock returns' annual standard deviation	Financial visibility	+
Under-pricing	1st price day - price offer/ price offer	Asymmetric information	+

Table 3: Number of Years that Delisted Firms Were Publicly Trading

	Voluntary Delisting		Transfers to Main market		Takeovers		Delisted regulations		All delisted	
	N	%	N	%	N	%	N	%	N	%
IPO	1	1	2	4	23	28	0	0	26	7
+1	14	9	4	14	27	33	3	3	48	13
+2	23	15	8	28	11	14	20	17	62	16
+3	27	17	7	24	7	9	25	22	66	17
+4	40	26	5	17	7	9	23	20	75	20
+5	19	12	1	3	3	4	18	16	41	11
6-12	31	20	2	7	3	4	26	23	62	16
Total	155	100	29	100	81	100	115	100	380	100

This table presents number of years that firms stayed public before delisting. The sample includes 155 firms that delisted voluntarily, 29 companies that transferred to the Main market, 81 takeovers, and 115 companies that delisted due to regulations between 1995 and 2009. The second, fourth, sixth, and eighth columns report the number of delisted companies. Their proportion and cumulative distribution are in column 3, 5, 7, and 9. The number and proportion of total delisted companies are reported in the last two columns.

Table 4: Characteristics of Delisted and Control Firms

	Voluntary Delisting (1)			Transfers to the Main market (2)			Takeovers			Delisted due to regulations			(1)-(2)
	Delisted Firms	Control Firms	t MW	Delisted Firms	Control Firms	t MW	Delisted Firms	Control Firms	t MW	Delisted Firms	Control Firms	t MW	t MW
Panel A. Variables measured over the IPO period													
<i>Market Access</i>													
Leverage	0.16 (0.09)	0.13 (0.04)	3.52*** 4.02***	0.18 (0.08)	0.13 (0.04)	2.11** 2.17**	0.21 (0.10)	0.17 (0.07)	2.52** 1.93*	0.21 (0.12)	0.13 (0.10)	0.11 1.02	-0.68 (0.26)
Capex/Sales	0.46 (0.04)	0.40 (0.03)	0.56 1.05	0.56 (0.04)	0.36 (0.02)	2.02** 2.32**	0.57 (0.56)	0.44 (0.32)	2.02** 1.99**	0.45 (0.37)	0.44 (0.21)	1.47 1.12	-2.65*** (1.84)*
MB	2.35 (1.40)	4.04 (1.88)	-2.46** 3.82***	4.60 (1.84)	3.12 (1.46)	1.97** 0.36	0.57 (0.51)	0.29 (0.44)	2.26** 1.09	0.50 (0.35)	0.43 (0.35)	0.64 1.02	-0.90 (3.28)***
<i>Agency Conflicts</i>													
Free Cash Flow	-0.03 (0.03)	-0.40 (0.00)	1.02 1.90*	0.06 (0.11)	-0.15 (0.00)	4.691*** 5.40***	-0.06 (-0.01)	-0.10 (-0.01)	1.06 1.00	-0.14 (-0.01)	-0.17 (-0.01)	0.37 1.02	-2.58*** (4.09)***
ROA	-0.22 (0.00)	-0.56 (0.00)	1.32 1.05	-0.09 (0.06)	-0.33 (-0.03)	2.99*** 4.95***	-0.31 (-0.02)	-0.26 (-0.01)	-0.64 1.21	-0.46 (-0.03)	-0.37 (-0.03)	1.12 0.98	-1.32 (3.31)***
Insider Ownership	46.65 (49.11)	25.48 (15.11)	9.95*** 15.05***	36.58 (37.14)	40.56 (39.48)	-1.56 1.47	59.27 (16.07)	46.64 (12.02)	1.69* 3.05***	20.50 (20.00)	20.07 (12.68)	0.92 1.45	2.53** (3.02)***
<i>Asymmetric Information</i>													
Intangibility	0.30 (0.07)	0.22 (0.13)	2.88*** 1.99**	0.20 (0.22)	0.27 (0.24)	-0.23 0.28	0.35 (0.32)	0.27 (0.16)	3.17*** 2.09**	0.20 (0.05)	0.22 (0.10)	1.11 1.04	0.64 (2.31)**
Size	2.40 (2.37)	2.88 (2.52)	-2.56*** 1.78*	3.72 (2.52)	2.52 (1.88)	2.23** 1.98**	2.86 (2.86)	2.20 (2.25)	6.30*** 1.98**	0.62 (2.56)	1.55 (2.58)	0.93 1.50	-5.25*** (6.74)***
<i>Liquidity and Financial Visibility</i>													
Stock Turnover	0.37 (0.17)	0.52 (0.229)	-1.75* 3.02***	0.90 (0.56)	0.73 (0.30)	0.54 4.39***	1.77 (0.43)	0.72 (0.13)	1.67* 3.10***	8.70 (0.09)	9.08 (0.22)	-2.97*** 1.12	-4.32*** (6.48)***
Ln(Trade Volume)	2.98 (2.55)	4.49 (4.00)	-4.89*** 3.57***	4.05 (3.96)	3.99 (2.13)	1.52 1.95**	9.33 (9.56)	8.55 (8.79)	4.69*** 2.77***	0.03 (9.12)	0.04 (9.35)	-3.85*** 1.57	-2.20** (1.99)**
Stock Volatility	0.03 (0.03)	0.04 (0.03)	-1.98* 3.00***	0.00 (0.01)	0.04 (0.04)	-3.99*** 5.11***	0.01 (0.00)	0.02 (0.02)	-1.40 1.20	0.04 (0.02)	0.02 (0.00)	2.41** 1.95**	1.17 (0.50)

