# Essays on equity finance and small firms

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# Abstract

This thesis comprises three main empirical chapters, an Introduction and Conclusion. Chapter 2 analyses 903 firms that voluntarily delisted from the London Alternative Investment Market (AIM) to identify the factors affecting this delisting. The models are estimated using logit and propensity score matching is used to deal with endogeneity issues. It finds that the likelihood of voluntary delisting is positively related to firm size and growth opportunities, while it is negatively related with intangible assets and profitability levels.

Chapter 3 examines firms' preferences for private equity versus public equity by analysing 261 equity crowdfunding offerings on Crowdcube versus 122 AIM offerings in the UK from 2013 to 2018. It concludes that firms with lower pre-money valuations and reduced equity offerings are more inclined towards equity crowdfunding. Moreover, companies with a lower proportion of stock issued and higher pre-money valuations have superior results in ECF campaigns.

Chapter 4 analyses the performance of ECF campaigns on the unique angel crowdfunding platform, SyndicateRoom. Utilizing a sample of 130 campaigns on SyndicateRoom from 2013 to 2018, the analysis concludes that companies with more substantial fundraising goals attract more capital, and a higher level of equity offered increases individual investor participation. When comparing with financially comparable campaigns on the other platforms, campaigns on SyndicateRoom demonstrate worse performance regarding the likelihood of meeting fundraising goals and of the total capital raised.

The last chapter presents a conclusion, delineates the constraints that observed throughout the research, and proposes prospective avenues for future studies.

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# Declaration

I declare that this thesis has been composed solely by myself and that it has not been submitted, in whole or in part, in any previous application for a degree. Except was stated otherwise by reference or acknowledgment, the work presented is entirely my own.

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# Chapter 1 Introduction

Equity financing is the process of obtaining capital by selling shares in a business. This can take the form of public equity where shares are publicly sold on a stock exchange via Initial Public Offerings (IPO). Alternatively, it can take the form of private equity where shares are sold privately. Common forms of private equity financing include equity crowdfunding campaigns on an equity crowdfunding platform like Crowdcube or shares sold privately to venture capital or business angel investors.

This method offers several benefits, including enhanced liquidity, the facilitation of better borrowing conditions, risk diversification, and higher investor recognition. Secondary stock markets, dominated by small firms, provide financing options for companies that fail to meet the listing requirements of the primary market. The London Alternative Investment Market (AIM) is a highly successful example in Europe, representing 79% of the IPOs from 1995 to 2011. Prior research has extensively examined the reasons why firms prefer the London AIM (Baker et al. 2002; Vismara et al. 2012; Ritter et al. 2013) and its popularity can be largely attributed to its flexible listing requirements and lenient regulations.

Recently, there has been an unusual decrease in the number of public companies in the U.S. which has been referred to as the "listing gap" by Doidge et al. (2013). This phenomenon has also been observed in the UK as a result of a growing number of delistings from the London AIM. Using data from monthly AIM factsheets downloaded from London Stock Exchange website, nearly 62% of total delisted firms leave the

London AIM “at the request of the company”, referred to voluntary delistings in this thesis. Voluntary delistings are managerial decisions made by the firms themselves, as opposed to involuntary delistings, which occur when a company is removed from the stock exchange due to its failure to meet regulatory requirements. In general, voluntary delistings occur when the costs exceed the benefits received from listings.

In Chapter 2, the motivations behind firms' voluntary delistings from London AIM are investigated as are the determinants of various types of delistings. The findings show that firms choose to delist from London AIM when they have high growth prospects. Venture capital may be an alternative option for firms with greater growth prospects rather than going public. The avoidance of unnecessary disclosure is another key determinant of voluntary delistings. Delisting is necessitated by inadequate financial performance, whether voluntary or involuntary. Voluntary and involuntary delistings are the polar opposite of the determinants of successful exits (delist for takeover and upgrade to the Main Market). The most suitable listing option for larger firms may not be London AIM.

London AIM and equity crowdfunding (ECF) have become two new opportunities for young and small companies in the UK that are pursuing capital for development and expansion over recent decades. The status of the firm is one of the most significant distinctions between these two alternatives. Firms that are listed on AIM have publicly quoted and traded shares, whereas those that opt for equity crowdfunding remain private. In addition, ECF campaigns can be perceived as one stage in the process of exiting via an IPO (Coakley et al., 2022). There are several similarities between initial

ECF campaigns and IPOs, and therefore it is logical to employ them to compare the decision between public and private equity.

Chapter 3 examines the choice between private versus public equity choice by employing a sample consisting of 261 ECF campaigns and 122 AIM IPOs. The results indicate that firms with a lower level of equity issuance and lower pre-money valuations tend to favour ECF campaigns over listing on London AIM. As stated in Chapter 2, private equity, specifically ECF, provide a means for innovative companies to raise equity funding while maintaining the confidentiality of their novel process and intellectual capital. The determinants of success in ECF campaigns are analysed. This chapter provides empirical evidence that firms that sell less equity (Ahlers et al., 2015; Vismara 2016) and those higher pre-money valuations (Astebro et al., 2017; Wasiuzzaman and Suhili; 2021) are more likely to succeed and attract more investors.

Equity crowdfunding is a novel financing method that enables firms to raise capital digitally from both the crowd and institutional investors. However, it has resulted in the emergence of some agency problems (Agrawal et al., 2016) and information asymmetries (Ahlers et al. 2015; Bapna, 2017). Syndicate equity crowdfunding has emerged, and this combines the advantages of venture capital (business angel) syndication and pure ECF platform since 2016. Lead investors serve as representatives to conduct due diligence on behalf of both professional and crowd investors. Consequently, ECF syndicate platforms bring benefits to both investors and firms: they provide start-ups' access to capital and the networks of lead investors and co-investors, while simultaneously protecting crowd investors by mitigating information

asymmetries.

Chapter 4 focuses on SyndicateRoom, the pioneering angel ECF platform in the UK, examine the factors affecting the probability of success and performance of its ECF campaigns. The findings indicate that fundraising goals and equity offered have a significantly positive impact on the total amount raised and the amount contributed by investor, respectively. Since Crowdcube and Seedrs recognized the benefits of the lead-investor model and implemented it in late 2015, the chapter analyses the performance of campaigns on both SyndicateRoom and the other two platforms. Although SyndicateRoom was the first to adopt lead-investor model in the UK, SyndicateRoom campaigns tend to be less likely to achieve their initial fundraising goals, they accumulate less capital, but they attract larger individual contributions from investors.

Overall, this thesis presents an extensive review of equity financing for small firms in the UK, by analysis exits from the London AIM, contrasting public (AIM listings) and private equity (ECF campaigns, and finally analysing ECF campaigns on the distinctive angel ECF platform, SyndicateRoom. Through its empirical investigation, it aims to address a gap in the current literature by studying how firms' financial characteristics affect their choice of equity financing methods.

# Chapter 2 Delistings and other exits from AIM

## 2.1 Introduction

Established in 1995, AIM serves as a second-tier stock market designed to alleviate the barriers to raising public equity for emerging growth firms. The market is characterized by its exchange regulation and light-touch regulatory framework (Vismara et al., 2012). The early success of AIM can be attributed to several factors, including low entry and exit costs, a light-touch regulatory approach, and a historical lack of private equity available to founders on favorable terms. However, over the past decade, there has been a significant increase in the availability of private equity for high-growth startups and ventures. This shift has been largely driven by the increasing participation of venture capital firms and institutional investors, as well as the rise of equity crowdfunding and angel investing platforms (Ewens and Farre-Mensa, 2022).

Delisting is defined as the operation of removing firms from a stock exchange's official register (Sanger and Peterson, 1990; Macey et al., 2008). The delisting phenomenon has become more significant in terms of the number of firms involved relative to those in Initial Public Offerings (IPOs) in the US, the UK and most of the stock markets of continental Europe (Fidanza et al., 2018). It is also part of the listing gap or abnormal decline in listings identified for US and advanced economy stock markets by inter alios Doidge et al. (2017) and Lattanzio et al. (2023). This paper focuses on delistings, a topic that continues to receive less attention relative to IPOs (Sanger and Peterson 1990; Liu et al. 2012; Kashefi Pour and Lasfer, 2013; Croci and

Del Giudice 2014).

Previous studies report a decreasing number of listed firms or a decline in public equity in the USA since 1996 (Gao et al., 2013; Doidge et al., 2017; Grullon et al., 2015; Lattanzio et al., 2023). Doidge et al. (2017) emphasize that the decline in new listing numbers is accompanied by a growing number of delistings, leading to a fall in public companies or the “listing gap” in the USA. A similar pattern can be identified in the UK and across continental Europe. For example, the number of registered companies in the London Alternative Investment Market (AIM) reached a peak of 1694 in 2007 but the number had virtually halved to 852 in 2021. Indeed, the net numbers of AIM-listed firms have fallen each year since 2007 (with 2 small exceptions) as delistings have outnumbered IPOs. The predominant reason for delisting accounting for around half of all delisted companies, is "at the request of the company", often known as a voluntary delisting. According to AIM Rule 41, a firm wishing to leave the AIM must notify the London Stock Exchange (LSE) at least 20 business days prior to the intended cancellation date upon approval from no less than 75% of shareholders at a general meeting. This notification to the Exchange should be made by the firm’s representative, Nomad.

This paper studies delistings on the London AIM, which is one of the longest-established second-tier stock markets focusing on growth companies. The AIM factsheets downloaded from the London Stock Exchange website groups the reasons for delisting in AIM into four categories: (1) “at the request of the company” known as voluntary delisting; (2) “delisting due to AIM regulations” or involuntary delisting; (3)

takeovers and (4) transfer to the Main Market. This paper considers (3) and (4) as “successful exits” due to their delisting reasons being seen as an upgrade. All data is collected from the official London AIM website using monthly AIM factsheets and this results in a final sample consisting of 903 voluntarily delisted firms, 619 involuntarily delisted firms and 286 successful exits. The 1250 AIM-listed firms are included as control firms. The paper employs a binary logistic regression model to test whether firms’ financials in the IPO year and the year prior to delisting from London AIM can explain exits. All the financials are downloaded from DataStream. The IPO date and the year of delisting are hand-collected from the annual Issue list archive and monthly AIM factsheets, respectively.

Delisting by a firm is sometimes perceived as being connected to poor performance or even losses, although this may not necessarily be the case. Within mature capital markets, a substantial number of companies will pursue going private and delisting as a means of strategic restructuring while avoiding public attention. It is necessary to distinguish between voluntary delisting and involuntary delisting due to the complexity of delisting (Macey et al., 2008). Involuntary delisting occurs when a firm is forced to leave the stock market because it has breached a regulation(s). Examples of the latter include bankruptcy and liquidation and the loss of a Nomad. A voluntary delisting, on the other hand, is performed at the firm's own request and can be further categorized into a "going private transaction" (GPT), cross-delisting, or deregistration, depending on whether the firm continues to trade after delisting (Martinez and Serve, 2017).

The paper makes two contributions to the existing literature. First, it sheds new

light on the London AIM market over 1997-2021 period, a much longer and more varied sample period than those employed in extant studies. This matters since AIM witnessed a spectacular growth period from its inception in 1995 up to a peak in 2007 just prior to the Great Financial Crash. Most extant studies are dominated by this period. Thereafter, it saw a steady decline in listings from 1550 in 2008 to a low of 852 in 2021. Moreover, its period of relative decline includes three major exogenous shocks – Great Financial Crash, Brexit and Covid-19 pandemic.

Second, it extends and complements the findings from existing studies using the same methodology to investigate both voluntary delistings and other exit events. The results show that the motivations for voluntary and involuntary delistings are similar. Moreover, they add new evidence to the literature on the reasons for delistings and other exits. Consistent with previous studies (Leuz et al., 2008; Martinez and Serve, 2011; Thomsen and Vinten, 2014), poor financial performance is a key determinant of delistings. The result indicate that larger firms are more likely to delist from the stock market contrary to the findings to extant studies (Weir et al., 2008; Engel et al., 2007; Leuz et al., 2008).

These results also add to the existing literature on voluntary delistings. In general, firms would choose to leave the market when the costs of listings exceed their benefits (Marosi and Massoud, 2007; Leuz et al., 2008). The reasons for voluntary delisting can be summarized as follows: undervaluation (Maupin et al., 1984; Opler and Titman, 1993; Weir et al., 2005; Renneboog et al., 2007; Thomsen and Vitnen, 2014), low growth prospects (Lehn and Poulsen, 1989; Kim and Lyn, 1991; Bancel and Mitoo,

2009; Doidge et al., 2010; Chaplinski and Ramchand, 2012; Kashefi Pour and Lasfer, 2013), agency costs and free cash flow problems (De Angelo et al., 1984; Jensen, 1986; Lehn and Poulsen, 1989; Bharath and Dittmar, 2010), preventing hostile takeover and obtaining tax benefits (Lowenstein, 1985; Renneboog et al., 2007), and the rise of private equity (Ewens et al. 2022).

Our findings show that the factors influencing voluntary delistings, involuntary delistings, and successful exits are similar but not identical. The market-to-book ratio, size, intangibility and profitability in the IPO year predict firms' voluntary delisting decisions, whereas intangibility in the year preceding voluntary delistings has no effect. Similarly, leverage, size, intangibility, and ROA in the pre-IPO year can forecast involuntary delistings. Size, ROA, cash flow and stock volatility in the year prior to delisting can also explain involuntary delisting. Leverage, size, and cash flow are all predictors of successful exits. Only size and cash flow have a meaningful influence on company decisions using data one year before successful exits. In contrast to the size hypothesis proposed and successfully tested in the existing literature (Kim and Lyn, 1991; Kieschnisck, 1998; Leuz et al., 2008; Weir et al., 2008), our findings suggest that larger firms are more likely voluntarily and involuntarily to delist from the London AIM. In contrast to Kashefi Pour and Lasfer (2013) and Bharath and Dittmar (2010), who found that firms delist from the stock market voluntarily when they are unable to raise additional capital, our findings indicate that all types of delisting are primarily driven by their poor financial performance, as measured by profitability.

The remainder of this paper unfolds as follows: Section 2 reviews and discusses the

related literature; Section 3 presents the research design, including the research question, hypotheses development, sample construction and the description of methodology; Section 4 presents the descriptive statistics and regression results. Section 5 concludes.

## 2.2 Literature Review

### 2.2.1 Listing and Delistings

A variety of research has examined the variables that incentivize corporations to pursue public offerings. Pagano et al. (1998) illustrated that the issuance of initial public offerings (IPOs) can aid firms in rebalancing their finances, rather than solely financing future development and investment. Conversely, the majority of studies indicate that the principal motivation for initiating an IPO is to generate supplementary funds through capital restructuring and leverage (Kim and Weisbach, 2005; Bharath and Dittmar, 2010; Aslan and Kumar, 2010). Kim and Weisbach (2008) outline three primary motivations for listing: financing investments, the exchange of wealth from new to the current shareholders and enhanced liquidity.

Numerous studies have examined the benefits of being public. These benefits include enhanced liquidity, the facilitation of more tolerant borrowing conditions, risk diversification, and higher investor recognition. On the other hand, listing process involves several direct and indirect expenditures (Ritter, 1987), making the decision to go public a trade-off between the expenses and benefits of listing (Bharath and Dittmar, 2006). A company would deregister from the stock exchange if the expenses of listing exceed the advantages.

It is important to clarify that companies who voluntarily leave the public market aren't always the same as companies that opt to go private. Marosi and Massoud (2007) and Leuz et al. (2008) consider companies that delist willingly as "dark companies" because shareholders may suffer great wealth losses from the decision of delisting. Private companies, on the other hand, usually have larger sizes and higher free cash flow compared to dark companies, according to their result. Most of the studies concentrate on the US stock market, while in the UK, the shares of delisted companies in the UK stay private and are not liquid. This thus means that the action of leaving the stock market in the UK does not change the firms' market quotation. In this case, investors have two choices: they can either sell their shares before delisting or they can retain the identity of shareholders of a private company.

Martinez and Serve (2017) provide an extensive overview of delisting literature by differentiating between voluntary and involuntary delistings. Involuntary delisting occurs when a firm is removed from the stock market by a third party due to noncompliance with regulatory requirements. Involuntary delistings are also frequently precipitated by bankruptcy and liquidation (Macey et al., 2008). Additionally, underperformance (Baker, 2002; Fama and French, 2004; Wagner and Cockburn, 2010) and low market capitalizations prior to IPOs (Peristiani and Hong, 2004) provide significant predictive power for involuntary delisting. On the other hand, voluntary delisting occurs when a company chooses to withdraw from the market and it occupies the leading position among the reasons for delisting in European stock exchanges (Fontana et al., 2019; Leuz et al., 2008; Martinez & Serve, 2011). Unlike involuntary

delisting, the choice to exit the stock market is often a managerial decision. Furthermore, involuntary delisting signifies the cessation of trading for delisted companies, whereas voluntarily delisted companies have the option to continue trading or not (Martinez and Serve, 2017).