Table 4 Cont.	Voluntary Delisting (1)			Transfers to the Main market (2)			Takeovers (3)			Delisted due to regulations (4)			(1)-(2)
	Delisted Firms	Control Firms	t MW	Delisted Firms	Control Firms	t MW	Delisted Firms	Control Firms	t MW	Delisted Firms	Control Firms	t MW	t MW
Panel B. Variables measured one year before delisting													
<i>Market Access</i>													
Leverage	0.21 (0.16)	0.11 (0.04)	2.99*** 3.01***	0.13 (0.03)	0.07 (0.02)	1.90* 0.84	0.08 (0.00)	0.13 (0.06)	-1.96** 2.32**	0.22 (0.15)	0.11 (0.02)	4.32*** 2.89***	-0.11 0.31
Capex/Sales	0.25 (0.04)	(0.69) (0.10)	-2.74*** 1.98**	0.72 (0.08)	0.56 (0.04)	2.01** 1.62	0.48 (0.67)	0.42 (0.22)	1.35 3.20***	0.59 (0.34)	0.23 (0.10)	3.10*** 2.95***	-2.25** 3.51***
MB	1.72 (1.30)	3.41 (1.95)	-4.02** 1.92*	3.45 (3.27)	1.88 (2.67)	3.15*** 1.95**	2.94 (1.00)	1.58 (0.67)	3.85*** 2.65***	1.55 (0.30)	0.55 (0.20)	3.52*** 2.05**	1.98** 4.32***
<i>Agency Conflicts</i>													
Free Cash Flow	-0.07 (-0.03)	-0.02 (0.00)	-1.04 0.25	0.12 (0.15)	0.10 (-0.01)	1.23 2.52**	-0.05 (0.03)	0.01 (0.00)	-1.21 0.52	-0.30 (-0.16)	0.13 (-0.02)	-3.52*** 4.00***	2.88*** 3.00***
ROA	-0.18 (-0.04)	-0.08 (0.00)	-1.95** 1.35	0.07 (0.07)	0.00 (-0.01)	1.98** 2.28**	-0.08 (-0.02)	-0.04 (-0.01)	-1.35 1.00	-0.53 (-0.08)	-0.21 (-0.03)	-2.99*** 1.68*	4.35*** 1.61
Insider Ownership	57.67 (57.15)	45.70 (44.63)	2.02** 2.75***	38.45 (35.01)	44.97 (44.60)	-1.68* 1.90*	25.41 (11.44)	20.85 (10.25)	1.65* 0.87	58.51 (19.54)	25.93 (14.50)	3.45*** 2.25**	-0.40 2.28**
<i>Asymmetric Information</i>													
Intangibility	0.38 (0.25)	0.23 (0.13)	3.21** 2.11**	0.08 (0.07)	0.25 (0.13)	-2.66*** 1.75*	0.15 (0.11)	0.12 (0.02)	1.54 2.58***	0.25 (0.20)	0.22 (0.13)	1.31 1.95**	1.94* 0.12
Size	2.02 (2.15)	2.71 (2.79)	-2.55** 1.99**	3.78 (3.88)	2.72 (2.79)	3.15*** 2.81***	2.90 (3.16)	2.60 (2.47)	1.98** 2.01**	2.29 (2.45)	2.58 (2.51)	-1.84* 0.78	-1.85* 2.30**
<i>Liquidity and Financial Visibility</i>													
Stock Turnover	0.11 (0.09)	0.35 (0.23)	-3.87*** 4.25***	0.99 (0.58)	0.30 (0.20)	5.25*** 3.54***	1.01 (0.15)	0.29 (0.10)	3.88*** 1.82*	0.25 (0.08)	0.40 (0.29)	-2.41** 3.01***	-3.21*** 0.02
Ln(Trade Volume)	1.89 (1.00)	3.97 (3.95)	-4.31*** 2.87***	3.14 (2.00)	3.00 (1.86)	1.61 1.84*	8.68 (8.86)	8.09 (8.11)	1.95** 2.20**	9.43 (9.05)	9.11 (9.00)	1.95** 0.58	-4.88*** 3.99***
Stock Volatility	0.04 (0.03)	0.04 (0.03)	-0.51 0.11	0.03 (0.02)	0.04 (0.04)	-1.57 1.69*	0.03 (0.03)	0.03 (0.02)	1.12 1.67*	0.05 (0.04)	0.03 (0.03)	1.70* 1.22	-1.09 0.10
CAAR[-365,0]	-0.50 (-0.30)	-0.12 (-0.08)	-5.28*** 3.41***	0.67 (0.10)	-0.02 (-0.02)	6.05*** 3.52***	-0.20 (-0.02)	-0.27 (-0.08)	1.48 1.69*	-0.35 (-0.22)	-0.13 (-0.12)	-4.52*** 2.80***	-2.65*** 2.99***

Table 4 Continued

	Voluntary Delisting (1)			Transfers to the Main market (2)			Takeovers (3)			Delisted due to regulations (4)			(1)-(2)
	Delisted Firms	Control Firms	t MW	Delisted Firms	Control Firms	t MW	Delisted Firms	Control Firms	t MW	Delisted Firms	Control Firms	t MW	t MW
Panel C. Variables measured at the IPO Date – Prospectus and first day pricing data													
<i>Market Access</i>													
Leverage	0.16 (0.08)	0.12 (0.03)	2.25** 1.99**	0.17 (0.07)	0.013 (0.03)	1.42 1.56	0.14 (0.05)	0.12 (0.03)	1.25 (1.02)	0.19 (0.10)	0.10 (0.01)	2.01** (3.25)***	-1.12 0.56
MB	2.22 (1.91)	4.33 (2.80)	-3.58*** 5.25***	4.58 (2.56)	4.09 (2.40)	1.99** 0.10	2.27 (1.53)	1.26 (1.11)	2.57** (3.51)***	4.06 (2.82)	5.80 (3.20)	-2.88*** (2.15)**	-3.58*** 2.25**
<i>Agency Conflicts</i>													
ROA	-0.10 (0.02)	-0.27 (0.01)	1.98** 0.13	-0.05 (0.07)	-0.27 (-0.22)	0.36 2.18**	-0.06 (-0.02)	0.03 (-0.02)	-1.98** (0.24)	-0.40 (-0.04)	-0.22 (-0.04)	-1.89* (0.05)	1.21 1.55
Insider Ownership	51.35 (54.50)	44.81 (45.11)	3.56*** 4.89***	47.47 (47.22)	55.88 (52.97)	-0.78 2.10**	54.75 (50.31)	55.38 (56.04)	-1.08 (1.60)	41.35 (40.65)	45.24 (49.19)	-1.25 (1.45)	1.27 1.56
<i>Asymmetric Information</i>													
Size	2.70 (2.08)	2.56 (1.95)	1.28 0.89	2.63 (1.99)	2.21 (1.75)	0.85 1.02	2.00 (1.90)	2.09 (2.01)	-1.23 (0.68)	2.57 (2.59)	2.74 (2.78)	-1.00 (1.61)	1.38 1.32
<i>Liquidity and Financial Visibility</i>													
Under-pricing	0.12 (0.13)	0.10 (0.08)	0.82 1.08	0.08 (0.06)	0.14 (0.10)	-1.98** -2.05**	0.09 (0.01)	0.11 (0.02)	-1.56 (0.35)	0.04 (0.00)	0.01 (0.00)	1.64 (0.74)	1.63 1.98**