Early research suggests that cost reductions are the main incentive for voluntary delisting (DeAngelo et al., 1984; Lehn and Poulsen, 1989). The cost of regulatory compliance can be thought of as one of the determinants of making voluntary delisting decisions. The operational efficiency and level of profitability may be greatly improved in this case (Aslan and Kumar, 2010). Some financial characteristics greatly determine firms' capacity to cover listing costs, hence affect there voluntary delistings decisions. Smaller firms are more inclined to leave the stock markets due to heightened pressure from direct and indirect listing fees. (Kim and Lyn, 1991; Kieschnisck, 1998; Engel et al., 2007; Leuz et al., 2008; Weir et al., 2008). Similar to involuntary delistings, firms' unsatisfactory performance and limited growth prospects also have significant impact on voluntary delistings decisions (Leuz et al., 2008; Martinez and Serve, 2011; Kashefi Pour and Lasfer, 2013; Thomsen and Vinten, 2014). Financial visibility and stock liquidity also play significant roles on the voluntary delisting decisions (Bharath and Dittmar, 2010; Mehran and Peristiani, 2010; Martinez and Serve, 2011; Kashefi Pour and Lasfer, 2013). The concept of information asymmetry is frequently employed to explain the voluntary delisting decisions (Makrominas and Yiannoulis, 2021; Pagano et al.,1998; Bharath and Dittmar, 2010). In the U.S, Exogenous factors (such as market trends after an IPO, investment enthusiasm in the primary market, and the ease of

obtaining loans) can also have significant impacts on a company's decision to delist (Bharath and Dittmar, 2010).

The economic consequences of delisting will vary based on the type of delisting. Existing literature consent that involuntary delisting is regarded as an unfavourable occurrence for shareholders (Sanger and Peterson, 1990; Shumway, 1997) and a discipline for the managers since there would be a loss in value. On the other hand, voluntary delisting is regarded as a managerial decision and its economic consequences are strongly related to the firms' initial strategic objectives. In addition, involuntary delisting would have a negative impact on firms' value (Sanger and Peterson (1990; Panchapagesa and Werner, 2004; Harris et al., 2008). While involuntary delistings reduce shareholders' wealth, voluntary delistings always seem to result in a considerable gain in wealth, due to the absence of direct and indirect listing costs. Cumulative abnormal returns (CAR) estimated at the time of delisting announcement are employed to study the magnitude of extra wealth revenue (De Angelo et al., 1984; Lehn and Poulsen, 1989; Renneboog et al., 2007). The extent of this value creation varies geographically.

### 2.2.2 London AIM

In the last decade, a rising number of researchers have turned their attention toward the secondary market. Vismara et al. (2012) study European second markets and insist that these secondary markets principally target and attract small enterprises. Aslan and Kumar (2011) reach the same conclusion when studying public and private firms in the UK and further assert that larger firms prefer listing on the Main Market, whilst smaller

companies are more likely to choose to list on AIM since the regulations in the AIM are less stringent.

This framework is distinguished by several key characteristics that differentiate it from the Main Market. Notably, it features reduced entry requirements, eliminating minimum market capitalization thresholds and extensive trading history prerequisites while removing the necessity for FCA pre-vetting. The market's distinctive Nominated Adviser system enables companies to operate under specialized supervision rather than direct regulatory oversight, facilitating more adaptable governance structures. Furthermore, the admission process is streamlined through simplified documentation requirements and expedited approval procedures. This regulatory approach is complemented by more flexible ongoing obligations, encompassing less demanding reporting requirements and corporate governance standards, thereby creating an environment suitable for growth-oriented enterprises.

However, many academics are concerned that lighter regulations would result in underperformance compared to the Main Market. Comparisons of the long-term performance of firms listed in less-regulated markets and the Main Market have been performed to further study this problem. Vismara et al. (2012) examined 3755 European IPOS from 1995 to 2009 and concluded that firms listed on European stock exchanges outperform companies listed on secondary markets in terms of long-term stock price performance. Similarly, Gerakos et al. (2011) compared the characteristics and results of companies listed on the AIM and the Main Market in the United Kingdom and the United States. Their results reveal that AIM businesses have evidentially worse

performance in three different areas: post-IPO buy-and-hold returns, liquidity, and survival.

On the other hand, Nielsson (2013) provides strong evidence using a sample consisting of 8435 firms from 54 different countries and argues that AIM-listed firms have the same quality level (other than size) as firms listed on the Main Market in the US and continental Europe. Additionally, firms listed on AIM are inclined to raise more capital. Previous studies consider various aspects of the AIM and the Main Market, but few have examined the listing choice of firms. By looking at all the listing events that occurred in the UK and US stock markets from 1995 to 2006, it is visible that small firms tend to list on the AIM compared to U.S exchanges (Piotroski and Srinivasan, 2008). However, Doukas and Hoque (2016) further assert that it is a self-selection problem for firms in choosing their market platforms. This selection is largely affected by their age, size, investment and financing preferences and listing costs. According to the London Stock Exchange website, the AIM offers investors various opportunities to exploit government-backed tax relief systems, for example, capital gains tax relief and inheritance tax relief. Tax relief also has a significant impact on small companies to make this decision. The choice of the market platform also substantially impacts firms' future performance.

Arcot et al. (2007) believe that the superior geographical location of the City of London and the unique supervision system, which is constructed according to the characteristics of small and medium-sized enterprises, collaboratively contributed to the success of the AIM, through the analysis of the first-hand report and data of the LSE

website. The AIM is characterized by customized supervision managed by the private sector, including listing and disclosure requirements. Compared to other markets, the AIM has a unique regulatory mechanism relying highly on nominated advisors, which is completely different from most rule-based regulated markets, instead, it can be considered a principle-based approach (Rousseau, 2008). Although it was the Financial Services Authority in the UK that initially developed the principles of supervision for the London Stock Exchange, these principles are now used by nominated advisors (otherwise known as "nomads"). The nomads, chosen and hired by the listing firms, are often considered the core of the AIM regulatory framework. Espenlaub et al (2012) consider the roles of Nomads as the 'regulatory agents', while they decentralize the regulation. Piotroski (2013) thus assert that the Nomads in the stock Exchange operate not only serve as gatekeepers but also as monitors under the AIM guidelines. Moreover, the reputation of Nomad has a significantly positive correlation with IPO performance. To demonstrate this, Espenlaub et al (2012) studied 896 firms listed on the AIM between 1995 and 2004 and the IPO performance was expressed by its survival times.

To conclude, according to the exchange and Gerakos et. al (2013), this specific framework does not lead to weaker regulation, in contrast, it was designed for a customized, "light touch" regulatory system by the private sector. In practice, this "light touch" regulatory mechanism is operating well and has effectively played the role of improving the market's flexibility as well as liquidity and reducing risks.

## 2.3 Research Design

### 2.3.1 Research questions and Hypotheses

This paper explores the incentives for firms' delisting by assessing the inherent characteristics of delisted firms and firms that remain listed on the AIM. In order to gain a more comprehensive understanding of rationale for voluntary delistings, firms with alternative delisting reasons over the same period are also studied. These include "involuntarily delisted firms" typically through a breach of regulations and "successful exits" through a takeover or promotion to the Main Market.

The listing process is a decision that involves balancing the costs and benefits of being public. In other words, the delisting process is initiated when the costs increase or the benefits decrease, while the other remains constant. To elaborate on the research question, this paper tests four main hypotheses that might explain different delistings: (a) ability to raise capital, (b) asymmetric information, (c) free cash flow problem and (d) financial visibility. This section explains the hypotheses individually in detail and define the proxy variables used in each hypothesis.

#### 2.3.1.1 Ability to raise capital

Companies that list on the stock exchange become more transparent which could lead to more lenient borrowing conditions (Ritter, 1987; Pagano et al., 1998; Bharath and Dittmar, 2006). Furthermore, Kim and Weisbach (2008) claim that companies with substantial investment prefer to raise money on the stock market rather than employing other financing techniques with high leverage and transaction costs. Companies that are unable to obtain further capital and hence cannot seek an equilibrium point in their

capital structure may eventually quit the stock market owing to restricted growth possibilities and increased leverage. The ability to raise additional capital on the stock market is proxied by leverage, calculated by the ratio of total debt to total assets while firms' growth potential is measured by capital expenditure intensity and the market-to-book ratio, following Kashefi Pour and Lasfer (2013). The impact of leverage on delisting are studied and emphasized by a large number of research (Pagano et al., 1998; Bancel and Mittoo, 2008; Aslan and Kumar, 2011; Kashefi Pour and Lasfer, 2013; Balios et al., 2014). On the other hand, MTBV is shown to have a significant role in delisting decisions, along with firm size and operating margin (Martinez and Serve, 2011; Stefano et al., 2018; Fidanza et al., 2018; Agyei-Boapeah et al., 2019). It is reasonable to expect that companies will be more inclined to delist from the stock market if they find themselves unable to fund their future growth. The first hypothesis is therefore stated as:

H1: The probability of leaving AIM is inversely related to firms' ability to raise capital and to their growth opportunities.

2.3.1.2 Asymmetric information

The relationship between the propensity voluntarily to delist and the level of information asymmetry between issuers and investors is found to be positive. Bharath and Dittmar (2010) argue that this relationship is driven by adverse selection, duplicate monitoring, serendipitous information production and investor recognition. The adverse selection problem arises as a consequence of the fact that investors possess less information regarding the actual value of publicly traded companies than insiders. As a

result, outside investors want a high rate of return on equity to compensate them for the danger of purchasing a “lemon”. Hence, the level of information asymmetry is linked to the cost of adverse selection, which is negatively related with firms’ recognition and share prices. Previous studies (Pagano et al., 1998; Bharath and Dittmar, 2010) demonstrate that firms with higher levels of information asymmetry, proxied by the ratio of intangible assets and total asset, are more likely to leave the stock exchange. In addition, firm size, proxied by the logarithm of total assets, is also employed to test the level of information asymmetry. It is hypothesized that smaller firms with more intangible assets have higher level of information asymmetry, hence they are more likely to delist voluntarily.

On the other hand, the decision to go private appears to be linked to listing fees, with small firms being more highly probable to delist as the cost of remaining public rises (Kim and Lyn, 1991; Kieschnisck, 1998; Engel et al., 2007; Leuz et al., 2008). Moreover, small firms would attract less attention from the stock market and analysts, perhaps resulting in decreased share liquidity and more opportunities to go private (Boot et al., 2008; Michelsen and Klein, 2011). It is thus fair to assume that firms with smaller size and high intangible assets are more likely to delist voluntarily. The second hypothesis is stated as:

H2: The probability of leaving AIM is inversely related to the level of information asymmetry between investors and issuers.

2.3.1.3 Agency costs (Free cash flow problem)

Jensen (1986) argues that the agency conflict between managers and shareholders

caused by the free cash flow problem has an impact on public traded firms, particularly large firms with constrained growth potential. Lehn and Poulsen (1989) propose the agency cost reduction hypothesis and state that firms would have significant agency costs when the ratio of free cash flow (FCF) is too high, this also increases the probability of voluntary delisting. The evidence on this is mixed. In the USA, Opler and Titman (1993) and Leuz et al. (2008) support the hypothesis, suggesting firms that remain public have greater FCF than delisted firms. More recently, Bharath and Dittmar (2010) find that firms with high FCF are more likely to go private in the 1980s, but FCF is no longer a determinant for going-private decisions after 1990. In the UK and Continental Europe, there is no strong evidence to support the FCF hypothesis (Renneboog et al., 2007; Andres et al., 2007; Geranio and Zanotti, 2012; Kashefi Pour and Lasfer, 2013). Magni et al. (2021) study how the relationship between delisting choices and agency costs is affected by a firm's financial performance and argue that the going-private decision is encouraged by success in the stock market along with the high levels of free cash flows.

The proxies for agency costs (free cash flow problem) are return on assets (ROA) and the ratio of free cash flow to total assets, followed by Bharath and Dittmar (2010) and Fidanza et al. (2018). Firms' financial performance has been revealed to be closely connected to the delisting decisions. For example, Chaplinsky and Ramchand (2006) revealed that the average return on assets was negative for both voluntarily and involuntarily delisted firms, by assessing all the listings and delistings undertaken by international companies on the US stock exchange between 1961 to 2004. In continental

Europe, Martinez and Serve (2011) confirm the hypothesis that a negative relationship between the going-private decision and performance, proxied by the operating margin ratio. Similar results are obtained by Thomsen and Vinten (2014), Kashefi Pour and Lasfer (2013) and Leuz et al. (2008), measuring performance by negative ROA. Thus, the next hypothesis is stated as:

H3: The probability of leaving AIM is positively related to agency conflict costs.

2.3.1.4 Financial Visibility

Financial visibility plays a vital role in firms' delisting decisions (Mehran and Peristiani, 2010). Firms with declining growth in analyst coverage will find it much more difficult to attract potential investors because of a lack of financial information and this results in higher stock prices and therefore they are more likely to delist. Previous studies demonstrate the impact of stock illiquidity on going-private decisions (Engel et al., 2007; Bharath and Dittmar, 2010; Liu et al., 2012).

In this paper, stock volatility is employed to proxy for the level of financial visibility of a firm, consistent with Mehran and Peristiani (2010) and Achleitner et al. (2013). It is reasonable to postulate that stocks with a lower level of liquidity and a weaker analyst base would often have more volatile stock prices. The evidence on stock volatility is mixed. Mehran and Peristiani (2010) and Kashefi Pour and Lasfer (2013) do not find a significant relationship between stock volatility and voluntary delistings. In some research, stock volatility has been found to have an impact on the decision voluntarily to delist (Gregoriou and Nguyen, 2010; El Kalak et al., 2019; Yang et al., 2021; Bessler et al., 2022). We postulate that firms with high stock volatility have a low

level of financial visibility and, as a result, a higher propensity to delist voluntarily. The final hypothesis is therefore stated as:

H4: The probability of leaving AIM is inversely related to the level of financial visibility.

The above four hypotheses are not mutually exclusive nor completely independent. Thus, it is necessary to test them jointly. It would be worthwhile to establish the validity of each hypothesis in the context of the type of delisting. For example, it is established that firms delisted due to regulation would have worse financial performance than firms which can transfer to the Main Market. Therefore, the determinants of different types delisting and exits warrant further investigation.

### 2.3.2 Data and Sample

The names of delisted companies, together with their admission date, delisting dates and the reasons of delisting, were obtained from monthly AIM factsheets retrieved from the London Stock Exchange (LSE) website. 3044 delistings in total were collected from the 1997–2021 AIM factsheet. The full list of firms that remain listed on the AIM from 1995 until 2021 is downloaded from Eikon. Some of the companies are excluded due to missing ISIN (International Securities Identification Number) as it cannot be found in either Refinitiv Eikon or WRDS. Also, firms with a listing time of less than 1 year are removed.

Figure 2.1 presents the listing and delisting trend in London AIM from 1997 to 2021. The line *Net New IPOs* shows the difference between newly listed firms and delisted firms each year. This figure indicates that the number of IPOs stays high from 2004 to 2007 while the number of delistings reached a peak in 2009. This phenomenon

can be explained as a consequence of market conditions: bull stock markets (2004-2007) and bear markets (2008-2009). The value of *Net New IPOs* remains positive from 1997 to 2008, suggesting that more firms are willing to list on the AIM for financing before the financial crisis. However, the value of *Net New IPO*s turns negative from 2008 to 2021, except in 2013 and 2014, indicating that there are now far more firms leaving AIM compared to new stock market entries.

[INSERT FIGURE 2.1 HERE]

The reasons for delisting have been grouped into four categories, as specified on the LSE website: (i) Voluntary delistings that happen if companies delist at their request and the reason for delisting is stated on the LSE website "at the request of the company"; (ii) Transfer to the Main Market that happen if a firm delisted from the AIM and relist on the Main Market, which is a larger and more regulated market; (iii) Takeovers that happen if a delisted firm chooses to take over a privately-traded firm, change its name as well as their fundamental nature; (iv) Market regulation that happens when a company is delisted due to non-compliance with AIM Rules, such as a missing Nomad. Starting from its foundation in 1995, the predominant reason for delisting from the AIM starting until February 2007 was reverse takeovers (Arcot et al., 2007). However, our 25-year sample of 1997-2021 reveals a different story. Figure 2.2 shows the distribution of delisting reasons of the original sample, and this suggests that the majority of companies voluntarily leave AIM. These account for nearly 62% of total delisted firms (1842 firms) from 1997 to 2021.

[INSERT FIGURE 2.2 HERE]

The final sample comprises 903 voluntarily delisted firms and 905 firms that were delisted for other reasons from London AIM during the period of 1997 to 2021. In addition, the 1250 firms that remain on the London AIM are included for analyzing factors contributing to the delisting actions. These 905 delisted firms by alternative methods that can be divided into 3 different categories: 195 firms delisted for takeovers, 91 firms moved to the Main Market and 619 firms delisted owing to AIM regulation. This paper considers the first two kinds of delistings as a "successful exit" and defines firms' exiting due to AIM regulation as "involuntarily delisted firms".

Table 2.1 presents the annual time series distribution of the firms in our sample based on their delisting category. For each delisting category, the first column displays the number of sample firms that delisted each year and the second gives the number of sample firms that went public each year. The number of involuntary delistings and the number of voluntary delistings reached a peak between 2008 and 2009 and it is plausible to assume that this is related to the 2008 financial crisis. This is in line with Croci and Del Giudice (2014) who explain additional delistings as stemming from lower stock prices that would the decrease cost of a potential squeeze-out and enhance the incentives for controlling shareholders to take firms private. In addition, sample firms that listed on AIM in 2005 and 2006 are more likely to delist voluntarily while firms listing in 1996 have a greater probability of becoming "successful exits", either via takeover or transfer to the Main Market.