The table, Panel A, presents the means (medians) of the characteristics of the delisted and IPO date and size matched control firms. The total sample includes 380 delisted firms split into 155 that delisted voluntarily, 29 transferred to the Main market, 81 takeovers, and 115 delisted companies due to regulations between 1995 and 2009. The data in Panel B is based on the reported financial statements during the first year following the IPO date, while that in Panel C is at the IPO date using hand-collected data from the prospectuses. The t-statistics for the differences in means and the Wilcoxon-Mann-Whitney test (MW) of the differences in medians are reported in the last column. The remaining variables are defined in Table 2. ***, **, * indicate that the estimate is significant at the 1 %, 5% and 10% level, respectively.

Table 5: Changes in Characteristics of Delisting Firms between the IPO and the Delisting Year

	Voluntary Delisting			Transfers to the Main market			Takeovers			Delisted due to regulations		
	t = IPO	t = Delisted	t (MW)	t = IPO	t =Delisted	t (MW)	t =IPO	t =Delisted	t (MW)	t = IPO	t = Delisted	t (MW)
Leverage	0.16 (0.12)	0.21 (0.16)	-2.35** (1.91)*	0.15 (0.05)	0.13 (0.03)	0.68 (0.54)	0.14 (0.04)	0.08 (0.00)	2.64*** (1.84)*	0.21 (0.11)	0.22 (0.15)	-1.05 (0.24)
Capex/Sales	0.35 (0.05)	0.25 (0.04)	1.68* (0.25)	0.42 (0.05)	0.72 (0.08)	-1.98** (1.62)	0.41 (0.65)	0.48 (0.67)	-1.18 (0.25)	0.65 (0.64)	0.59 (0.34)	2.01** (2.92)***
MB	2.35 (1.60)	1.72 (1.30)	2.44** (1.69)*	2.64 (2.56)	3.45 (3.27)	-1.81* (2.25)**	2.84 (0.69)	2.94 (1.00)	-1.30 (1.99)**	2.61 (0.54)	1.55 (0.30)	1.78* (2.50)**
Free Cash Flow	-0.05 (0.01)	-0.07 (-0.03)	0.82 (1.14)	0.09 (0.10)	0.12 (0.15)	-0.80 (0.85)	-0.07 (0.03)	-0.05 (0.03)	-0.52 (1.05)	-0.17 (-0.08)	-0.30 (-0.16)	1.68* (1.05)
ROA	-0.15 (-0.01)	-0.18 (-0.04)	1.28 (1.25)	0.04 (0.05)	0.07 (0.07)	-1.06 (0.25)	-0.27 (-0.03)	-0.08 (-0.02)	-2.01** (1.01)	-0.48 (-0.06)	-0.53 (-0.08)	1.54 (1.00)
Insider Ownership	45.89 (47.33)	57.67 (57.15)	-1.99** (2.02)**	42.21 (38.02)	38.45 (35.01)	2.02** (1.35)	52.40 (17.11)	25.41 (11.44)	2.04** (1.98)**	44.27 (15.24)	58.51 (19.54)	-2.59*** (1.69)*
Intangibility	0.24 (0.07)	0.38 (0.25)	-2.55** (3.51)***	0.13 (0.11)	0.08 (0.07)	0.53 (0.23)	0.32 (0.40)	0.15 (0.11)	2.35** (3.85)***	0.22 (0.10)	0.22 (0.20)	-1.45 (3.23)***
Size	2.37 (2.40)	2.02 (2.15)	2.51** (2.20)**	3.36 (3.23)	3.78 (3.88)	-1.78* (2.58)***	2.83 (2.79)	2.90 (3.16)	-1.09 (2.12)**	2.55 (2.70)	2.29 (2.45)	1.99** (2.12)**
Stock Turnover	0.29 (0.11)	0.11 (0.09)	1.99** (0.84)	0.98 (0.44)	0.99 (0.58)	-0.14 (1.68)*	1.60 (0.19)	1.01 (0.15)	1.95** (0.97)	0.88 (0.22)	0.75 (0.08)	0.78 (1.81)*
Ln(Trade Volume)	2.60 (1.90)	1.89 (1.00)	3.00*** (1.66)*	2.00 (1.22)	3.14 (2.00)	-2.52** (3.00)***	9.26 (9.22)	8.68 (8.86)	2.14** (1.99)**	9.72 (9.33)	9.43 (9.05)	1.41 (1.58)
Stock Volatility	0.03 (0.02)	0.04 (0.03)	-1.45 (1.20)	0.02 (0.02)	0.03 (0.02)	-0.50 (0.32)	0.03 (0.03)	0.03 (0.03)	0.54 (1.51)	0.01 (0.02)	0.05 (0.04)	-1.71* (1.62)

This table presents means (medians) firms' characteristics for the delisted firms at the end of the IPO year and the year before delisting. The sample includes 380 companies that delisted between 1995 and 2009 including voluntary delisting (155), transferred to the Main market (29), takeovers (81), and delisting due to regulations (115). The variables are defined in Table 2. The t-statistics for the differences in means and the MW, the Wilcoxon-Mann-Whitney test (MW) of the differences in medians, are reported in the last column. ***, **, * indicate that the estimate is significant at the 1 %, 5% and 10% level, respectively.

Table 6: Logit Analysis for the Determinants of the Delisting Decision

	Voluntary Delisting			Transfers to the Main market			Takeovers			Delisted due to regulations		
	(1)	(2)	Marginal Effect	(1)	(2)	Marginal Effect	(1)	(2)	Marginal Effect	(1)	(2)	Marginal Effect
Panel A. Variables measured at the IPO date												
Leverage	0.34*** (0.005)	0.33*** (0.007)	1.40	-0.20 (0.473)	-0.09 (0.771)	0.91	0.03 (0.548)	0.01 (0.686)	2.26	0.43** (0.010)	0.48*** (0.019)	4.39
MB	-0.04* (0.090)	-0.04* (0.092)	0.96	0.06 (0.566)	0.07 (0.469)	1.07	0.87** (0.034)	0.82* (0.060)	2.27	-0.03 (0.646)	-0.46 (0.202)	0.63
Insider Ownership	0.54 (0.243)	0.57 (0.222)	1.72	-1.93 (0.234)	-1.94 (0.240)	0.14	-0.01* (0.100)	-0.01 (0.113)	0.98	0.00 (0.379)	0.00 (0.500)	1.01
ROA	0.02 (0.439)	0.02 (0.437)	1.01	4.30** (0.014)	4.37** (0.016)	9.61	-0.92** (0.013)	-0.93** (0.027)	0.39	-0.01 (0.683)	-0.02 (0.741)	1.01
Size	-0.15 (0.961)	-0.20 (0.946)	1.02	0.60** (0.046)	0.62** (0.037)	1.83	-0.19 (0.403)	-0.06 (0.798)	0.93	-0.14 (0.386)	-0.47* (0.054)	0.61
Under-pricing		-0.00 (0.446)	0.99		-1.03* (0.093)	0.36		0.08 (0.854)	1.08		0.26 (0.339)	1.30
Dummy. Foreign IPOs	0.42 (0.432)	0.46 (0.409)	1.59	-0.36 (0.852)	-0.38 (0.609)	0.68	2.58 (0.999)	2.69 (0.999)	0.04	2.08 (0.998)	2.67 (0.998)	0.04
Dummy. VC backing	0.33 (0.168)	0.41 (0.147)	1.51	1.34 (0.187)	1.41 (0.151)	4.48	-0.18 (0.737)	-0.10 (0.863)	0.89	0.37 (0.432)	0.03 (0.940)	1.03
Dummy. High-tech industries	-0.33 (0.255)	-0.33 (0.228)	0.71	0.77 (0.371)	-1.52 (0.445)	2.20	-0.60 (0.346)	-0.69 (0.364)	0.51	0.49 (0.576)	1.00 (0.160)	2.72
Dummy. Nomad reputation	-0.37 (0.395)	-0.33 (0.410)	1.39	0.70 (0.538)	0.35 (0.227)	3.58	0.19 (0.715)	0.49 (0.402)	1.63	-1.03** (0.019)	-0.82* (0.082)	2.28
C	-1.03 (0.156)	-0.96 (0.156)	0.56	-1.40*** (0.486)	-0.45*** (0.002)	0.21	0.39 (0.685)	-0.20 (0.846)	0.87	-1.06 (0.112)	-1.60 (0.324)	0.42
Nagelkerke R2	0.331	0.354		0.413	0.426		0.514	0.457		0.257	0.364	
H.L. test	(0.154)	(0.125)		(0.534)	(0.112)		(0.723)	(0.223)		(0.115)	(0.349)	

Table 6 Cont.	Voluntary Delisting			Transfers to the Main market			Takeovers			Delisted due to regulations		
	(1)	(2)	Marginal Effect	(1)	(2)	Marginal Effect	(1)	(2)	Marginal Effect	(1)	(2)	Marginal Effect
Panel B. Variables measured one year before delisting												
Leverage	1.59** (0.034)	1.60** (0.033)	4.99	2.02 (0.993)	-0.24 (0.907)	1.08	-0.82 (0.994)	-0.72 (0.782)	2.05	4.02*** (0.002)	4.34*** (0.007)	5.56
MB	-0.02** (0.048)	-0.01** (0.048)	0.98	-0.15 (0.329)	-0.22 (0.244)	0.48	0.04 (0.568)	0.00 (0.574)	1.00	0.02 (0.295)	0.02 (0.250)	0.97
ROA	-0.63* (0.083)	-0.64* (0.081)	0.53	1.97** (0.048)	4.087** (0.023)	0.10	2.13 (0.451)	1.47 (0.251)	0.48	-0.06 (0.259)	-0.06 (0.291)	1.06
Insider Ownership	0.00** (0.020)	0.00* (0.084)	0.99	-0.01 (0.258)	-0.00 (0.707)	0.91	-0.06* (0.084)	-0.03* (0.070)	0.96	0.01 (0.898)	0.05 (0.425)	1.00
Intangibility	0.37 (0.355)	0.39 (0.342)	1.45	0.46 (0.668)	0.30 (0.738)	0.25	-3.34 (0.521)	-1.17 (0.484)	0.30	0.42 (0.656)	0.70 (0.478)	2.02
Size	-0.02 (0.997)	-0.02 (0.997)	1.00	1.29*** (0.002)	1.54*** (0.000)	2.05	-0.18 (0.312)	-0.42 (0.314)	1.53	-0.07** (0.015)	-0.04** (0.020)	0.96
Stock Turnover	-0.04 (0.813)			0.45* (0.065)			-0.06 (0.223)			0.10 (0.765)		
Log. Trade Volume		-0.01 (0.951)	1.00		0.53 (0.212)	0.31		-0.04 (0.951)	0.96		-0.10 (0.464)	0.90
CAAR[-365,0]	-0.37** (0.034)	-0.34** (0.040)	0.68	2.05*** (0.001)	2.20*** (0.001)	4.66	0.79 (0.995)	0.23 (0.701)	1.26	-0.72 (0.127)	-0.66 (0.177)	0.51
Stock Volatility	-2.94 (0.552)	-3.27 (0.525)	0.58	-3.10 (0.125)	-3.43 (0.271)	1.66	0.01 (0.218)	0.01 (0.190)	0.01	3.68 (0.804)	3.08 (0.844)	1.85
Beta	-0.34 (0.477)	-0.41 (0.440)	0.04	-2.18** (0.049)	-2.12** (0.062)	1.27	0.12 (0.521)	.30 (0.790)	0.73	1.34 (0.110)	1.36 (0.122)	0.25
SEO Dummy	-0.55* (0.060)	-0.55* (0.060)	0.65	0.23 (0.774)	0.04 (0.752)	1.52	2.54* (0.052)	2.91** (0.048)	4.95	-2.11** (0.015)	-2.33*** (0.002)	2.37
Dummy High-tech	-0.71* (0.054)	-0.70* (0.054)	0.48	0.885 (0.220)	0.23 (0.754)	1.83	-0.20 (0.124)	-0.28 (0.154)	0.94	-2.21** (0.046)	-2.14** (0.054)	0.12
IPO Life	0.12* (0.062)	0.11* (0.064)	1.12	0.03 (0.845)	0.13 (0.421)	0.43	-0.10** (0.058)	-0.13* (0.057)	2.01	-0.01** (0.019)	-0.02** (0.021)	0.99
C	-0.75 (0.252)	-0.72 (0.747)	0.42	-0.67*** (0.000)	0.37** (0.021)	0.01	2.84 (0.122)	1.88 (0.887)	0.14	-1.38 (0.251)	-0.39 (0.801)	0.67
Nagelkerke R2	0.150	0.177		0.513	0.439		0.884	0.861		0.541	0.560	
H.L. test	(0.520)	(0.301)		(0.969)	(0.792)		(0.418)	(0.551)		(0.889)	(0.834)	