[INSERT TABLE 2.1 HERE]

Table 2.2 reports the number of years firms stayed in the AIM sample. Delisted

firms mostly stay public on AIM for three years. This is in line with Kashefi Pour and Lasfer (2013) who find that firms are listed for approximately four years before their choice of voluntary delisting, similar to firms delisted owing to regulations. Most successful exits stay in the AIM just for approximately 2 years before delisting.

[INSERT TABLE 2.2 HERE]

### 2.3.3 Methodology

The financials of firms' IPO date and one year before delisting are extracted and examined using a binary logistic model (Kashefi Pour and Lasfer, 2013). This regression measures the cross-sectional association between independent variables and the propensity of delisting. The dependent variable is the action of delisting: it takes the value of 1 for all delisted firms and zero for firms that stay on the AIM. To better understand factors affecting different types of delistings, voluntary delistings, involuntary delistings and successful exits are compared with controls firms individually.

The logit regressions can be therefore summarized as follows:

$$Prob(Delisting_i = 1) = a_1 + a_2 Leverage_i + a_3 MTBV_i + a_4 Size_i + a_5 Intangibility_i + a_6 ROA_i + a_7 Cashflow_i + +a_8 Volatility_i \quad (2.1)$$

In order to explore the factors that impact on delisting decision in light of the changes that occurred to the firms' features over time, we use the Cox proportional hazard model as a test for robustness using data one year before delisting. The aim is to assess simultaneously the impact of various factors on survival. In other words, it enables us to predict how the independent variables mentioned in the previous section

influence the rate of delistings of all kinds. This rate is commonly known as the hazard rate. Since this model has the advantage of using a maximum of information, it is frequently used by scholars (Lane et al. (1986) to model bank failure; Bharath and Dittmar (2010), Mehran and Peristiani (2010) to study going private decision; Kashefi Pour and Lasfer (2013) to analyse voluntary delistings on AIM).

The resultant hazard model is estimated as:

$$h\big(x, X(t)\big) = h(t, 0) exp\big(\gamma X(t)\big) \quad (2.2)$$

when $h\big(x, X(t)\big)$ is the hazard rate at time $t$ for a firm with covariates $X(t)$. The consequences of differences across businesses, along with changes through time, are considered in this model. The hazard ratio $\exp(\gamma)$ indicates the hazard of a particular event, in this case, delisting voluntarily, when the independent variable changes by one unit. It thus measures the marginal effect of the decision voluntarily to delist. A hazard ratio greater than 1 indicates that the voluntarily delisted firms have a lower chance of survival. If the hazard ratio for an independent variable is close to 1, then that variable is unable to explain the delisting decision.

### 2.3.4 Variables

The firm financials from 1995 to 2021 used are collected from Refinitiv Eikon and DataStream. Table 2.3 reports all the variables tested in the empirical model and their subsequent definitions.

[INSERT TABLE 2.3 HERE]

## 2.4 Results

### 2.4.1 Descriptive statistics

Table 2.4 presents the descriptive statistics of explanatory variables used in the regression analysis for voluntary delistings, involuntary delistings, successful exits and control firms, separately. The data for all variables reported are winsorized at the 1st and 99th percentiles. Consistent with the hypothesis of raising capital, delisted firms have significantly lower market-to-book ratios at the IPO date, compared to the control firms. It is surprising that size of delisted firms is almost twice as large as control firms, measured by the logarithm of total assets. Stock volatility measured in the year prior to delisting suggests that involuntarily delisted firms are the most volatile.

It is also interesting to compare the inherent characteristics of the different kinds of delisted firms in AIM in the IPO year and the year prior to delisting. All types of delisting and control firms have similar leverage in the year of IPO, both means and medians. Involuntarily delisted firms exhibit the highest leverage one year before delisting. The market-to-book ratio is the highest for control firms in the IPO year. Firms that transfer to the Main Market and those that are delisted due to takeovers have the highest market-to-book ratios before delisting. Involuntarily delisted firms always display unsatisfactory performance, proxied by the lowest level of profitability. Successful exits have the highest levels of profitability and slightly higher ratios of intangible assets to total assets before delisting.

[INSERT TABLE 2.4 HERE]

### 2.4.2 Regression results

The Propensity Score Matching (PSM) method, proposed by Rosenbaum and Rubin (1983) is employed to generate a matched sample between various types of delisted firms and control firms, in order to compare regression results pre-matching and post-matching. PSM helps to eliminate the effect of some confounding variables that are included in the logit model. In addition, the PSM technique attempts to reduce the selection bias of the relationship between the probability of delisting (outcome) and the regressors (treatment). The PSM approach is estimated to involve two stages. By using the listing status as a "treatment variable" (i.e., a dummy takes the value 1 for delisted firms and 0 for firms that are listed on AIM), a binary logistic regression is estimated in the first stage and the regression results are presented in Table 2.5. The propensity scores are generated in this stage as the corresponding probability of voluntary delisting. In the second stage, one-to-one matching without replacement is employed to match the firm according to the nearest propensity scores.

[INSERT TABLE 2.5 HERE]

Voluntarily delisted firms, involuntarily delisted firms and successful exits are matched to control firms individually by firm size (proxied by the logarithm of total assets measured on the year of admission) and their admission year following Kashefi Pour and Lasfer (2013). The PSM approach is efficient in obtaining a matched sample and addresses self-selection bias. The one-to-one matching results in 383 voluntarily delisted firms, 227 involuntarily delisted firms and 97 successful exits. The number of control firms is the same as the number of delisted firms in each sample. In unreported

results, the average treatment effects on treated (ATT) are all greater than 2.58 for three matched samples, indicating the results are significant at the 1% level. We hypothetically assume the same delisting year for the control firms as their matched delisted firms.

Logit regression results of Equation (1) based on the matched sample in both the year of IPO and the year prior to delisting are reported in Table 2.6.

[INSERT TABLE 2.6 HERE]

The results reveal mixed evidence on H1 that delistings are inversely related to growth opportunities proxied by leverage and the market-to-book ratio. First, the coefficients of *Leverage* are insignificant for voluntarily delisted firms in both the IPO year and the year prior to delisting. However, they are significantly negative for successful exits and involuntarily delisted firms in the IPO year. Previous studies suggest that high leverage is the predominant reason for voluntary delisting (Leuz et al., 2008; Bharath and Dittmar, 2010; Kashefi Pour and Lasfer, 2013). This paper provides no evidence that leverage has an impact on voluntary delisting decisions. For successful exits, Feito-Ruiz et al. (2016) studied takeovers in London AIM and found that leverage has a negative but insignificant impact on the delistings.

Leverage is used as a proxy for the ability to raise additional capital on the stock market. The significantly negative coefficients of *Leverage* in the logit model does not provide evidence of support H1 for firms involuntarily delist and exit due to takeovers and moving to the Main Market. Instead, successful exits are able and willing to accept more capital using in most cases the Main market (London Stock Exchange).

Involuntarily delisted firms are willing to raise additional equity on London AIM, but they are restricted by AIM regulations. On the other hand, growth opportunities, proxied by market-to-book ratios, are strongly related to voluntarily delisted firms in the IPO year. This suggests that firms with more growth potential are more likely to leave London AIM. This result contrasts with the Kashefi Pour and Lasfer (2013) study for an earlier sample period. A firm with high growth potential but not using the stock market to raise capital suggests that it may have other options such as venture capital.

Other than growth opportunities, MTBV can also serve as a proxy for undervaluation. According to Kim and Lyn (1991), managers go private to save listings fees if they have reason to believe that their stocks are undervalued. Previous studies demonstrate that undervaluation is considered a prominent reason for delisting in the USA and UK (Maupin et al., 1984; Weir et al., 2005b; Renneboog et al., 2007; Bharat and Dittmar, 2010). The significance of the coefficient of MTBV provides more evidence that undervalued firms are more likely to exit the stock market voluntarily. The same applies to the European stock markets (Croci and Del Giudice, 2014; Thomsen and Vinten, 2014), except in France.

Our result does not provide strong support for H2 on the role of information asymmetries. The relationship between size and the probability of delisting are all significantly positive for all kinds of delistings. The implication is that larger firms are more likely to leave the stock market. Earlier studies agree that smaller firms are more likely to delist voluntarily in both the UK (Weir et al., 2008) and the USA (Kim and Lyn, 1991; Kieschnick, 1998; Engel et al., 2007; Leuz et al., 2008). There might be

some reasons for the opposite signs on the size coefficients. First, samples employed in prior research include both Leveraged buyouts and GPT, while sample in this paper strictly separates voluntary delistings, involuntary delistings and successful exits. Second, our sample consists of firms that delisted from London AIM from 1997 to 2021 over a 25-year period. The sample employed by Kim and Lyn (1991) and Kieschnick (1998) is the shorter 1976 to 1984 period. The sample period of previous studies (Engel et al., 2007; Leuz et al., 2008; Weir et al., 2008) all involve the 1990s to 2000 sample period. The change in time may change the effect of firm size on delisting decisions. Finally, with the growth of venture capital and crowdfunding, listing on the stock market is not the only option for firms to raise equity. Firms can raise additional private equity capital from these sources. The coefficients on the intangibility of both voluntarily and involuntarily delisted firms are significantly negative for the IPO year data. Our results indicate that firms with fewer intangible assets are more likely to delist, both voluntarily and involuntarily. This adds to the evidence that the ability of delisted firms to avoid unnecessary disclosures is a factor in delisting decisions. Ewens and Farre-Mensa (2022) compare and discuss the benefits and costs of private firms and equity firms, and they suggest that the main benefits of private firms compared to public-traded firms are controls and the avoidance of disclosure of new products and processes.

Our results provide some support for H3 that agency conflict costs (proxied by profitability and free cash flow) are directly associated with delistings. These results suggest that voluntarily delisted firms, involuntarily delisted firms and successful exits

have lower cash flow in the IPO year compared to the control firms, while the results in the year prior to the delisting action are significant only for successful exits. The probability of voluntary and involuntary delistings are strongly negatively related to the firm's financial performance as measured by return on assets (ROA). This result is in line with studies on delisted firms in Continental Europe, the UK, and the USA (Leuz et al., 2008, Martinez and Serve, 2011; Thomsen and Vinten, 2014). The significance of operating margin emphasizes the importance of firms' characteristics in the delisting decisions. The inverse relationship between the level of profitability and the possibility of voluntary delistings suggests that firms that do not benefit from an AIM listing are more likely to be delisted voluntarily. Furthermore, their poor financial performance generally results in greater financial distress charges and other listing expenses that they can no longer pay.

Following Mehran and Peristiani (2010), this study also examines the impact of liquidity, proxied by stock volatility, on delisting decisions. Results show that the relationship between a stock's historical volatility and its voluntary delisting decision is insignificant. This finding is inconsistent with that of Liu et al. (2012) for an earlier sample. Mehran and Peristiani (2010) likewise do not support the hypothesis of financial visibility as they find a significantly negative association between stock volatility and the likelihood of going private. This corroborates the Opler and Titman financial distress argument (1993). However, involuntarily delisted firms have a significantly positive probability of delisting albeit at the 10% significance level.

### 2.4.3 Robustness tests

In order to explore the factors underlying the delisting decision in the light of the changes that occurred to the firms' variables over time, Cox proportional hazard model is employed to the data one year before delisting as a robustness test. The aim is to simultaneously assess various factors' impact on AIM survival. In other words, it enables us to predict how the independent variables analysed in the previous section influence the rate of delisting of all kinds. This rate is commonly known as the hazard rate.

[INSERT TABLE 2.7 HERE]

The coefficients of size and ROA of voluntarily delisted firms and involuntarily delisted firms pass the robustness test and they are consistent with the original result. These findings confirm the considerable positive impact of business size and the negative impact of firms' profitability levels on both voluntary and involuntary delisting decisions.

## 2.5 Conclusion and Discussion

This paper analyzes the causes and consequences of delistings and other exits from the London AIM, set against the backdrop of an increasing delisting trend from the main stock markets in the USA, the UK, and continental Europe. It contributes to this debate by examining AIM firm financials collected either at the IPO year or prior to delisting, to explain both voluntary and involuntary delistings, as well as other exits such as takeovers and transfers to the Main Market.

The findings reveal that firms tend to voluntarily delist from AIM when they have high growth prospects but low profitability. Negative returns on assets and low leverage also drive firms toward delisting. Additionally, stock volatility emerges as a key determinant of involuntary delistings. These results suggest that, for many firms, the costs of listing outweigh the benefits, particularly when financial performance is weak, leading to both voluntary and involuntary delistings.

By contrast, firms that exit AIM through takeovers or transfers to the Main Market are driven by different factors. Cash flow and size play a crucial role in facilitating these types of exits. This distinction highlights that the determinants of successful exits differ from those of voluntary and involuntary delistings.

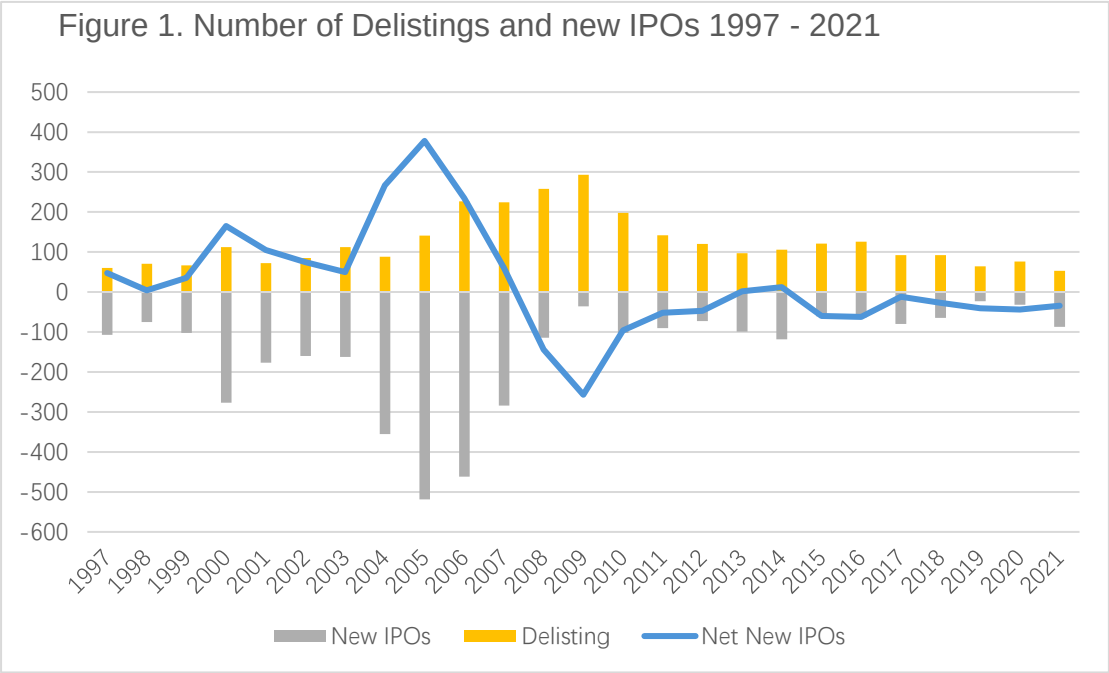
This chapter further emphasizes that firms with higher growth potential, as indicated by their market-to-book value (MTBV), are more likely to voluntarily delist. This contrasts with the earlier findings of Kashefi Pour and Lasfer (2013), who argued that limited growth opportunities were the primary driver of delistings. The new findings challenge conventional theories and suggest a paradigm shift: firms with strong growth potential are not necessarily dependent on public capital markets. Instead, the rise of alternative financing options, such as venture capital, private equity, and crowdfunding platforms, provides these firms with viable funding alternatives.

Moreover, the motivations for delisting have evolved, potentially due to shifts in the financial landscape, such as reduced costs and increased accessibility of private funding. This paper also underscores that public market participation is not inherently beneficial for all firms. Companies that are unable to capitalize on the advantages of

being listed may find it more beneficial to delist. Profitability is identified as a key factor in determining whether a firm remains on AIM, providing insights into the long-term benefits and costs of public listing.

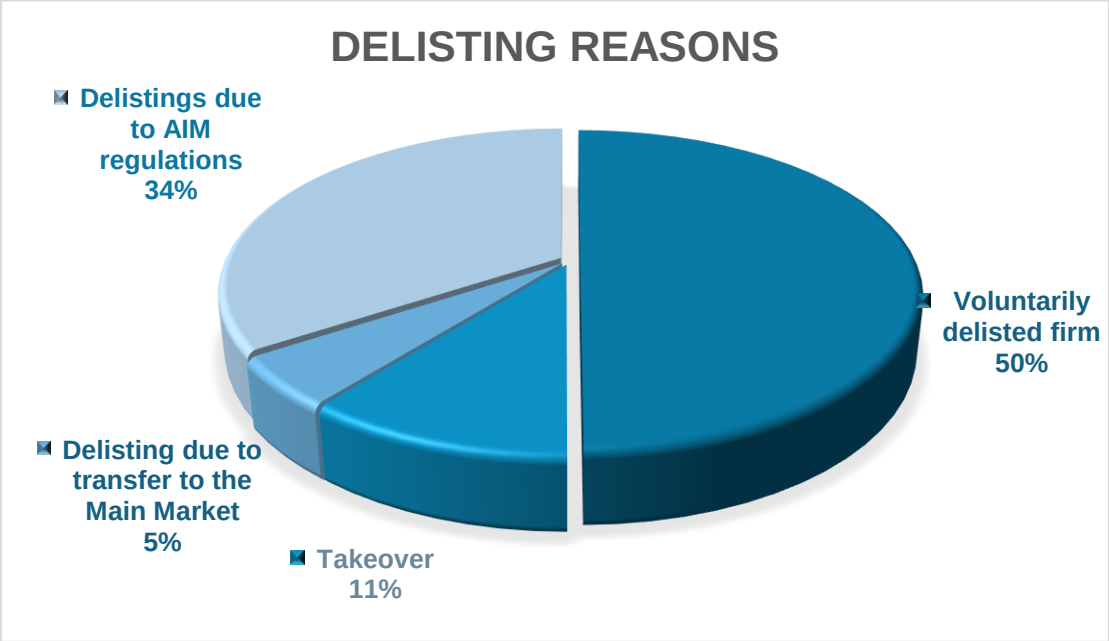
Kashefi Pour and Lasfer (2013) were the first to study the determinants and consequences of voluntary delistings in London AIM. This paper extends their research by including all delisted firms—both voluntary and involuntary—as well as successful exits. To our knowledge, this is the first study to examine the determinants of takeovers and transfers to the Main Market. Since these transferred firms continue trading in a more regulated market, a significant area for future research would be to assess their long-term performance and outcomes post-transfer.