This table presents the results for the logit regression for the factors affecting the delisting decision. Panel A shows the results using the explanatory variables at the exact time of the IPO. Panel B presents the results using the explanatory variables at the year prior to the delisting. Panels A and B show the results the logit regression, in which the dependent variable is categorised as 0 and 1 at the time of the IPO and one year before delisting, respectively. 0 is representing the surviving companies and 1 is for delisting companies due to different reasons (voluntary delisting, transferred, takeovers, and regulations). SEO Dummy is a dummy variable equal to one if the company raised capital and zero otherwise. Under-pricing is 1st price day minus price offer over price offer. $CAAR_{[-365,0]}$ is cumulated average abnormal returns one year before the delisting date. Beta is collected from Bloomberg. Dummy VC backing is a dummy variable set to one for a venture capitalist. Dummy high-tech industry is a dummy variable set to one if a firm is in computer manufacturing, electronic equipment, computer and data processing services, and optical, medical, and scientific equipment. Dummy Nomad Reputation is a dummy indicating whether the Nomad is among the top 20% advisors ranked according to numbers of IPOs. IPO life controls for the firm's public life. The remaining variables are as defined in Table 2. The Hosmer and Lemeshow (H.L) test shows the goodness-of-fit of the subsequent models. Its significance shows that the model does not fit the data. ***, **, * indicate that the estimate is significant at the 1 %, 5% and 10% level, respectively. The p-values are reported in parentheses.

Table 7: Cox Proportional Hazard Model for the Delisting Decision

	Voluntary Delisting			Transfers to the Main market			Takeovers			Delisted due to regulations		
	(1)	(2)	Hazard Ratio	(1)	(2)	Hazard Ratio	(1)	(2)	Hazard Ratio	(1)	(2)	Hazard Ratio
Leverage	0.44** (0.048)	0.44** (0.039)	1.552	-0.98 (0.550)	-0.667 (0.687)	0.513	-1.21** (0.014)	-1.03** (0.025)	2.805	0.91*** (0.004)	0.88*** (0.004)	2.878
MB	-0.03* (0.057)	-0.01** (0.044)	0.990	-0.04 (0.693)	-0.02 (0.889)	0.982	0.03 (0.959)	0.03 (0.975)	1.000	-0.12 (0.267)	-0.02 (0.283)	0.978
ROA	-0.06 (0.218)	-0.06 (0.179)	1.008	5.24** (0.026)	6.20** (0.013)	3.480	0.27 (0.177)	0.35 (0.213)	2.668	-0.09* (0.063)	-0.08* (0.056)	1.008
Insider Ownership	0.01** (0.021)	0.01** (0.037)	1.162	-0.01 (0.424)	-0.00 (0.846)	1.003	-0.07* (0.052)	-0.08* (0.067)	0.992	0.00 (0.830)	0.01 (0.726)	1.000
Intangibility	0.15* (0.098)	0.15** (0.011)	1.006	-0.12 (0.424)	-0.69 (0.200)	2.009	-1.00 (0.127)	-0.93 (0.365)	0.395	0.74* (0.057)	0.63** (0.047)	1.887
Size	-0.11*** (0.000)	-0.19*** (0.000)		0.07** (0.050)	0.11*** (0.000)	1.120	-0.04** (0.018)	-0.07** (0.030)	0.933	-0.05* (0.067)	-0.08* (0.070)	1.018
Stock Turnover	-0.03 (0.789)		0.864	0.35* (0.056)			0.02 (0.855)			0.02 (0.610)		
Log. Trade Volume		-0.14** (0.047)	1.308		0.32 (0.196)	1.387		0.04 (0.758)	1.044		-0.04 (0.582)	1.049
Stock Volatility	-0.45 (0.392)	-0.58 (0.336)	0.688	-0.75 (0.253)	-0.58 (0.262)	1.335	2.57 (0.383)	0.74 (0.506)	1.031	0.36 (0.155)	0.13 (0.233)	1.201
Beta	-0.25 (0.655)	-0.37 (0.527)	0.401	-0.58 (0.381)	-0.69 (0.302)	2.456	0.67 (0.221)	0.57 (0.311)	1.784	0.16 (0.712)	0.20 (0.635)	0.816
SEO Dummy	-0.87*** (0.000)	-0.91*** (0.000)	0.702	0.20 (0.715)	0.42 (0.469)	1.526	2.90*** (0.006)	2.90*** (0.007)	1.315	-0.83** (0.021)	-0.77** (0.031)	2.177
Dummy High-tech	-0.29 (0.212)	-0.35 (0.151)	0.627	-0.09 (0.865)	-0.14 (0.802)	0.869	-1.10* (0.085)	-1.05* (0.095)	0.534	-1.92* (0.057)	-1.86* (0.065)	0.155
Delisted Firms	155	155		29	29		81	81		115	115	
Control Firms	155	155		29	29		81	81		115	115	
Likelihood Ratio Test	1645*** (0.000)	1551*** (0.000)		208*** (0.000)	206*** (0.000)		170*** (0.000)	167*** (0.000)		658*** (0.000)	639*** (0.000)	

The sample includes all voluntarily delisted firms, transferred to Main market, Takeovers, and Delisted due to regulations in 1995-2009. Variables measured one year before delisting. The dependent variable is time to delisting, assuming that there is a probability of delisting every year. SEO Dummy is a dummy variable equal to one if the company raised capital and zero otherwise. High-tech dummy is equal to one if a firm is in computer manufacturing, electronic equipment, computer and data processing services, and optical, medical, and scientific equipment. The remaining variables are defined in Table 2. The hazard ratios of Model (4.2) in the last column indicate the marginal effect of a unit increase in independent variable for continuous explanatory variables and the marginal effect when the event occurs for discrete explanatory variables. If the hazard ratio is greater than one the reference category (here 1) has a shorter time to event and if it is equal to one there is no difference between the groups. p-values are in parentheses. ***, **, * significant at the 1 %, 5% and 10% level, respectively.

Table 8: Leverage and external financing of delisted firms

	Sample	Year 0	Year +1	Year +2	Year +3	Year >3
Panel A: Voluntary Delisting						
Leverage	Delisted	-0.054** (-2.16)	0.004 (0.17)	0.030** (1.78)	0.002*** (2.25)	0.016 (0.35)
	Public	-4.699* (-1.94)	-8.241 (-1.00)	-8.131** (-1.97)	-11.018 (-1.28)	-10.509* (-185)
Debt Financing	Delisted	-2.278 (1.41)	3.462** (2.05)	1.331* (1.72)	0.067* (1.69)	3.018 (1.13)
	Public	0.000 (0.20)	-0.000 (-0.25)	-0.000 (-0.37)	0.000 (0.41)	0.001 (1.08)
Equity Financing	Delisted	0.004 (1.49)	-0.007 (-0.68)	-0.005* (-1.78)	-0.009* (-1.69)	0.001 (0.26)
	Public	0.020** (2.18)	0.021** (2.10)	0.026** (2.37)	0.013 (1.58)	0.030* (1.77)
ROA	Delisted	0.012 (1.44)	-0.234** (-2.03)	-0.134 (-1.03)	-0.019 (-0.147)	-0.100 (-1.59)
	Public	0.525 (0.31)	3.355* (1.85)	0.745 (0.36)	1.367 (0.599)	-0.190 (0.09)
Panel B: Transfer to Main Market						
Leverage	Delisted	-0.038 (-0.84)	0.0779 (1.40)	0.046 (0.72)	-0.004 (-0.09)	0.102 (0.58)
	Public	-0.202 (-0.00)	3.353 (0.49)	-6.370 (-0.91)	-4.162 (-0.25)	-4.526 (-0.35)
Debt Financing	Delisted	-0.316 (-0.285)	0.350 (1.46)	-0.321 (-0.183)	1.060 (0.69)	-3.923 (-1.46)
	Public	0.001 (1.40)	0.001 (1.34)	0.002* (1.71)	0.002 (1.41)	0.003 (1.03)
Equity Financing	Delisted	0.001 (0.54)	0.002 (0.41)	-0.000 (-0.21)	-0.001 (-0.43)	0.000 (0.92)
	Public	5.120*** (2.83)	5.110*** (2.66)	4.960** (2.48)	5.031** (2.39)	4.791* (1.75)
ROA	Delisted	0.868 (0.44)	-0.830 (0.78)	1.566* (1.77)	0.778 (1.00)	1.639 (1.53)
	Public	1.021 (1.52)	1.082* (1.93)	1.172* (1.94)	0.992 (1.29)	-0.092 (-0.20)

Table 8 Cont.	Sample	Year 0	Year +1	Year +2	Year +3	Year >3
Panel C: Takeovers						
Leverage	Delisted	-0.003 (-0.01)	-0.052 (-0.22)	-0.018 (-0.08)	-0.016 (-0.07)	0.451** (2.03)
	Public	-0.092** (-2.07)	-0.123*** (-2.91)	-0.123*** (-2.93)	-0.067 (-1.60)	-0.008 (-0.24)
Debt Financing	Delisted	-0.449 (-1.31)	-0.269 (-0.87)	-0.166 (-0.54)	-0.093 (-0.30)	-0.611** (-2.12)
	Public	-0.133 (-0.34)	-0.339 (-0.92)	0.048 (0.13)	-0.008 (-0.02)	0.101 (0.32)
Equity Financing	Delisted	0.790 (0.03)	2.245 (0.21)	1.578 (0.17)	1.060 (0.17)	-1.394 (-1.26)
	Public	0.748 (0.30)	2.841 (0.09)	-0.661 (-0.35)	1.269 (0.14)	-0.845 (-0.87)
ROA	Delisted	0.133 (0.79)	0.067 (0.44)	-0.084*** (-2.56)	-0.131* (-1.86)	0.141 (0.99)
	Public	0.437** (2.19)	0.125 (0.66)	0.248 (1.31)	0.122 (0.65)	0.355** (2.20)
Panel D: Delisted companies due to regulations						
Leverage	Delisted	-0.113** (-2.45)	-0.147*** (-3.22)	0.086* (1.84)	0.030 (0.62)	0.001 (0.03)
	Public	-0.032 (-1.07)	-0.056* (-1.93)	-0.016* (-1.57)	0.014 (0.50)	-0.016 (-0.65)
Debt Financing	Delisted	-0.185 (-0.90)	-0.253 (-1.26)	-0.275 (-1.35)	-0.193 (-0.92)	-0.083 (-0.43)
	Public	-0.338 (-0.66)	0.680 (1.37)	-0.104 (-0.21)	-0.036 (-0.07)	0.079 (0.19)
Equity Financing	Delisted	0.925 (0.08)	0.959 (0.07)	0.638 (0.07)	0.594 (0.07)	0.881 (1.52)
	Public	0.557 (0.45)	-0.297 (-0.47)	0.226 (0.07)	0.804 (0.20)	-0.362 (-0.66)
ROA	Delisted	-0.453 (-0.17)	-0.283 (-0.11)	-0.028** (-2.01)	0.014 (-0.01)	-0.542* (-1.73)
	Public	-0.043 (-0.14)	0.087 (0.28)	0.686** (2.21)	0.155** (2.50)	-0.042 (-0.16)