**Figure 2.1 New IPOs and delisted companies.**




This figure shows the number of delisting firms and the number of new IPOs of AIM from 1997-2021. *Net New IPO*, calculated as the number of new IPOs minus the number of delisted firms for each year, is represented by the blue line.

**Figure 2.2. Delisting reasons.**




This pie chart presents the proportion of reasons for delistings on AIM over the period 1997-2021.

**Table 2.1. Time series distribution of delisted companies.**

| | Voluntary Delistings | | Involuntary Delistings | | Successful Exits | |
|---|---|---|---|---|---|---|
| **Year** | Delisting Year | Admission Year | Delisting Year | Admission Year | Delisting Year | Admission Year |
| **1995** | | 27 | | 4 | | 13 |
| **1996** | | 36 | | 16 | | 30 |
| **1997** | | 34 | 1 | 10 | 14 | 12 |
| **1998** | 6 | 20 | 3 | 9 | 15 | 4 |
| **1999** | 17 | 21 | 3 | 12 | 9 | 5 |
| **2000** | 21 | 80 | | 32 | 9 | 11 |
| **2001** | 19 | 47 | 2 | 35 | 2 | 10 |
| **2002** | 22 | 53 | 10 | 26 | 3 | 10 |
| **2003** | 47 | 45 | 22 | 34 | 3 | 20 |
| **2004** | 24 | 96 | 5 | 66 | 4 | 27 |
| **2005** | 42 | 134 | | 122 | 9 | 30 |
| **2006** | 65 | 130 | 27 | 89 | 18 | 24 |
| **2007** | 41 | 86 | 80 | 43 | 19 | 25 |
| **2008** | 43 | 23 | 115 | 20 | 15 | 8 |
| **2009** | 112 | 8 | 88 | 4 | 11 | 3 |
| **2010** | 88 | 14 | 25 | 12 | 19 | 8 |
| **2011** | 60 | 10 | 19 | 14 | 12 | 4 |
| **2012** | 59 | 12 | 17 | 20 | 7 | 3 |
| **2013** | 45 | 8 | 12 | 13 | 5 | 7 |
| **2014** | 30 | 6 | 9 | 18 | 3 | 12 |
| **2015** | 41 | 5 | 36 | 7 | 7 | 7 |
| **2016** | 49 | 4 | 29 | 5 | 6 | 7 |
| **2017** | 14 | 2 | 33 | 5 | 18 | 2 |
| **2018** | 20 | 2 | 36 | 3 | 19 | 2 |
| **2019** | 17 | | 18 | | 16 | 1 |
| **2020** | 15 | | 18 | | 20 | 1 |
| **2021** | 6 | | 11 | | 23 | |
| **Total** | 903 | 903 | 619 | 619 | 286 | 286 |

**Table 2.2. Number of years firms stay in AIM**

| | Voluntary delistings | | Involuntary delistings | | Successful exits | | All delistings | |
|---|---|---|---|---|---|---|---|---|
| | N | % | N | % | N | % | N | % |
| **1** | 62 | 7 | 45 | 7 | 39 | 14 | 146 | 8 |
| **2** | 103 | 11 | 96 | 16 | 41 | 13 | 240 | 13 |
| **3** | 119 | 13 | 109 | 17 | 38 | 13 | 266 | 15 |
| **4** | 131 | 14 | 68 | 11 | 36 | 13 | 235 | 13 |
| **5** | 113 | 13 | 70 | 11 | 19 | 7 | 202 | 11 |
| **6** | 69 | 8 | 41 | 7 | 18 | 6 | 128 | 7 |
| **7** | 61 | 7 | 33 | 5 | 11 | 4 | 105 | 6 |
| **8** | 61 | 7 | 22 | 4 | 12 | 4 | 95 | 5 |
| **9** | 47 | 5 | 24 | 4 | 8 | 3 | 79 | 4 |
| **10** | 32 | 3 | 28 | 5 | 8 | 3 | 68 | 4 |
| **>10** | 105 | 12 | 83 | 13 | 56 | 20 | 244 | 14 |
| **Total** | 903 | 100 | 619 | 100 | 286 | 100 | 1808 | 100 |

This table presents the number of years that firms remain public for voluntarily delisted firms and firms delisted by other methods.

**Table 2.3. Definition of proxy variables used in the regression model.**

| Variables | Description | Hypothesis | Sign |
|---|---|---|---|
| *Leverage* | Total Debt/Total Assets | Ability to raise capital | + |
| *MTBV* | Market value over book value | Ability to raise capital | - |
| *Size* | The logarithm of Total Assets | Asymmetric information | - |
| *Intangibility* | Intangible Assets/Total Assets | Asymmetric information | + |
| *ROA* | EBIT/Total Assets | Free cash flow problem | + |
| *Cash flow* | Cash flow per share | Free cash flow problem | + |
| *Stock Volatility* | Stock returns' annual standard deviation | Financial visibility | + |

**Table 2.4. Characteristics of delisted and control firms.**

| | IPO date | | | | One Year Before Delisting | | |
|---|---|---|---|---|---|---|---|
| | Voluntary Delisting | Involuntary Delisting | Successful Exit | Control Firms | Voluntary Delisting | Involuntary Delisting | Successful Exit |
| *Ability to raise capital* | | | | | | | |
| Leverage | 0.15<br>(0.06) | 0.15<br>(0.03) | 0.15<br>(0.04) | 0.15<br>(0.04) | 0.18<br>(0.08) | 0.26<br>(0.06) | 0.13<br>(0.06) |
| MTBV | 2.49**<br>(1.55) | 3.06<br>(1.86) | 2.96*<br>(1.8) | 3.79***<br>(2.76) | 1.55<br>(1.05) | 2.14<br>(1.13) | 3.02<br>(1.76) |
| *Asymmetric information* | | | | | | | |
| Size | 9.68***<br>(9.58) | 9.18***<br>(9.11) | 8.11***<br>(8.60) | 4.21<br>(4.18) | 10.1<br>(10.0) | 9.10<br>(9.37) | 8.27*<br>(8.75) |
| Intangibility | 0.15***<br>(0.02) | 0.20***<br>(0.04) | 0.19<br>(0.04) | 0.19<br>(0.05) | 0.19<br>(0.05) | 0.19<br>(0.03) | 0.20<br>(0.08) |
| *Free cash flow problem* | | | | | | | |
| ROA | -0.15<br>(-0.01) | -0.29***<br>(-0.04) | -0.07***<br>(-0.01) | -0.11<br>(0.00) | -0.19<br>(-0.01) | -0.53<br>(-0.13) | -0.15<br>(-0.02) |
| Cash flow | -0.45***<br>(-0.02) | -0.51***<br>(-0.02) | -0.30***<br>(-0.001) | -0.0002**<br>(-0.0004) | -0.12<br>(-0.01) | -0.09<br>(-0.01) | -0.13<br>(-0.001) |
| *Financial visibility* | | | | | | | |
| Stock Volatility | | | | | 0.56<br>(0.52) | 0.69<br>(0.63) | 0.48<br>(0.44) |

This table presents the characteristics of delisted firms and control firms (similar firms that remain public on the AIM), presented by means (medians). The total sample consists of 903 voluntarily delisted firms, 619 involuntarily delisted firms, 286 successful exits and 1250 control firms. The data in columns *IPO Date* and *One Year Before Delisting* is based on hand-collected data from the LSE website. The differences in means are tested by t-test and the results are reported by its significance. All the variables are defined in Table 2.1.
Significance levels for coefficients are denoted as * for $p \leq 0.10$, ** for $p \leq 0.05$ and *** for $p \leq 0.01$.

**Table 2.5. Determinants of delistings in the year of IPO.**

| | Voluntary delistings | | Involuntary delistings | | Successful exits | |
|---|---|---|---|---|---|---|
| | (1) | Marginal effect | (3) | Marginal effect | (5) | Marginal effect |
| *Ability to raise capital* | | | | | | |
| Leverage | 0.488 | 0.094 | -3.91** | -0.256 | -1.48* | -0.074* |
| | (0.710) | | (1.63) | | (0.825) | |
| MTBV | -0.008 | -0.0001 | -0.023** | -0.002 | -0.001 | -0.0001 |
| | (0.006) | | (0.011) | | (0.003) | |
| *Asymmetric information* | | | | | | |
| Size | 4.02*** | 0.774*** | 4.31*** | 0.282 | 1.46*** | 0.072*** |
| | (0.862) | | (0.747) | | (0.126) | |
| Intangibility | -1.63 | -0.313 | -3.01** | -0.196 | -1.25* | -0.062 |
| | (1.03) | | (1.30) | | (0.707) | |
| *Free cash flow problem* | | | | | | |
| ROA | -3.90*** | -0.751*** | -4.45*** | -0.291 | -0.610** | -0.030** |
| | (1.01) | | (0.841) | | (0.275) | |
| Cash flow | -6.95** | -1.338** | -32.3 | -2.11 | -16.4*** | -0.812** |
| | (2.73) | | (22.9) | | (6.35) | |
| Constant | -26.7*** | | -27.4*** | | -9.74*** | |
| | (5.95) | | (4.72) | | (0.779) | |
| Observations | 1091 | | 935 | | 805 | |
| Pseudo R-squared | 0.972 | | 0.965 | | 0.658 | |

This table presents the results of determinants of voluntary delisting, involuntary delisting, and successful exits in AIM. The sample contains 903 voluntarily delisted firms, 619 involuntarily delisted firms and 286 successful exits over the period 1997 - 2021. The reference group consists of 1250 firms that remain listed until 2021. The first column of each kind of delisting shows the coefficients and robust standard errors of the logit model. The robust standard errors are reported in parentheses. The next column indicates the marginal effects. The marginal effect describes the partial effect of each explanatory variable on the likelihood of delisting. In the logit model, the dependent variable equals 0 for listed firms and 1 for voluntarily delisted firms in Columns (1)-(2), for involuntarily delisted firms in Columns (3)-(4) and for successful exits in Columns (5)-(6). Significance levels for coefficients are denoted as * for $p \leq 0.10$, ** for $p \leq 0.05$ and *** for $p \leq 0.01$.

**Table 2.6. Determinants of delistings (performed in the matched sample)**

| | IPO date | | | | | | One Year Before Delisting | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Voluntary Delisting | | Involuntary Delisting | | Successful Exit | | Voluntary Delisting | | Involuntary Delisting | | Successful Exit | |
| | | Marginal Effect | | Marginal Effect | | Marginal Effect | | Marginal Effect | | Marginal Effect | | Marginal Effect |
| *Ability to raise capital* | | | | | | | | | | | | |
| Leverage | 0.292 (2.25) | 0.004 | -5.77*** (1.55) | -0.037 | -1.58* (0.955) | -0.074* | -0.715 (1.26) | 0.159 | 0.701 (1.02) | 0.067 | -2.06 (1.95) | -0.122 |
| MTBV | 0.330*** (0.105) | 0.004 | -0.046 (0.051) | -0.0002 | 0.095 (0.083) | -0.0001 | -0.018 (0.044) | -0.004 | 0.056 (0.039) | 0.005 | 0.114 (0.082) | 0.007 |
| *Asymmetric information* | | | | | | | | | | | | |
| Size | 5.68*** (1.87) | 0.071 | 4.21*** (0.687) | 0.027 | 0.930*** (0.113) | 0.072*** | 1.90*** (0.163) | 0.422*** | 1.89*** (0.315) | 0.179 | 1.12*** (0.218) | 0.067*** |
| Intangibility | -3.32** (1.38) | -0.041 | -4.07*** (1.47) | -0.026 | -1.00 (0.789) | -0.062 | 0.226 (0.736) | 0.050 | -2.32 (1.78) | -0.221 | -0.965 (1.21) | -0.057 |
| *Free cash flow problem* | | | | | | | | | | | | |
| ROA | -8.13*** (3.01) | -0.101 | -12.8*** (2.16) | -0.083 | -2.48 (1.55) | -0.030** | -1.84*** (0.414) | -0.410*** | -1.50*** (0.470) | -0.142 | 1.27 (1.57) | 0.075 |
| Cash flow | -6.49 (8.06) | -0.081 | -17.9 (14.1) | -0.115 | -5.69* (3.06) | -0.812** | -0.168** (0.073) | -0.037* | -11.1* (6.44) | -1.06 | -7.24** (3.46) | -0.431*** |
| *Financial visibility* | | | | | | | | | | | | |
| Stock Volatility | | | | | | | 0.340 (0.256) | 0.075 | 1.03* (0.574) | 0.098 | -0.135 0.399) | -0.008 |
| Constant | -38.0*** (13.0) | | -27.0*** (4.54) | | -5.83*** (0.844) | | -15.4*** (1.54) | | -12.8*** (2.09) | | -5.74*** (1.33) | |
| Observations | 766 | | 454 | | 194 | | 440 | | 219 | | 106 | |
| Pseudo R-squared | 0.978 | | 0.961 | | 0.508 | | 0.881 | | 0.762 | | 0.440 | |

This table presents the results of determinants of voluntary delisting, involuntary delisting, and successful exits in AIM after propensity score matching. The matched sample contains 383 voluntarily delisted firms, 227 involuntarily delisted firms and 97 successful exits over the period 1997 - 2021. The reference group consists of the same number of delisted firms matched by propensity score matching. In columns (1)-(6), the data is measured in the year of IPO. In Columns (7)-(12), the data is measured in the year prior to delisting. The delisting year of control firms is hypothetically assumed as the same as its matched delisted firms. The first column of each kind of delisting shows the coefficients and robust standard errors of the logit model. The robust standard errors are reported in the parentheses. The next column indicates the marginal effects. The marginal effect describes the partial effect of each explanatory variable on the likelihood of delisting. In the logit model, the dependent variable equals 0 for listed firms and 1 for voluntarily delisted firms, involuntarily delisted firms and successful exits.
Significance levels for coefficients are denoted as * for $p \leq 0.10$, ** for $p \leq 0.05$ and *** for $p \leq 0.01$.

**Table 2.7. Cox hazard proportional model**

| | Voluntary delistings | | Involuntary delistings | | Successful exits | |
|---|---|---|---|---|---|---|
| | | Hazard ratio | | Hazard ratio | | Hazard ratio |
| *Ability to raise capital* | | | | | | |
| Leverage | -0.200 | 0.818 | -0.126 | 0.882 | -0.286 | 0.751 |
| | (0.220) | | (0.367) | | (0.751) | |
| MTBV | -0.007 | 0.993 | 0.016 | 1.017 | -0.006 | 0.994 |
| | (0.014) | | (0.011) | | (0.017) | |
| *Asymmetric information* | | | | | | |
| Size | 0.268*** | 1.308*** | 0.298*** | 1.347 | 0.021 | 1.021 |
| | (0.026) | | (0.038) | | (0.043) | |
| Intangibility | 0.232 | 1.261 | 0.234 | 1.263 | -0.033 | 0.968 |
| | (0.257) | | (0.430) | | (0.547) | |
| *Free cash flow problem* | | | | | | |
| ROA | -0.580*** | 0.560*** | -0.355*** | 0.701 | -1.37 | 0.254 |
| | (0.102) | | (0.083) | | (0.708) | |
| Cash flow | 0.012** | 1.011 | 0.666*** | 1.946 | -0.800 | 0.450 |
| | (0.044) | | (0.235) | | (0.668) | |
| *Financial Visibility* | | | | | | |
| Stock volatility | -0.032 | 0.969 | 0.179 | 1.196 | -0.369 | 0.692 |
| | (0.131) | | (0.162) | | (0.235) | |

This table presents the result of the Cox proportional hazard model. The dependent variable is time to delisting. It is assumed that there is a chance of delisting each year and all the dependent variables are time-varying. The delisting year of control firms is hypothetically assumed as the same as its matched delisted firms. Hazard ratios, demonstrating the marginal effect of a unit increase in the continuous explanatory variables, are reported next to the coefficient in each column. The hazard ratio greater than 1 suggests an increased risk to the event, in this case, delisting. A hazard ratio below 1 reports a reduced risk of delistings. A hazard ratio equal to 1 suggests that there is no effect on the delisting. The standard errors are reported in parentheses.

Significance levels for coefficients are denoted as * for $p \leq 0.10$, ** for $p \leq 0.05$ and *** for $p \leq 0.01$.