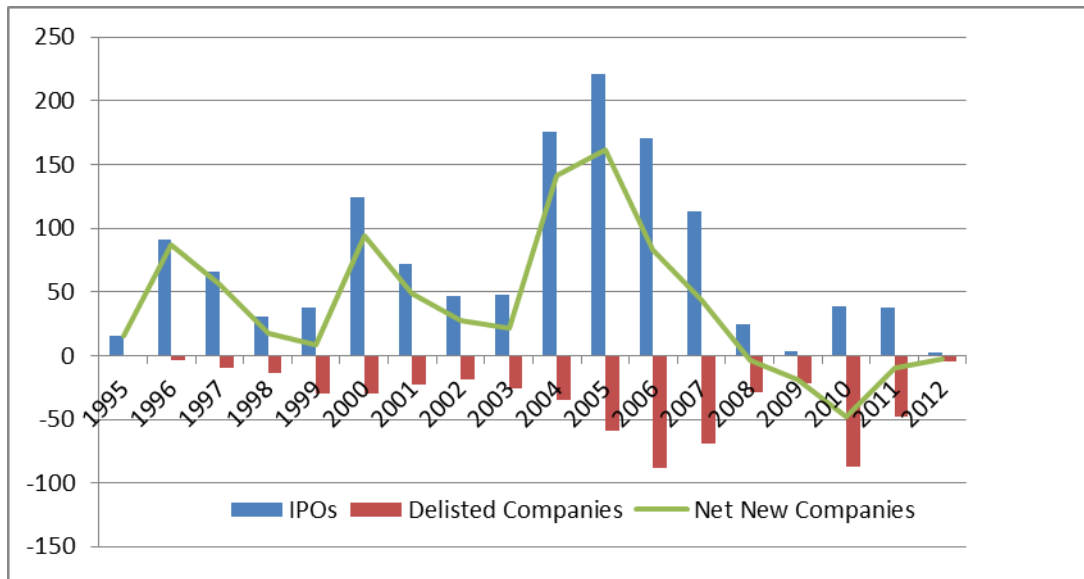
The table presents the results of $y_{it} = \alpha + \sum_{j=0}^3 \beta_j IPO_{t-j} + \beta_4 IPO_{t-n} + u_i + d_t + \varepsilon_{it}$. Here u_i and d_t are firm specific and calendar year specific effects. IPO_{t-j} are dummy variables equal to one if year $t-j$ was the IPO year, IPO_{t-n} is a dummy variable set to one if the IPO took place more than 3 years before. The table reports the coefficients on the IPO and the post IPO periods. Y refers to leverage, debt financing, and equity financing. Leverage is total debt divided by total assets. Debt financing is debt issued divided by total capital employed. Equity Financing is equity issued divided by total capital employed. The t-statistics are reported in parentheses. The last column reports the p-value of f-test of the hypothesis that the sum of the coefficients of all the post-IPO dummies is equal to zero. ***, **, * indicate that the estimate is significant at the 1 %, 5% and 10% level, respectively.

Table 9: Market Reaction to the Delisting Announcement

	Delisting Method			
	Voluntary	Transfer	Takeovers	Legislation
Panel A. Excess Returns Around Announcement Dates				
N	153	27	75	115
CAR -360,-2	-1.57%	13.77%	4.95%	-6.19%
P-value (Z-test)	(0.045)**	(0.001)***	(0.526)	(0.000)***
%Positive	45.22	51.85	42.67	23.48
CAR -20,-2	-2.69%	1.59%	-9.48%	-3.32%
P-value (Z-test)	(0.231)	(0.474)	(0.002)***	(0.221)
%Positive	45.1	43.35	32	34.35
CAR -5,+5	-10.05%	0.50%	-4.58%	-1.17%
P-value (Z-test)	(0.000)***	(0.704)	(0.020)**	(0.570)
%Positive	43.14	40.74	33.33	37.04
CAR -1,+1	-7.39%	0.59%	-0.90%	-0.27%
P-value (Z-test)	(0.000)***	(0.506)	(0.445)	(0.834)
%Positive	47.06	48.15	46.67	37.91
CAR 0,+1	-8.32%	0.37%	-0.71%	-0.61%
P-value (Z-test)	(0.000)***	(0.572)	(0.452)	(0.499)
%Positive	47.06	37.04	46.67	37.91
CAR +2,+20	-1.93%	1.67%	-9.60%	-4.95%
P-value (Z-test)	(0.664)	(0.267)	(0.007)***	(0.037)**
%Positive	32.03	43.75	34.67	69.57
Panel B. Panel B. CAR _{-1,+1} of voluntary delisted firms split into changes in leverage				
	N	CAR _{-1,+1}	P-value (Z-test)	%Positive
Voluntary delisting - increase leverage	40	-10.57%	(0.020)**	47.76
Voluntary delisting - decrease leverage	80	-4.77%	(0.018)**	35.29
Increase – Decrease leverage			(0.045)**	