# Chapter 3 Public versus private equity? What drives firms to succeed in equity crowdfunding?

## 3.1 Introduction

One of the under-researched aspects of the equity gap literature (Doidge et al., 2017; Wilson et al., 2018; Lattanzio et al., 2023) is the role of the rise of private equity (PE). Traditionally the latter has been taken to comprise angel syndicates, VC funds, and PE funds. These have two impacts on the equity gap. On the one hand, by providing private equity to growing ventures, they obviate the need for many of these ventures to seek public equity via an IPO. On the other hand, the preferred exit route for private equity providers is via a takeover rather than via an IPO and their large equity stake facilitates this. The upshot is that an increasing number of ventures skip the IPO stage and remain private until a suitable takeover offer arises.

Over the past two decades, two new opportunities have emerged for small and young ventures wishing to raise outside equity in the UK to grow their businesses. The first is a lightly regulated stock market solution that specializes in providing equity to growth firms. This is typified by the establishment of the London Alternative Investment Market (AIM) or growth market on the London Stock Exchange in June 1995. Typically, young firms with high growth prospects are attracted to the lightly regulated AIM (Vismara, 2012), while more established and larger firms raise equity on the regulated London Main Market (MM). However, the previous chapter has shown that the Net New IPOs (see Figure 2.1) remains negative since 2008, indicating that the

attractiveness of London AIM to firms has decreased. London AIM has both private and public elements. Most of the outside equity for AIM IPOs is supplied via a private placement by institutional and accredited or professional investors and the shares of AIM-listed firm shares are publicly quoted and their shares are traded.

The other is equity crowdfunding (ECF) which enables startups and other young ventures to raise outside equity from the crowd and institutional investors via a crowdfunding campaign (IPO equivalent) conducted digitally on a crowdfunding platform like Crowdcube. Here although the fundraising process is public, the venture retains its private status and enjoys the related benefits of limited financial and process disclosure. The advantage of ECF over traditional PE is that the founders retain more control over their startup as the equity sold is in the 10-15% range. By contrast, PE funds take larger stakes of around 25-30% and are able to exercise more control over the ventures in which they invest. With institutional investors receiving the majority of IPO shares, crowdfunding investors are likely to be more diverse than shareholders of newly listed companies. The entrepreneurial finance ecosystem has been changed as a result of ECF. In fact, these platforms have contributed to the democratization of the investment process (Cumming et al., 2021).

The literature on the listing gap in stock markets identifies the role of private equity in providing outside equity to small firms to enable them to remain private to protect their intellectual capital rather than seeking a listing on a stock market. In this framework, this paper will consider the factors influencing choice by ventures of an ECF campaign versus public equity via an IPO on AIM. This is a stark choice between

private ECF equity versus public IPO that can be addressed by a variation of the methodology Cumming et al. (2021) that focused on the democratization of finance for small firms. Additionally, this paper investigates whether the same factors are linked to the success of crowdfunding offerings (proxied by the probability of reaching the goal and the number of investors).

Three main variables of interest in the private versus public equity choice are the percentage share of equity offered for sale, pre-money valuation of firms and age of the firm. The focus of this paper will be on the public equity versus private equity choices offered to firms raising initial amounts of between £500,000 and £7.5m from 2013 to 2018.

This paper presents empirical findings that indicate a preference for private equity over public equity among firms that have lower pre-money valuations and issue less equity. As for firms' performance, equity crowdfunding firms that offer less equity are more likely to meet their fundraising goals and attract more investors. In other words, firms that aimed for more equity injection are less likely to succeed in the ECF campaigns. Additionally, firms with a higher pre-money valuation tend to attract more investors to their ECF offerings. The age of the firm exerts no statistical impact on the probability of success and investor participation in our results.

The first contribution of this paper is that it contributes new insights into the listing gap. Doidge et al. (2017) introduced the term "listing gap" to describe the phenomenon of fewer listings and a high rate of delistings in the U.S. The low listing propensity across all firm size categories and industries helps to explain the low new listing rate.

The high delisting rate could be attributed to an abnormally high rate of acquisitions of publicly listed companies. They have focused on public equity only. Lattanzio et al. (2023) confirm the US listing gap and demonstrate that the listing gap also exists throughout Europe, and it is driven by Germany, France, and the UK. They found that private equity (PE) activity does not increase the listing gap and even reduce it in the long term since it tends to have a more temporary effect on total listings, by delaying going public rather than replacing it. This paper contributes to the existing literature on the benefits and costs of choosing private versus public equity (Ewens and Farre-Mensa, 2022) and provides additional empirical evidence that firms with different size categories and fundraising goals would choose different modes to raise capital and that PE activity does not increase the listing gap in the United Kingdom.

This paper's second contribution is that it provides empirical evidence that equity crowdfunding is a new and remarkable digital source for raising equity capital. Access to finance is the most significant growth constraint for innovative start-ups and the emergence of new forms of alternative financing offers these firms more potential; equity crowdfunding is a prime example. All campaigns are conducted digitally via ECF platforms, which are substituting traditional stock markets for small, high-growth companies.

The third contribution of this paper is that it offers empirical evidence that equity offered and pre-money valuation play key roles in explaining the preferences of firms for raising capital. The results of this paper suggest that firms choosing ECF campaigns to raise capital generally have smaller pre-money valuations and lower fundraising

goals compared to firms listing on London AIM. Consistent with existing literature (Ahler et al., 2015; Vismara, 2016; Cumming et al., 2021; Rossi et al., 2021), this paper provides additional empirical evidence that equity offered has a negative impact on equity offering success and equity offered (also equity retention) serves as a quality signal.

The remainder of this paper unfolds as follows: Section 2 reviews and discusses the related literature; Section 3 introduces the research questions and outlines the hypotheses, including the explanation and the construction of variables used in the later regression. Sample and methodology are also discussed in this section; Section 4 presents and discusses the regression results including the robustness test and Section 5 concludes.

## 3.2 Literature Review

### 3.2.1 Listing gap and private equity

The decision to go public is unquestionably one of the most important decisions a company can make. Traditionally, the initial public offering (IPO) is viewed as “a rite of passage in the life cycle” of a growth firm (Bharath and Dittmar, 2010) and a response to the favourable market conditions (Ritter and Welch, 2002). The advantages of going public also include obtaining alternative sources of capital to banks (Pagano et al., 1998), reducing information asymmetries (Holmstrom and Tirole, 1993), increasing the firm's visibility (Reuer and Tong, 2010), and financing future acquisitions (Celikyurt et al., 2010; Ewens and Farre-Mensa, 2017). In addition, newly

public firms can demonstrate their market value by attracting acknowledged VCs and underwriters (Gulati and Higgins, 2002; Pollock, 2004). On the other hand, the IPO would be conducted if its benefits outweigh the costs, for example, the reduced degree of control (Brau and Fawcett 2006), costs of disclosure (Farre-Mensa, 2017), short-termist pressures (Asker et al., 2014) and takeover risk (Zingales 1995).

However, Jensen (1989) predicts the "eclipse" of the public corporation, stating that the conflict between owners and leaders over free cash flow is the main cause of waste in the public corporation. In fact, the United States has witnessed a significant decrease in the total number of initial public offerings (IPOs) following its peak in 1996 (Doidge et al., 2017). Small-firm IPOs have fallen substantially, halving the number of US-listed companies since 1997 (Doidge et al., 2013; Gao et al., 2013). Doidge et al. (2017) were the first to establish a US listing gap from 1995-2012 where the stock market has abnormally fewer listed firms. Lattanzio et al. (2023) confirm the US listing gap using data up to 2019 and found that Sarbanes–Oxley Act was an important additional factor alongside M&As in explaining the gap. Listing gaps also exist throughout Europe. The drop in Europe that Lattanzio et al. (2023) noticed is driven by Germany, France, and the UK. By contrast, some scholars believe that the SOX regulation and other regulatory environment changes in the early 2000s did not contribute to the decline in IPOs (Doidge et al., 2013; Gao et al., 2013; Doidge et al., 2017). One of the under-researched aspects of the equity gap literature is the role of the rise of private equity (PE). A variety of literature contends that private equity has substituted public equity offerings since the 1990s. De Fontenay (2017) and Ewens &

Farrre-Mensa (2022) have provided evidence indicating that the deregulation of securities laws in the 1990s has played a significant role in enabling the private capital raising process and has been instrumental in shaping the decision-making process between going public and remaining private. On the other hand, Lattanzio et al. (2023) attribute the increased listing gap only a small role to private equity. The replacement of public equity in the short term contributes to the listing gap, while simultaneously providing capital for future listing procedures and therefore the PE activity ultimately leads to a reduction in the listing gap in the long term. Traditionally, private equity has been taken to comprise angel syndicates, VC and PE funds.

Crowdfunding is defined as the accumulation of funds from the "crowd" (backers) to finance a project, usually start-ups. As a result of its origin as a source of financing for various categories of businesses in response to the financial crisis and its contribution to bridging the gap between the supply and demand for funding among smaller business, crowdfunding has expanded substantially on a global scale. Crowdfunding is categorized by what companies offer in exchange for funds the received (Fleming and Sorenson, 2016). A company may offer equity (equity-based crowdfunding or equity crowdfunding), debt (debt-based crowdfunding), reward (reward-based crowdfunding), or nothing but satisfaction (donation-based crowdfunding). Equity crowdfunding is a component of Fintech (Blaseg et al., 2021; Bollaert et al., 2021) since it enables entrepreneurs to overcome financial constraints via digital platforms. ECF platforms facilitate the interaction between entrepreneurs and investors through an online social media marketplace (Evans and Schmalensee, 2016;

Estrin et al., 2021), enabling the exchange of equity finance for ownership stakes (Cumming and Zhang, 2016; Rossi and Vismara, 2017). Wang et al. (2019) discovered that there is an information exchange between angels and non-professional small investors ("the crowd") and the complementarity between angels and "the crowds" would improve the overall efficiency in the ECF market.

Prior research (De Prijcker et al., 2019; Manigart & Sapienza, 2017) indicates that access to capital is the most significant growth constraint for new start-ups. Listing on the stock exchange was considered a conventional method of raising capital, but it incurs direct and indirect listing expenses. In contrast to IPOs on AIM, which are exclusively for institutional investors, anyone can view a project online through the ECF platform and obtain a limited number of shares, allowing equity crowdfunding to attract a more diverse group of backers (Aggarwal et al., 2002; Vismara et al., 2012). In contrast to venture capital, which attracts funds from a limited group of accredited investors, equity crowdfunding is accessible to the public. (Block et al. 2020). Overall, equity crowdfunding may lower investing boundaries and broaden firms' access to capital, thereby helping to bridge the funding gap (Rossi, 2014; Bruton et al., 2015; Yasar, 2021). The main concern of equity crowdfunding is information disclosure. Firms are expected to publicly release their business idea and strategy through equity crowdfunding platforms in order to attract more investors and this premature information disclosure might be harmful for some innovative firms that are easy to copy. Existing literature on ECF has explored various sectors including information asymmetries and quality signals, determinants of successful ECF campaigns and

subsequent performance after the initial ECF campaigns. Nonetheless, there are some contradictory findings, and empirical evidence is mainly based on developed countries. Signalling theory (Spence, 1973) is based on information asymmetry, emphasizing the significance of information quality and its intended purpose (Yasar et al., 2020). The primary focus of ECF pertains to the entrepreneur's capacity to generate equity value. Prior research discovered that signals from third parties (Moritz et al., 2015; Kleinert et al., 2018), human capital (Ahlers et al., 2015; Piva and Rossi-Lamastra, 2018; Lim and Busenitz, 2019), and entrepreneurs (Vismara, 2016; Löher et al., 2018) mitigate the information asymmetry challenge in equity crowdfunding.

The exploration of factors that contribute to success has been popular in the study of equity crowdfunding. Ralcheva and Roosenboom (2020) found that under AON, campaigns fail unless they meet or exceed the targets, and an unsuccessful campaign has a greater negative impact on founders' reputation and future campaigns than not receiving enough capital. Initially establishing a fundraising goal and amount of equity offered for an ECF campaign can be challenging for companies due to their impact on company valuation. A few studies have shown that overly optimistic targets may result in the failure of campaigns, using evidence from both reward-based crowdfunding and equity-based crowdfunding (Mollick et al., 2014; Vulkan et al., 2016; Lagazio and Querci, 2018). Vulkan et al. (2016) and Coakley and Lazos (2021) demonstrate that successful ECF campaigns are generally overfunded, suggesting that projects with smaller fundraising goals are more likely to secure capital. Conversely, Ahlers et al (2015) found that the funding target has no impact on the success of a campaign,

indicated by the number of investors. In addition, it has been demonstrated that the quantity of equity offered to new investors has a negative effect on ECF success as equity retention signals founder confidence in the start-ups (Ahlers et al., 2015; Vismara, 2016). Social capital (Vismara, 2016; Vismara, 2018; Cummings et al., 2020) and crowdfunding platforms (Rossi et al., 2018) both play important roles in determining the success of an ECF campaign.

Finally, a body of research has focused on what happened after the equity crowdfunding campaigns, investigating the failure rate and subsequent funding (Hornuf et al., 2018; Signori and Vismara, 2018). Signori and Vismara (2018) analysed 212 successful initial ECF campaigns from Crowdcube and found a failure rate of 18% and 35% of them have more than one seasoned equity offering. Hornuf et al. (2018) further investigate what factors influence follow-up funding after an ECF campaign using manually collected Data From 413 firms in the UK and Germany. Their findings indicate a positive correlation between the number of senior managers and initial venture capital investors and the probability of securing post-campaign funding. Coakley et al. (2021) studied both initial and follow-on equity crowdfunded offerings (seasoned equity crowdfunded offerings, or SECOs) and their results suggest that annualized valuation gains between the initial and SECO campaigns increases the probability of having a successful first SECO campaign, but the equity offered reduces this probability. Their result also suggest that SEO (seasoned equity offering) firms have fewer information asymmetry problems compared to IPO firms, and the same holds true for SECO compared to initial ECF campaign firms.

### 3.2.2 London AIM and ECF platforms in the UK

Over the past two decades, opportunities have expanded for small and young ventures seeking to raise outside equity in the UK to grow their businesses. The UK is considered as an ideal testing bed for the choice between private and public equity for these firms. On the one hand, since its establishment in 1995, London's Alternative Investment Market (AIM) is regarded as the most successful 'demand-side' segmentation (Vismara et al., 2012), distinguished by its comparatively light touch regulation and listing requirements. Gerakos et al. (2011) postulate that the lighter-regulated market would contribute to the underperformance of these young firms. However, Nielsson (2013) and Doukas and Hoque (2016) indicate that firms listed on London AIM tend to secure more capital and the choice of market platforms is largely dependent on the firms' own characteristics.

On the other hand, the equity crowdfunding market in the UK has grown significantly as a complementary way for private firms to raise equity and thus resolve the entrepreneurial equity gap since the establishment of Crowdcube in 2011. In terms of contextualizing UK equity investment landscape developments, Kacer and Wilson (2024) provide a comprehensive analysis showing how equity deal flow evolved from 2011 to 2023. According to British Business Bank (2022), crowdfunding platforms were the third most active investor with 582 deals in 2021. Crowdcube was one of the earliest equity crowdfunding platforms in the world (Rossi and Vismara, 2018). Three platforms dominate the ECF market in the UK: Crowdcube, Seedrs and SyndicateRoom. Crowdcube and Seedrs operated as company-led equity crowdfunding platforms,

whereas SyndicateRoom is an investor-led equity crowdfunding platform. All these three platforms operate an All-or-Nothing (AON) model (Cumming et al., 2019), firms will not receive any funding unless the fundraising goal is met.

Following Coakley et al. (2022) and Cumming et al. (2017), we are comparing the choice for young firms between the first private ECF offering versus a public IPO. Both markets provide growth firms with the opportunity to raise their external equity through AIM IPOs or through ECF offerings. Both the ECF platforms and London AIM are lightly regulated by the Financial Conduct Authority (FCA). The status of the company is the key distinction between public IPO and private ECF offerings. A private firm choosing to list on the stock market becomes a public firm, whereas a private firm that decides to raise capital through ECF platforms remains private. The latter has advantages for start-ups with innovative ideas and processes as information disclosure requirements are less onerous on ECF platforms.

## 3.3 Research Design

### 3.3.1 Research question and hypothesis development

This paper investigates the factors that influence a young firm's decision between a private equity ECF campaign and a public AIM offering as well as their likelihood of success. The underlying rationale is that firms choose the mode of financing consistent with their financial characteristics and that which offers a greater probability of success. To understand better the rationale for successful ECF campaigns, it is imperative also to examine the unsuccessful ECF campaigns that failed to meet their initial targets over

the same period. This leads to the following overarching research question:

“What factors motivate small firms to choose their mode of equity financing and, more particularly, why do they choose an ECF offering rather than an AIM IPO?”

Two performance measures, an ECF success dummy and investor participation, are employed to proxy for successful ECF campaigns. The first proxy is equity crowdfunding success. This is defined as a binary variable, which is assigned a value of 1 if the equity crowdfunding campaign achieves or exceeds its target (the actual amount raised in ECF campaigns often exceeds the target), and zero otherwise. The second proxy relates to investor participation in ECF offerings measured by the number of investors. The total number of investors in the ECF campaign is viewed as “crowd interest” (Coakley et al., 2022) and “the wisdom of the crowd” (Mollick and Nanda, 2016). This is an important measure in equity crowdfunding since private firms typically aim to attract the largest possible number of backers to their campaigns. It has been widely employed as a measure of success in prior research (e.g., Vismara, 2016; Cumming et al., 2021).

The relationship between entrepreneurial control and investment signals presents a complex interplay in entrepreneurial finance. Leland and Pyle (1977) established a foundational framework suggesting that entrepreneurs' willingness to invest in their ventures serves as a credible signal of project quality. This signaling mechanism stems from information asymmetry, where entrepreneurs possess superior knowledge about their ventures compared to external investors. When entrepreneurs maintain a larger equity stake, it typically indicates their confidence in future prospects, whereas those

having doubts about their ventures' potential tend to divest larger portions of equity to secure immediate capital.

This signaling perspective aligns with but also complicates Cressy's (1995) influential work on control aversion in entrepreneurship. While control-averse entrepreneurs inherently prefer to retain ownership, this preference can simultaneously function as a positive market signal, as demonstrated in venture capital and IPO contexts (Busenitz et al., 2005). Agency theory (Jensen and Meckling, 1976) provides additional theoretical support for this relationship, suggesting that higher insider ownership reduces agency costs by aligning management and shareholder interests. Recent empirical evidence from equity crowdfunding research supports these theoretical predictions, with studies by Ahlers et al. (2015) and Vismara (2016) documenting a negative relationship between offered equity percentages and funding success.

However, this creates a potential tension: while retaining control may signal quality and reduce agency costs, control aversion might lead entrepreneurs to restrict external financing, potentially constraining growth. Ralcheva and Roosenboom (2020) highlight this dynamic, noting that while larger equity offerings to new investors can dilute existing shareholders' wealth, excessive control retention might limit access to necessary growth capital. This suggests that successful entrepreneurs must balance their control preferences with capital needs, considering both the signaling effects and growth implications of their financing decisions. This leads to our first hypothesis:

H1A: Firms wanting to retain more control are more likely to choose ECF rather than AIM.

H1B: The proportion of equity offered in an ECF campaign has a negative effect on conducting a successful campaign.

Pre-money valuation is a commonly used term in the context of venture capital and private equity, indicating the valuation of a company prior to receiving an external financing round. Nevertheless, start-ups and young firms with intangible assets cannot be valued using traditional methods. The valuation holds significance for both entrepreneurs and investors. For entrepreneurs, the valuation determines how much equity can be traded in exchange for equity, which may have implications for corporate control (Hsu, 2004). Colombo et al. (2023) conduct a systematic review of venture valuation theories for various deal types and indicate that Cognitive Evaluation Theory (Deci & Ryan, 1985; Allison et al., 2015;) and Affective Events Theory (Davis et al., 2017) are utilized to determine venture valuations for ECF offerings. Investors view the valuation as direct and indirect returns (Gompers and Lerner, 1998). Previous studies have found that entrepreneurs are generally optimistic about their inventions and therefore, the valuation of the firms may become biased (Shane and Venkataraman, 2000; Dushnitsky, 2010). This could be worse in the ECF campaigns due to the lack of transparency in small private firms, many of which are exempt from publishing audited accounts. Entrepreneurs are more likely to exaggerate their projects' prospects on ECF platforms in order to attract more capital from investors. However, these overly optimistic descriptions would mislead investors which could potentially undermine the

firm's reputation. Some studies demonstrate that larger pre-money valuations significantly increase the probability that an ECF campaign is successful (Astebro et al., 2017; Wasiuzzaman and Suhili; 2021). For the choice between private and public equity, firms with larger pre-money valuations would result in stronger negotiation positions in the market, making them more inclined to opt for public equity.

The above discussion leads to the second hypothesis:

H2A: The lower the pre-money valuation, the more likely firms are to choose ECF over AIM offerings.

H2B: The pre-money valuation of the firm increases the likelihood of conducting a successful ECF campaign.

Younger ventures entail a heightened degree of uncertainty due to their limited or non-existent historical performance record. The age of a firm generally conveys a positive signal. Stinchcombe (2004) asserts that younger firms pose a higher risk due to their limited experience and lack of established relationships with external and internal stakeholders, suffering from greater information asymmetry problems. On the other hand, the life cycle view of firm growth examines the typical progression that start-ups undergo, during which they successively encounter various organizational, operational, and financial risks as they progress through phases of growth (Phelps et al., 2007), so younger firms are less likely to succeed in equity crowdfunding offerings. Conversely, some studies indicate that investors might perceive younger companies as having more substantial growth prospects; consequently, these companies have a higher probability of accomplishing their fundraising goals (Nitani et al., 2019; Ralcheva and

Roosenboom, 2020). Furthermore, younger companies are more inclined to utilize sequential crowdfunding campaigns to secure capital (Signor and Vismara, 2018). These contradicting arguments lead to the last hypothesis:

H3A: The smaller the firm age, the more likely firms are to choose ECF over AIM.

H3B: The age of the firm increases the likelihood of conducting a successful ECF campaign.

### 3.3.2 Heckman two-stage model

Investigating the private versus public equity choice is not straightforward from a methodological viewpoint. This is due to potential endogeneity problems stemming from selection bias. A Heckman two-stage model (Heckman, 1979) is employed, adapting the Cumming et al. (2021) approach to investigate the private versus public equity choice. The first stage is used to determine whether financial information is traditionally associated with the limited availability of funding (degree of control, company size and firm age) influences the choice of financing towards crowdfunding versus AIM IPOs. The first stage dependent variable is a dummy variable that takes the value of 1 for ECF offerings and 0 for AIM IPOs in a sample comprising both types of offerings. Hypotheses 1A, 2A and 3A can be tested using the first-stage findings. The second stage is used to investigate whether the same determinants are associated with the ECF success proxies (the likelihood of reaching/exceeding fundraising goals and the level of investor participation). Hypotheses 1B, 2B and 3B can be tested using the second-stage findings.

The empirical analysis compares successful and unsuccessful ECF campaigns with

successful IPOs. Failure to achieve/exceed the ECF goal is defined as an unsuccessful ECF campaign. Conversely, the decision to withdraw an IPO from AIM can occasionally be viewed as a positive event, as it may result in an acquisition or re-listing on a more regulated market, such as the Main Market on the London Stock Exchange.

The following two systems of equations are used in the analysis:

$$\begin{cases} Crowdfunding_i = X_i'\beta_1 + \mu_{1i} \\ Success_i = Y_i'\gamma_1 + \rho_1 IMR + \epsilon_{1i} \end{cases} \quad (3.1)$$

$$\begin{cases} Crowdfunding_i = X_i'\beta_1 + \mu_{1i} \\ No.of\ investors_i = Y_i'\gamma_1 + \rho_1 IMR + \epsilon_{1i} \end{cases} \quad (3.2)$$

where $Crowdfunding_i$ is a dummy variable equal to 1 for firms involved in the ECF offerings, and 0 for all AIM IPOs; $Succss_i$ and $No.of\ investors_i$ are employed as dependent variables in the second stages; $Success_i$ is an ECF success dummy which takes value 1 for a successful ECF campaign (the actual amount raised meets/exceeds the goal) and 0 otherwise; $X_i'$ include the observable characteristics (controls) impacting the choice of choosing an ECF offering over a listing on the London AIM, while $Y_i'$ includes second stage independent variables. Heckman (1979) proposes at least one variable contained in $X_i'$ but to be excluded in $Y_i'$. The exclusion restriction in our analysis involves the inclusion of industry dummies in the first stage but not in the second stage regression.

$IMR$ is the inverse Mills Ratio calculated by dividing the normal density function by the normal cumulative distribution, derived in the first stage, and included in the second stage to capture significant unobserved characteristics. This model captures selection bias. The parameter named Prone-to-Crowdfunding is determined in the regression as it is relevant to the unobserved characteristic in the decision-making

process of firms opting for ECF offerings over listing on London AIM, as described by the Inverse Mills Ratio. We use probit[1] models for the binary dependent variable in the first stage of both equation systems (1) and (2), following Van de Ven and Van Pragg (1981). $No.of\ investors$ is a count variable and negative binomial regression is employed in the second stage of System (2), following Terza (1998).

### 3.3.3 Variables

The dependent variable in the first stage of the Heckman model is a binary variable that differentiates initial ECF campaigns from IPOs on the London AIM. The second stage focuses only on initial ECF campaigns and the firm characteristics using two alternative performance proxies. The first proxy is $Success_i$ which a dummy variable equal to 1 for successful offerings when the actual amount raised in an ECF campaign equals or exceeds its fundraising target. The second proxy is investor participation in ECF campaigns given by $No.of\ investors$ that is a measure of the degree of investor engagement in the ECF campaigns.

In order to test hypotheses H1A and H1B, *Equity offered* is used. This proxies the degree of control given up by firms in exchange for equity for both ECF campaigns and AIM IPOs. *Pre-money valuation*, defined as the value of a company prior to receiving external funding, is employed to provide empirical evidence on hypotheses H2A and 2B. The difference, in years, between the beginning of the crowdfunding campaign, or the offering on AIM, and the foundation date are as *Firm age* and used to test hypotheses

[1] Given that we are applying a model with sample selection, according to Heckman (1979), it is assumed that error terms in both the selection equation and outcome equation are normally distributed for the calculation of Inverse Mill's Ratio. In line with previous studies, we choose the Probit model instead of the Logit model for both equations. This choice enables estimation feasibility according to Van de Ven and Van Pragg (1981).

H3A and H3B.

To investigate the impacts of the above firm's financials and control for potential variation, several controls collected from TAB for ECF campaigns and admission documents for AIM IPOs are also employed. These include *Goal* or the amount bid for crowdfunding initiatives and total proceeds for IPO offerings; *Team size* or the number of people involved in the top management team; *Duration* is the number of days taken for ECF campaigns to reach their initial fundraising goals; *Funding ratio* is the ratio of the actual amount raised to the initial fundraising goals; *Quick success* is a dummy variable that takes value of 1 if the firm reach its fundraising targets within 20 days; *Metropolitan area* is a dummy variable that take value of 1 if the firm is registered in the metropolitan area, based on Census 2011 classification (i.e., metropolitan areas of London, Birmingham, Manchester, Leeds-Bradford, Liverpool-Birkenhead, Newcastle, Sheffield, South Hampshire, Nottingham-Derby, and Glasgow) and if the firm is registered in the non-metropolitan area ; *High-technology firm* that equals 1 for high-technology firms[2], and 0 for the non-high technology firm; *Industry dummy* derived from the SIC codes and applied as the exclusion variables in the first stage of the Heckman model to satisfy the identification conditions required by Heckman (1979).[3]

[2] High-technology firms are defined using four-digit SIC codes beginning with 283, 357, 366, 367, 382, 384, 481, 482, 489, 737 and 873, following Kile and Phillips (2009).

[3] Nine dummies are used based on the first digit of the SIC codes, Standard Industrial Classification codes, which was first introduced into the UK in 1948 to facilitate the classification of business establishments. This is often known as the UK Standard Industrial Classification of Economic Activities 2007, abbreviated as UK SIC 2007. It should be noted that SIC codes for ECF campaigns are downloaded from the TAB, whereas SIC codes for AIM IPOs are manually downloaded from Companies House. We acknowledge that the inclusion of industry dummies may have impact on the outcome equation of an ECF campaign and we test whether it satisfies the exclusion restriction. The joint null hypothesis here asserts the validity of the instruments. The p-value, in turn, represents the probability that the test statistic is zero and therefore indicating acceptance of the null hypothesis. Since p-value is greater than 0.1 in our regression, the validity of industry dummies is verified.

It should be pointed out that *Funding ratio*, *Duration* and *Quick success* refer to ECF campaigns only and these three variables are included in the outcome equations only. Table 3.1 provides a summary of the variable descriptions.

[INSERT TABLE 3.1 HERE]

### 3.3.4 Sample and data collection

This paper aims to conduct a comparative analysis of the accessibility of alternative equity financing sources for young entrepreneurial ventures, specifically equity crowdfunding (ECF) offerings and initial public offerings (IPOs). Therefore, it is necessary to collect a data sample that encompasses both types of offerings. An analysis of the business environment in small and medium-sized enterprises can readily be conducted in the UK, a country that boasts one of the most advanced equity markets globally (Coakley et al., 2022). On the one hand, the London Alternative Investment Market (AIM) established in 1995 is a lightly regulated (2nd tier) stock market that provides public equity to small growth firms. Typically, young firms with high growth prospects are attracted to AIM (Vismara, 2012). Although AIM IPOs are funded via private placements by institutional and accredited investors, firm shares are publicly quoted and traded on AIM. On the other hand, ECF platforms have since 2011/12 enabled young ventures in the UK to raise private equity from the crowd and institutional investors digitally via a crowdfunding platform like Crowdcube and Seedrs. Although the fundraising is public, the venture remains private and enjoys the related benefits of limited financial and other disclosure.

Our sample consists of AIM new listings and ECF campaigns from the 3 biggest

ECF platforms in the UK (Crowdcube, Seedrs and SyndicateRoom) between 2013 and 2018. The AIM new listings were downloaded from monthly AIM factsheets from the official London Stock Exchange website and firms' financial information were collected from their admission documents. The crowdfunding data are sourced from TAB.[4] This process generates a raw sample containing 310 AIM IPOs and 1260 ECF offerings. In order to compare the choice for firms receiving their first external financing, ECF campaigns involving seasoned equity crowdfunded offerings and previously listed AIM firms are excluded. Furthermore, to isolate the factors specifically impacting the source of capital, small-scale enterprises on the ECF platforms and large firms listed on the London AIM market are excluded. In order to accomplish this, we found that the largest amount raised through ECF offerings is approximately £7.5m; therefore, the upper bound is set at £7.5m. The raw sample had been reduced to the range of £300,000 to £7.5 million, which has the same lower bound as Cumming et al. (2021). This results in a sample of 123 AIM IPOs and 398 ECF offerings, which is inappropriate for comparing private and public firms due to the fact that the number of private firms is twice that of public firms. In order to enhance the comparability between ECF and AIM companies, a sample that is more evenly distributed is required. The final sample comprises 261 ECF campaigns and 122 AIM IPOs that raised between £500,000 and £7.5m.

[4] These data were made available by Professor Coakley

## 3.4 Results

### 3.4.1 Descriptive statistics

Table 3.2 provides descriptive statistics for all the variables used in our regression. Our sample consists of 261 initial ECF campaigns and 122 AIM IPOs raising initial amounts of more than £500,000 and less than £7.5 million, between 2013 and 2018. The data of all variables are winsorized at 5th and 95th percentiles. In total, 90% of initial equity offerings have succeeded, accompanied by an average involvement of 462 investors in ECF campaigns. On average, initial equity offerings achieved success during a span of 50.1 days and 16% of offerings managed to attain their original fundraising objective within a shorter timeframe of 20 days, which is referred to as "quick success". In addition, 94% of ECF campaigns have exceeded their fundraising goals, in other words, proving a larger than one funding ratio, with a mean overfunding ratio of roughly 7.07. The application of the "All-or-Nothing" mechanism on ECF platforms may account for this exceptionally high value. Setting lower fundraising targets increases the likelihood of achieving the funding goal, which is advantageous for both firms and platforms. The descriptive statistics on the explanatory variables offer a univariate analysis of the different attractions of crowdfunding versus going public (IPOs) for firms with distinct financial conditions. Crowdfunding campaigns tend to offer less equity to their investors the average is 15.15% in contrast to the average 24.62% equity offered on AIM IPOs. The ECF results are similar to those of Ralcheva and Roosenboom (2020) which suggests that the average equity offered is around 14% for their sample of 2171 ECF campaigns between 2012 and 2017. Firms conducting initial ECF campaigns are

generally smaller, with an average pre-money valuation of £7.85m, compared to the average £16.55m for AIM IPOs. ECF platforms are favoured by younger firms, with an average age of 4.48 year compared to the mean age of 5.95 years for the IPO sample firms.

Initial ECF campaigns and AIM IPOs differ in several ways and these differences are controlled in the analysis. The mean ECF offering (£0.32m) fundraising goal is significantly less than that of AIM IPOs (£3.30m). ECF campaigns are run by smaller management teams, with an average of 2.55 members compared to 5.10 in management team members in AIM IPO firms. In addition, the majority of ECF offerings (58%) are conducted by firms located in metropolitan areas compared to only 39% of AIM IPO firms. Finally, greater proportions of high-technology firms listed on London AIM (31%) than ECF sample firms (1%).

[INSERT TABLE 3.2 HERE]

The presence of multicollinearity among variables is tested by employing Pearson correlations and the results are reported in Table 3.3. There exist some correlation coefficients are significant at the 5% significance level. However, the actual values of the coefficients are below 0.5 and this reveals no severe problem of multicollinearity.

[INSERT TABLE 3.3 HERE]

### 3.4.2 Regression results

The empirical analysis provides empirical evidence relating to the hypotheses using the two-stage model in equations (1) and (2). Hypotheses 1A, 2A and 3A can be tested using the first-stage results while Hypotheses 1B, 2B and 3B can be tested using the

second-stage results. Results of the first stage are reported in the first column of Table 3.4.[5]

[INSERT TABLE 3.4 HERE]

ECF offerings are preferred by firms with a smaller size, proxied by a smaller pre-money valuation in the first column of Table 3.4. The coefficient of *Pre-money valuation* is -0.037 and statistically significant at the 10% level. ECF offerings are also preferred by firms with less equity offered, i.e., firms with more equity retention - the coefficient is -0.029 and statistically significant at the 10% level, consistent with the results of Cumming et al., (2021). These provide empirical evidence supporting hypothesis H1A and H2A. No statistical significance is found for *Firm age* (H3A) in the first stage results. Moreover, these results of the selection equation are consistent with the descriptive statistics in Table 3.2. These suggest that firms choosing ECF campaigns to raise equity generally have smaller pre-money valuations. Finally, the industry dummy variable for testing the exclusion restriction in the first stage is statistically significant, verifying the validity of industry dummies in the Heckman model.