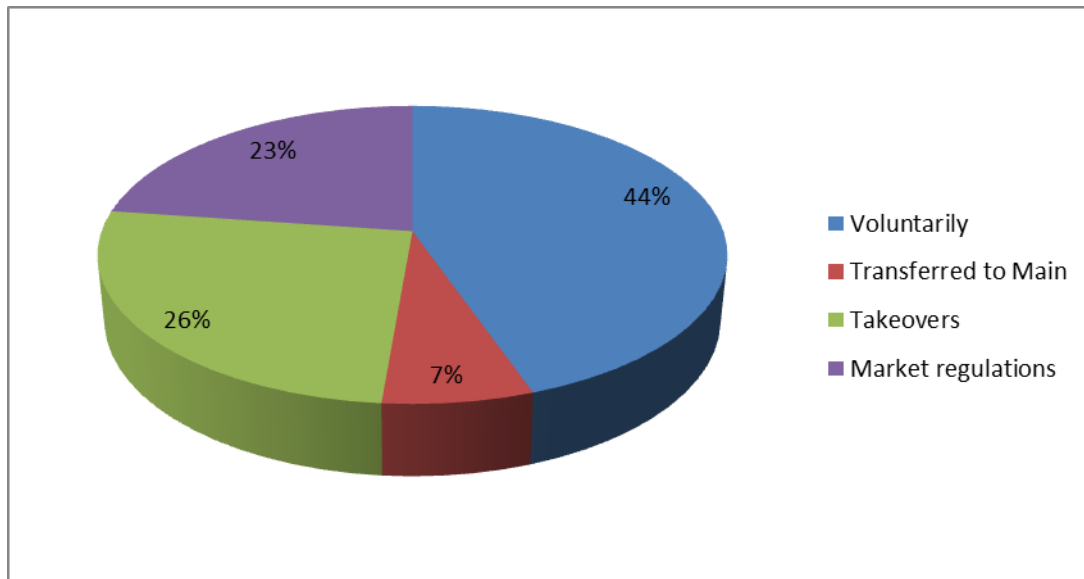
The abnormal returns are based on the market model with the coefficients α and β computed over the -257 to -21 days relative to the announcement date of the delisting. The FTSE AIM share index is used as a proxy for the market return. The sample excludes 2 voluntary delisting firms, 2 firms that transferred to the Main market, 6 takeovers because their stock price data was not available on DataStream. ***, **, * indicate that the estimate is significant at the 1 %, 5% and 10% level, respectively.

Figure 1: Non-Financial IPOs and Non-Financial Delisted Companies



This graph shows the annual distribution of the number of listed and delisted of IPO companies in AIM during the sample period (1995-2012). The sample excludes financial companies because of their specific characteristics. IPOs are the newly listed firms. Delisted are firms that went out of the AIM market through voluntarily, Transferred to Main, Takeovers, and Market regulations reasons. *Net New Companies* is the difference between the number of IPOs and the Number of delisted companies.

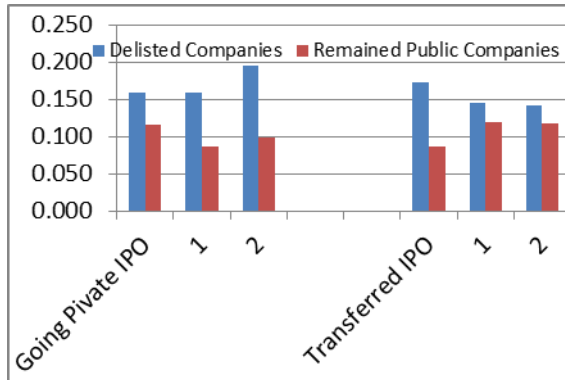
Figure 2: Delisting Reasons



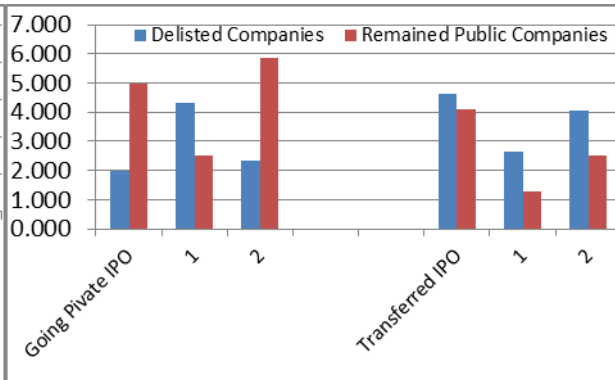
This figure shows the proportion of reasons for delisting on AIM. The sample includes non-financial firms. The data is extracted from the AIM statistics provided by the London Stock Exchange over the period 1995 to 2009.

Figure 3: Trend in Firms' Characteristics in Post-IPO Period

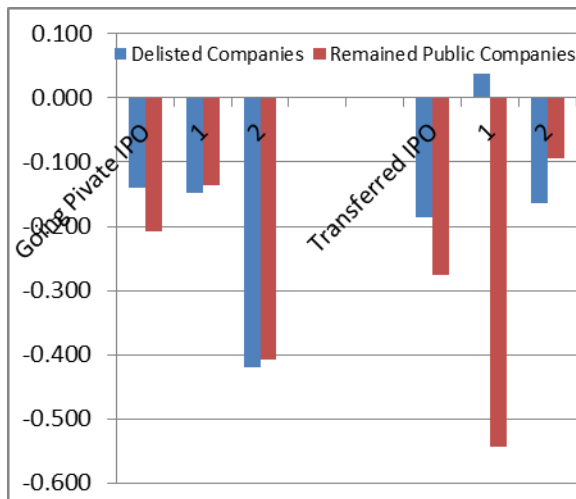
Panel A. Leverage



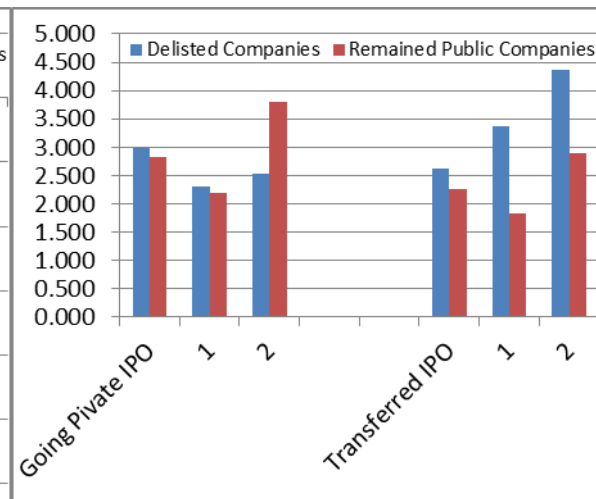
Panel B. Market-to-Book Ratio



Panel C. ROA



Panel D. Size as measured by Log of market value of equity



The sample includes 158 firms that delisted voluntarily (*Going Private IPO*) and 26 firms that transferred from AIM to the Main market (*Transferred IPO*). The Remained Public Companies are the control firms based on the IPO date and size as measured by market value of equity at the IPO date. The sample period spans from 1995 to 2009. The data for the IPO date is extracted from the prospectuses and the market value of the firm used in Panel B. and Panel D. Is based on the issue price times the number of shares issued. In year 1 and year 2 after the IPO, the data is extracted from DataStream. In Panel A. Leverage is total debt divided over total assets. In Panel C. ROA is the ratio of earnings before interests and taxes over total assets.

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