As for control variables, the descriptive statistics confirmed that firms with smaller management teams and lower fundraising goals are more likely to choose ECF offerings over AIM IPOs. The findings offer no empirical support for the notion that location influences the decision between public and private equity. The results of determinants of equity crowdfunding campaigns' success in the sample are given in Columns (1) to

[5] A first stage is estimated for both second stages in equation (1) and (2). Since the results of the selection equations are qualitatively identical, results of the first stage are only reported once and shown in Table 3.4.

(5). Model (1), which includes all control variables, is the baseline specification. The dependent variable of the outcome equation is a binary dummy variable, which takes value 1 for successful ECF offerings and 0 otherwise. Models (2) to (4) incrementally introduce one explanatory variable at a time to examine the influence of *Equity offered*, *Pre-money valuation*, and *Firm age* on the success of an ECF campaign, individually. Model (5) incorporates all three explanatory variables collectively to assess the presence of these characteristics.

The results show that *Equity offered* has a statistically significant impact on the success of ECF campaigns at the 1% significance level. Moreover, firms with higher Equity offered are less likely to reach their fundraising goals and these results are consistent with hypothesis H1B, in line with previous studies (Ahlers et al., 2015; Vismara, 2016). The results of Model (3) indicate that the *Pre-money valuation* does not exhibit a statistically significant influence on the success of ECF campaigns. The Model (4) results show that *Firm age* has no significant impact on ECF campaign success. Thus, there is no empirical support for hypotheses H2B and H3B. By contrast, the Model (5) results that include all three explanatory variables are sharply different. Now both *Equity offered* and *Pre-money valuation* are significantly negative at the 1% level. In other words, the higher the equity offered and the pre-money valuation, the lower the probability of ECF campaign success, indicating firms' overoptimism in these campaigns.

[INSERT TABLE 3.5 HERE]

In Table 3.5, the analysis is repeated using No.of investors as the dependent variable in the outcome equation. Model (1) is the baseline specification including all the controls. Models (2) to (4) incrementally add one explanatory variable at a time to examine the influence of *Equity offered*, *Pre-money valuation*, and *Firm age* on the success of ECF campaigns, respectively. Model (5) includes all three explanatory variables to collectively assess the presence of these characteristics. Model (2) demonstrates that Equity offered has a statistically significant impact on investors' participation at the 1% level. Specifically, the number of investors participating in an ECF campaign would be significantly reduced if firms offered more equity to the public (coefficient = -0.047, significant at 1% level), providing empirical support for hypothesis H1B. In this case, for a 1% increase in the Equity offered, the difference in the logs of expected counts of the No.of investors is expected to drop by 4.7%. Model (3) provides strong evidence that empirical support that firms with a higher Pre-money valuation attract more investors to their ECF offerings (coefficient = 0.053, significant at 1% level), consistent with the hypothesis H2B. In particular, for a 1% increase in the Pre-money valuation, the difference in the logs of expected counts of the No.of investors is expected to increase by 5.3%. Results of Model (2) and (3) add additional empirical evidence that more equity retention and larger sizes (proxied by pre-money valuations) would increase the degree of investor participation, consistent with (Ahlers et al., 2015; Vismara, 2016; Astebro et al., 2017; Wasiuzzaman and Suhili; 2021). The impact of *Equity offered* and *Pre-money valuation* are further confirmed by Model (5), at the 5% and 1% levels, respectively. Once again, the results indicate that firm age

exerts no statistical impact on investor participation. This contradicts the conclusions drawn by Rolcheva and Roosenboom (2020), which indicate that the age of a firm would substantially diminish the likelihood of success for crowdfunding offerings, particularly on Crowdcube.

As for control variables, Models (1) to (5) jointly indicate that *Goal* has a statistically positive impact on investor participation, that is, higher fundraising goals would attract more investors, consistent with Lukkarinen et al. (2016), which suggest that ECF campaigns with larger fundraising goals have better performance, in terms of the number of investors. This is because the accumulation of more financial resources allows firms to undertake more actions for expansion and increasing firm value. Potential investors are attracted by the large fundraising targets, which subsequently improves their level of interest and hence stimulates a greater propensity to invest. Some existing studies has demonstrated that excessively larger fundraising goals would significantly reduce the probability of success of the ECF campaigns (Mollick, 2014; Vulkan et al., 2016; Lagazio and Querci, 2018) while Ahlers et al. (2015) found that fundraising goals have no significant impact on the success of ECF campaigns. Model (3) demonstrates that firms based in urban areas tend to attract more investors. This result departs from that of Cumming et al. (2021) for a different sample that indicates that firms originating from non-metropolitan areas tend to attract more investors. The significant negative correlation between geographical locations and the success of ECF crowdfunding campaigns may be explained that our matched sample with AIM IPOs focuses on larger ECF campaigns where larger investors predominate (Wang et al.,

2019). Moreover, Models (1) and (5) both indicate that *Funding ratio* has a significantly positive impact on investor participation, at the 1% level. According to its definition, *Funding ratio* serves as a measure of the disparity between the actual amount raised and the initial goals set by the firm. All 5 models suggest that firms with a larger difference between the actual amount raised and the initial goals tend to attract more investors.

Results in Table 3.4 and Table 3.5 jointly indicate a statistically significant inverse relationship between the amount of equity offered and the performance of ECF campaigns, measured by whether a project is successfully funded in Table 4 and how many investors were attracted in Table 5. Equivalently, our results suggest that higher equity retention by the original entrepreneurs increases the chances of successful ECF campaigns since they have more skin in the game. This finding is consistent with prior research (Ahlers et al., 2015; Vismara, 2016; Rossi et al., 2020). Since there exists a high level of uncertainty (information asymmetry) between investors and entrepreneurs, investors feel more confident if entrepreneurs maintain a higher proportion of equity. Simultaneously, entrepreneurs may convince investors that their projects are of a "good" quality by keeping control, of a high proportion of equity. Our findings add evidence to this argument that a higher level of equity retention would result in a higher probability of success in the ECF campaigns and attract more investors.

Results in Table 3.5 indicate that a larger pre-money valuation would attract more investors. This significantly positive correlation between pre-money valuation and investor participation suggests that investors see the optimism of firm owners as a

favourable indicator. This perspective enhances trust in the project, leading to more investor involvement. The valuation of start-ups is challenging due to the limited availability of information and the lack of operating experience often associated with new ventures. Here ECF platforms perform a key role in restraining the optimism of startup management about the potential valuation of their firm. In this case, the ECF platforms are considered as the “arbiter”.

Finally, our results provide no evidence that the age of a firm significantly influences the decision between private and public equity or the performance of ECF campaigns, in contrast to the expectations. Firm age usually serves as a positive signal to investors since older firms generally have more experience and trust relationships, however, results in Table 3.4 and Table 3.5 lead to a different conclusion. The impact of firm age on the success of ECF campaigns needs further research.

### 3.4.3 Robustness test

As indicated by the descriptive statistics in Table 3.2, sizes (as represented by pre-money valuations) of AIM IPOs are double those of crowdfunding offerings. The original sample contains 261 equity crowdfunding campaigns and 122 equity offerings on London AIM that raised between £500,000 and £7.5m. For the robustness test, equity crowdfunding campaigns that have pre-money valuations higher than the median are selected for comparison with London AIM equity offerings. This is because these equity offerings are regarded as more suitable comparisons with initial public offerings (IPOs) on AIM. Consequently, a final sample comprising 122 London AIM equity offerings and 130 equity crowdfunding campaigns is obtained.

This section employs the same regression on a reduced sample to test the robustness of the findings presented in Tables 3.4 and 3.5. In the first stage of the Heckman model, whether financial information affects the choice between financing towards crowdfunding versus AIM IPOs is tested. In the second stage, we further investigate whether the same determinants have an impact on the probability of ECF campaigns' success. Results of the robustness test are presented in Table 3.6 and Table 3.7.

[INSERT TABLE 3.6 HERE]

The first column in Table 3.6 demonstrates that *Equity offered* exhibits a statistically and significantly negative impact on the choice between equity crowdfunding campaigns and equity offerings on London AIM, suggesting the robustness of *Equity offered* in the choice of financing. In addition, the results in this column indicate that the *Pre-money valuation* and *Firm age* do not exhibit a statistically significant influence on the decision between equity crowdfunding campaigns and London AIM IPOs.

Inconsistent with the findings presented in Table 3.4, Model (2) in Table 3.6 does not demonstrate a statistically significant association between the *Equity offered* and the success of ECF campaigns. Model (5) incorporates all three explanatory variables, and the results are similar. Both *Equity offered* and *Pre-money valuation* are significantly negative at the 5% level. The Heckman model, when applied to the reduced sample, provides further evidence supporting the robustness of the findings presented in Table 3.4. Specifically, it suggests that firms that offer a smaller proportion of equity and possess lower pre-money valuations exhibit a higher likelihood of

achieving their fundraising goals in equity crowdfunding campaigns.

[INSERT TABLE 3.7 HERE]

In Table 3.7, *No. of investors* is employed as the dependent variable to proxy the performance of ECF campaigns. Model (3) provides empirical support that firms with higher pre-money valuations tend to attract more investors, at the 5% level, confirming the robustness of *Pre-money valuation* in the degree of investor participation. Model (2) and Model (4) suggest that *Equity offered* and *Firm age* do not exhibit a statistically significant influence on the investor participation of equity crowdfunding campaigns. Model (5) collectively assesses three explanatory variables and results are similar to results in Table 3.5: *Equity offered* and *Firm age* do not exhibit a statistically significant influence on the investors' participation in ECF campaigns while *Pre-money valuation* have significantly positive impacts on investors' participation in ECF campaigns, at the 1% level. In other words, Model (5) provides empirical evidence that firms with higher pre-money valuations tend to attract more investors.

## 3.5 Conclusions

With the decline in the number of deals in PE/VC funds over the past few years, the number of deals on crowdfunding platforms has steadily increased, reaching 582 in the UK by 2021. The United Kingdom's equity crowdfunding market is considered the most developed in the world. In addition, London AIM's light-touch regulation and listing requirements have attracted small and high-growth companies since its establishment in 1995. This paper seeks to investigate the factors that lead companies to choose private

equity over public equity when raising capital.

This paper first analyse the private versus public equity choice for small firms using a sample consisting of 261 crowdfunding offerings and 122 AIM offerings in the UK raising amounts between £500,000 and £7.5m. The results show that firms that issue less equity and have lower pre-money valuations are more likely to opt for private equity as opposed to public equity. One reason for this is that ECF offerings help innovative startups by providing a framework within which to keep their novel processes and intellectual capital private. Another reason is the rise of co-investment ECF where angels invest alongside crowd investors. Angels are motivated to both monitor and mentor these firms in the hope of a successful exit like a takeover. The growing popularity of ECF in the UK may decrease the number of new listings on London AIM. However, results do not provide strong support to view that the expanding listing gap is a consequence of the rise of private equity and the decline in stock markets (Ewens & Farrre-Mensa, 2022). Results in this chapter demonstrate that firms with larger pre-money valuations and higher fundraising goals opt for conventional entrepreneurial financing sources, it can be inferred that listing on the stock exchange consistently serves as a reliable option for firms with relatively higher pre-money valuations and have ambitious fundraising goals.

This paper further studies whether the same determinants are associated with ECF success, proxied by the likelihood of reaching/exceeding fundraising goals and the level of investor participation. Results provide empirical evidence that firms with less equity offered are more likely to succeed in ECF campaigns. Less equity offered would

directly lead to more equity retention by the firm's owners, and this is always regarded as a "good" signal of commitment confidence, in line with previous research (Ahlers et al., 2015; Vismara 2016). Furthermore, firms with larger pre-money valuations are more likely to attract more investors. A larger pre-money valuation is attractive to external investors, and this significantly increases the probability that an ECF campaign is successful.

This research contributes substantively to the empirical understanding of firm characteristics that influence the choice between ECF and AIM. The findings establish the demographic profile of enterprises most suited to crowdfunding platforms, specifically identifying early-stage firms with limited access to traditional financing mechanisms such as venture capital or institutional lending. The research demonstrates that offering size and fundraising objectives represent critical strategic variables in determining campaign outcomes.

Furthermore, this study advances the theoretical framework by synthesizing signaling and agency theories to explicate investor behavior and campaign performance in the ECF context. A significant theoretical contribution lies in the extension of signaling literature, revealing that equity offering decisions transcend purely financial considerations and substantially impact campaign efficacy. The research also provides empirical evidence supporting the substantiality of agency conflicts in ECF campaigns, particularly highlighting the potential for opportunistic behavior by founders when offering larger equity stakes. These findings enhance our theoretical understanding of

the mechanisms underlying successful ECF campaigns and provide practical implications for both entrepreneurs and platform operators.

**Table 3.1. List of Variables**

| | |
|---|---|
| Dependent Variable | |
| Success | Dummy variable equals to 1 for successfully funded offerings, 0 otherwise |
| No. of investors | Number of investors involved in the offering |
| Explanatory variables | |
| Equity offered | Percentage of equity offered |
| Pre-money valuation | the value of a company before listing or receiving external funding |
| Firm age | The difference, in years, between the beginning of the crowdfunding campaign, or the offering on the AIM, and the foundation date |
| Controls | |
| Goal | Amount bid for crowdfunding initiatives, and total proceeds for IPO offerings |
| Team size | Number of people in the top management team |
| Duration | The difference, in days, between the beginning of the equity crowdfunding campaign and the date when it reaches the fundraising targets (apply to ECF campaigns only) |
| Funding ratio | The ratio of the actual amount raised to the fundraising goals (apply to ECF campaigns only) |
| Quick success | Dummy variable equals to 1 if the target was reached within 20 days (apply to ECF campaigns only) |
| Metropolitan area | Dummy variable equals to 1 if the firm belongs to a metropolitan area, based on the Census 2011 classification |
| High Technology firm | Dummy variable equals to 1 for the high-technology firm, 0 otherwise |
| Industry dummy | SIC codes and apply them as exclusion criteria in the first stage of the Heckman model. |

**Table 3.2. Descriptive Statistics**

| | ECF offerings | | | | | AIM IPOs | | | | | Difference in Means |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | Median | Std | Min | Max | Mean | Median | Std | Min | Max | |
| **Dependent Variables** | | | | | | | | | | | |
| Success | 0.90 | 1 | 0.30 | 0 | 1 | - | - | - | - | - | - |
| No. of investors | 462.4 | 315 | 445.4 | 23 | 1590 | - | - | - | - | - | - |
| **Explanatory Variables** | | | | | | | | | | | |
| Equity offered (%) | 15.15 | 13.04 | 9.13 | 4.22 | 48.4 | 24.62 | 21.84 | 14.08 | 4.22 | 48.4 | 7.77*** |
| Pre-money valuation (£m) | 7.85 | 5.33 | 8.16 | 1.07 | 42.36 | 16.55 | 12.98 | 12.68 | 1.07 | 42.37 | 7.89*** |
| Firm age | 4.48 | 3 | 3.92 | 0 | 15 | 5.95 | 5 | 5.09 | 0 | 15 | 3.10** |
| **Controls** | | | | | | | | | | | |
| Goal (£m) | 0.32 | 0.20 | 0.41 | 0.05 | 5 | 3.30 | 3.48 | 1.60 | 0.5 | 5.5 | 28.3*** |
| Team size | 2.55 | 2 | 1.60 | 1 | 7 | 5.10 | 5 | 1.27 | 2 | 7 | 15.4*** |
| Duration | 50.12 | 46 | 39.4 | 1 | 420 | - | - | - | - | - | - |
| Funding ratio | 7.07 | 4.52 | 6.85 | 0.84 | 26.6 | | | | | | |
| Quick success (dummy, %) | 0.16 | 0 | 0.36 | 0 | 1 | - | - | - | - | - | - |
| Metropolitan area (dummy, %) | 0.58 | 1 | 0.49 | 0 | 1 | 0.39 | 0 | 0.49 | 0 | 1 | -3.49** |
| High technology firm (dummy, %) | 0.01 | 0 | 0.09 | 0 | 1 | 0.31 | 0 | 0.47 | 0 | 1 | 10.2*** |

Descriptive statistics. Mean, standard deviation, and maximum and minimum values for all variables used in the regression, referred to the sample of 261 equity crowdfunding campaigns and 122 equity offerings on London AIM raising between £500,000 and £7.5m. The last column reports t-values and the corresponding significance of tests for differences in means (or proportions) between equity crowdfunding offerings and AIM. The data for all variables reported are winsorized at the 5th and 95th percentiles.
Significance levels for coefficients are denoted as * for $p \leq 0.10$, ** for $p \leq 0.05$ and *** for $p \leq 0.01$.

**Table 3.3. Correlation matrix**

| | Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Success | 1.000 | | | | | | | | | | | |
| 2 | No. of investors | 0.227* | 1.000 | | | | | | | | | | |
| 3 | Equity offered | -0.248* | -0.283* | 1.000 | | | | | | | | | |
| 4 | Pre-money valuation | 0.018 | 0.471* | -0.272* | 1.000 | | | | | | | | |
| 5 | Firm age | -0.041 | 0.079 | -0.023 | 0.222* | 1.000 | | | | | | | |
| 6 | Goal | 0.060 | -0.028 | 0.432* | 0.400* | 0.135* | 1.000 | | | | | | |
| 7 | Team size | -0.014 | -0.106 | 0.236* | 0.278* | 0.097 | 0.555* | 1.000 | | | | | |
| 8 | Duration | -0.022 | 0.074 | 0.082 | -0.055 | -0.038 | -0.097 | -0.034 | 1.000 | | | | |
| 9 | Funding ratio | 0.035 | 0.243* | 0.005 | 0.196* | 0.069 | -0.410* | 0.033 | 0.096 | 1.000 | | | |
| 10 | Quick success | 0.003 | -0.101 | -0.025 | 0.026 | -0.026 | 0.139* | -0.055 | -0.489* | -0.059 | 1.000 | | |
| 11 | Metropolitan area | -0.074 | 0.075 | -0.055 | -0.178* | -0.140* | -0.130* | -0.148* | 0.001 | -0.035 | 0.045 | 1.000 | |
| 12 | High Technology firm | 0.029 | 0.046 | 0.129* | 0.240* | 0.147* | 0.507* | 0.359* | 0.011 | -0.024 | -0.038 | -0.084 | 1.000 |

Correlation coefficients are calculated based on the sample containing 261 crowdfunding offerings offered and 122 IPOs on the AIM raising amounts between £500,000 and £7.5m between 2013 and 2018. Values for Success, Number of investors, Funding ratio, Duration and Quick success refer only to crowdfunding offerings. The data for all variables reported are winsorized at the 5th and 95th percentiles. * denotes statistical difference at the 1% significance level.

**Table 3.4. Determinants of equity offerings' success**

| | ECF | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|---|
| Equity offered | -0.029*<br>(0.016) | - | -0.042***<br>(0.013) | - | - | -0.077***<br>(0.019) |
| Pre-money valuation | -0.037*<br>(0.020) | - | - | -0.005<br>(0.015) | - | -0.062***<br>(0.021) |
| Firm age | -0.042<br>(0.038) | - | - | - | -0.005<br>(0.033) | -0.029<br>(0.035) |
| Goal | -1.690***<br>(0.268) | 1.546*<br>(0.805) | 1.361<br>(0.847) | 1.552*<br>(0.807) | 1.536*<br>(0.808) | 1.405<br>(0.934) |
| Team size | -0.374***<br>(0.103) | 0.068<br>(0.098) | 0.016<br>(0.107) | 0.068<br>(0.099) | 0.065<br>(0.100) | -0.063<br>(0.116) |
| Duration | - | -0.004<br>(0.004) | -0.003<br>(0.005) | -0.005<br>(0.004) | -0.004<br>(0.004) | -0.004<br>(0.005) |
| Funding ratio | - | 0.054*<br>(0.027) | 0.058*<br>(0.029) | 0.055**<br>(0.027) | 0.054**<br>(0.027) | 0.082**<br>(0.033) |
| Quick success | - | -0.068<br>(0.412) | -0.017<br>(0.430) | -0.074<br>(0.412) | -0.071<br>(0.412) | -0.044<br>(0.446) |
| Metropolitan area | 0.418<br>(0.336) | -0.389<br>(0.269) | -0.494*<br>(0.286) | -0.385<br>(0.270) | -0.395<br>(0.272) | -0.484<br>(0.300) |
| High Technology firm | -0.816<br>(0.719) | - | - | - | - | - |
| Industry dummy | YES*** | NO | NO | NO | NO | NO |
| Prone to crowdfunding (IMR) | - | -1.587<br>(1.007) | -0.625<br>(1.306) | -1.579<br>(1.009) | 1.566<br>(1.012) | 1.147<br>(1.685) |
| Constant | 4.279***<br>(0.802) | 0.946*<br>(0.500) | 1.738***<br>(0.584) | 0.977*<br>(0.509) | 0.983*<br>(0.551) | 2.910***<br>(0.770) |
| Observations | 342 | 218 | 218 | 218 | 218 | 218 |
| Pseudo R-squared | 0.814 | 0.062 | 0.144 | 0.063 | 0.062 | 0.210 |

The table reports the results of estimating a Probit two-stage model. The first-stage selection equation uses a probit model of crowdfunding offerings versus IPOs on the AIM. It employs a sample of 261 crowdfunding offerings and 122 IPOs on the AIM between 2013 and 2018. Industry dummies are employed according to the exclusion criterion in the first stage. The first stage is reported only for the selection equation of model (1) and shown in Column (ECF). The binary dependent variable for the first stage takes value 1 for all ECF offerings and 0 for AIM IPOs. Results for all other

selection equations are the same. The second stage is a probit model on the success of crowdfunding campaigns based on a sample of 261 equity crowdfunding campaigns from 2013 to 2018, including the Inverse Mills Ratio derived from the first stage. Model (1) is the baseline specification. Model (2) adds *Equity offered*. Model (3) adds *Pre-money valuation*. Model (4) adds *Firm age*. Model (5) includes all variables from Models (2)-(4). The data for all variables reported are winsorized at the 5th and 95th percentiles. The standard errors are reported in parentheses.
Significance levels for coefficients are denoted as * for $p \leq 0.10$, ** for $p \leq 0.05$ and *** for $p \leq 0.01$.

**Table 3.5. Investor participation**

| | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|
| Equity offered | - | -0.047***<br>(0.008) | - | - | -0.025**<br>(0.010) |
| Pre-money valuation | - | - | 0.053***<br>(0.010) | - | 0.037***<br>(0.011) |
| Firm age | - | - | - | -0.004<br>(0.018) | -0.010<br>(0.016) |
| Goal | 0.626*<br>(0.346) | 0.605*<br>(0.327) | 0.723**<br>(0.311) | 0.625*<br>(0.348) | 0.667**<br>(0.311) |
| Team size | -0.011<br>(0.052) | -0.013<br>(0.050) | 0.018<br>(0.048) | -0.011<br>(0.052) | 0.010<br>(0.048) |
| Duration | -0.002<br>(0.003) | 0.001<br>(0.003) | 0.003<br>(0.003) | -0.002<br>(0.003) | 0.004<br>(0.003) |
| Funding ratio | 0.045***<br>(0.013) | 0.046***<br>(0.012) | 0.032***<br>(0.012) | 0.045***<br>(0.013) | 0.037***<br>(0.012) |
| Quick success | -0.359<br>(0.237) | -0.251<br>(0.223) | -0.332<br>(0.221) | -0.360<br>(0.239) | -0.299<br>(0.219) |
| Metropolitan area | -0.138<br>(0.147) | 0.126<br>(0.140) | 0.281**<br>(0.141) | 0.137<br>(0.149) | 0.213<br>(0.143) |
| High Technology firm | 0.764<br>(0.730) | 1.023<br>(0.691) | 0.983<br>(0.681) | 0.763<br>(0.731) | 1.037<br>(0.675) |
| Industry dummy | NO | NO | NO | NO | NO |
| Prone to crowdfunding (IMR) | -0.464<br>(0.470) | -0.549<br>(0.441) | -0.842*<br>(0.413) | -0.463<br>(0.471) | -0.787*<br>(0.416) |
| Constant | 5.704***<br>(0.281) | 6.250***<br>(0.291) | 5.036***<br>(0.279) | 5.708***<br>(0.310) | 5.609***<br>(0.371) |
| Observations | 220 | 220 | 220 | 220 | 220 |
| Pseudo R-squared | 0.006 | 0.016 | 0.018 | 0.006 | 0.020 |

This table reports the result of negative binomial regressions with a selection equation, i.e., a two-stage model. The first stage (selection equation) is a probit model of proposing a crowdfunding offering versus a public offering on the AIM, estimated on a sample of 261 crowdfunding offerings offered and 122 IPOs on the AIM between 2013 and 2018. Industry dummies are employed according to the exclusion criterion in the first stage. The first stage is not provided since the coefficients are qualitatively identical in all cases to the model presented in Table 4, Model (1). The second stage is

a negative binomial regression on the number of funders based on a sample of 261 equity crowdfunding campaigns from 2013 to 2018, including the Inverse Mills Ratio derived from the first stage. Model (1) is the baseline specification. Model (2) adds *Equity offered*. Model (3) adds *Pre-money valuation*. Model (4) adds *Firm age*. Model (5) adds all variables included in Models (2)-(4). The data for all variables reported are winsorized at the 5th and 95th percentiles. The standard errors are reported in parentheses.

Significance levels for coefficients are denoted as * for $p \leq 0.10$, ** for $p \leq 0.05$ and *** for $p \leq 0.01$.

**Table 3.6. Determinants of equity offerings' success (Robustness test)**

| | ECF | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|---|
| Equity offered | -0.117*** (0.041) | - | -0.059 (0.044) | - | - | -0.129** (0.061) |
| Pre-money valuation | -0.018 (0.030) | - | - | -0.024 (0.023) | - | -0.062** (0.031) |
| Firm age | -0.043 (0.051) | - | - | - | -0.076 (0.059) | -0.082 (0.060) |
| Goal | -1.836*** (0.380) | 1.973 (1.407) | 2.616 (1.755) | 2.028 (1.421) | 1.854 (1.389) | 3.11 (2.300) |
| Team size | -0.588*** (0.160) | -0.146 (0.162) | -0.206 (0.163) | -0.109 (0.175) | -0.227 (0.176) | -0.277 (0.190) |
| Duration | - | 0.002 (0.011) | 0.005 (0.012) | -0.004 (0.011) | 0.008 (0.001) | -0.003 (0.013) |
| Funding ratio | - | 0.102 (0.064) | 0.131 (0.077) | 0.116 (0.071) | 0.107 (0.069) | 0.219* (0.115) |
| Quick success | - | 0.385 (0.803) | 0.603 (0.827) | 0.259 (0.809) | 0.482 (0.851) | 0.494 (0.881) |
| Metropolitan area | 0.876** (0.447) | -0.307 (0.454) | -0.207 (0.462) | -0.390 (0.472) | -0.447 (0.479) | -0.401 (0.511) |
| High Technology firm | -0.888 (1.054) | - | - | - | - | - |
| Industry dummy | YES*** | NO | NO | NO | NO | NO |
| Prone to crowdfunding (IMR) | - | 7.692 (6.215) | 8.873 (6.364) | 7.265 (6.450) | 10.195 (6.416) | 11.237 (7.051) |
| Constant | 6.031*** (1.448) | 0.351* (0.941) | 0.472* (1.002) | 0.692* (1.003) | 1.019* (1.082) | 2.124** (1.361) |
| Observations | 233 | 110 | 110 | 110 | 110 | 110 |
| Pseudo R-squared | 0.844 | 0.165 | 0.194 | 0.182 | 0.192 | 0.292 |

The table reports the results of estimating a Probit two-stage model. The first-stage selection equation uses a probit model of crowdfunding offerings versus IPOs on the AIM. It employs a sample of 130 crowdfunding offerings (pre-money valuations are above medians £5.33m) and 122 IPOs on the AIM between 2013 and 2018. Industry dummies are employed according to the exclusion criterion in the first stage. The first

stage is reported only for the selection equation of model (1) and shown in Column (Crowdfunding). The binary dependent variable for the first stage takes value 1 for all ECF offerings and 0 for AIM IPOs. Results for all other selection equations are the same. The second stage is a probit model on the success of crowdfunding campaigns based on a sample of 130 equity crowdfunding campaigns from 2013 to 2018, including the Inverse Mills Ratio derived from the first stage. Model (1) is the baseline specification. Model (2) adds *Equity offered*. Model (3) adds *Pre-money valuation*. Model (4) adds *Firm age*. Model (5) includes all variables from Models (2)-(4). The data for all variables reported are winsorized at the 5th and 95th percentiles. The standard errors are reported in parentheses.

Significance levels for coefficients are denoted as * for $p \leq 0.10$, ** for $p \leq 0.05$ and *** for $p \leq 0.01$.

**Table 3.7. Investor participation (Robustness test)**

| | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|
| Equity offered | - | -0.006<br>(0.022) | - | - | -0.023<br>(0.024) |
| Pre-money valuation | - | - | 0.027**<br>(0.011) | - | 0.033***<br>(0.013) |
| Firm age | - | - | - | -0.001<br>(0.023) | 0.007<br>(0.022) |
| Goal | 0.317<br>(0.342) | 0.292<br>(0.353) | 0.224<br>(0.331) | 0.314<br>(0.346) | 0.313<br>(0.339) |
| Team size | -0.016<br>(0.064) | -0.024<br>(0.069) | -0.040<br>(0.062) | -0.016<br>(0.065) | -0.018<br>(0.065) |
| Duration | -0.006<br>(0.004) | -0.003<br>(0.004) | 0.001<br>(0.004) | -0.006<br>(0.004) | 0.004<br>(0.004) |
| Funding ratio | 0.311**<br>(0.015) | 0.032**<br>(0.015) | 0.025*<br>(0.014) | 0.031**<br>(0.015) | 0.021<br>(0.015) |
| Quick success | -0.171<br>(0.309) | -0.148<br>(0.319) | -0.141<br>(0.305) | -0.173<br>(0.310) | -0.215<br>(0.317) |
| Metropolitan area | -0.104<br>(0.183) | -0.083<br>(0.197) | 0.058<br>(0.189) | -0.106<br>(0.185) | 0.032<br>(0.198) |
| High Technology firm | -0.345<br>(0.936) | -0.401<br>(0.955) | -0.942<br>(0.948) | -0.332<br>(0.962) | -0.948<br>(0.967) |
| Industry dummy | NO | NO | NO | NO | NO |
| Prone to crowdfunding (IMR) | -0.466<br>(0.409) | -0.414<br>(0.444) | -0.242<br>(0.408) | -0.463<br>(0.411) | -0.379<br>(0.431) |
| Constant | 6.279***<br>(0.329) | 6.326***<br>(0.367) | 5.850***<br>(0.360) | 6.289***<br>(0.377) | 5.527***<br>(0.489) |
| Observations | 111 | 111 | 111 | 111 | 111 |
| Pseudo R-squared | 0.005 | 0.005 | 0.008 | 0.005 | 0.009 |

This table reports the result of negative binomial regressions with a selection equation, i.e., a two-stage model. The first stage (selection equation) is a probit model of proposing a crowdfunding offering versus a public offering on the AIM, estimated on a sample of 130 crowdfunding offerings (pre-money valuations are above medians £5.33m) and 122 IPOs on the AIM between 2013 and 2018. Industry dummies are employed according to the exclusion criterion in the first stage. The first stage is not provided since the coefficients are qualitatively identical in all cases to the model

presented in Table 6, Model (1). The second stage is a negative binomial regression on the number of funders based on a sample of 130 equity crowdfunding campaigns from 2013 to 2018, including the Inverse Mills Ratio derived from the first stage. Model (1) is the baseline specification. Model (2) adds *Equity offered*. Model (3) adds *Pre-money valuation*. Model (4) adds *Firm age*. Model (5) adds all variables included in Models (2)-(4). The data for all variables reported are winsorized at the 1st and 99th percentiles. The standard errors are reported in parentheses.
Significance levels for coefficients are denoted as * for $p \leq 0.10$, ** for $p \leq 0.05$ and *** for $p \leq 0.01$.

# Chapter 4 SyndicateRoom: A victim of its own success

## 4.1 Introduction

Equity crowdfunding (ECF) is a recent phenomenon that differentiates itself apart from other forms of crowdfunding by allowing investors to get involved in the future cash flow of a firm. Numerous studies have extensively examined this topic (see Mochkabadi and Volkmann, 2020 for a comprehensive review). ECF offers several benefits, such as lowering investment obstacles and consequently facilitating small firm access to outside equity capital (Rossi, 2014; Bruton et al., 2015; Yasar, 2021). The information asymmetry problem is one of the most substantial hazards associated with ECF (Ahlers et al. 2015; Vismara, 2018; Bapna, 2017). In particular, investors in ECF are not required to be "professional" and are often inexperienced.

ECF platforms have progressively adopted the lead investor syndicate structure, which leverages the benefits of syndication often seen in venture capital firms and angel investment (Lerner, 1994). The ECF syndicate platform offer benefits to both start-ups and investors simultaneously. First it effectively addresses the issue of information asymmetry by assigning distinct responsibilities towards different groups of investors (Agrawal, et al., 2015) and lead investors receive rewards or punishment based on their performance both financially and reputationally. It also enhances the ability of “the crowd” to invest capital in early-stage ventures. On the other hand, it offers start-ups the chance to get funding and establish connections with notable lead investors. AngelList first implemented this investment strategy in the United States in 2013 around the time of the establishment of SyndicateRoom in the United Kingdom.

The UK enjoys the biggest and most rapidly growing equity crowdfunding (ECF) market in Europe, both in terms of the number of campaigns and the amount of funding raised. Since its formation in 2011, Crowdcube has been a reliable choice for non-listed firms seeking funds for growth or development via equity financing. Equity crowdfunding has seen an explosion in popularity over the last decade, with the total amount of funds obtained increasing from £18.1m in 2013 to £432m in 2023, spread over 373 fundraising rounds. The year 2021 was unquestionably the most successful year for crowdfunding, as it managed to raise a total of £811m (Beauhurst, 2024).

Rossi et al. (2021) offer a perspective on the ECF market in both the U.S. and the U.K. They propose that the divergent strategies employed by the regulator are partiall y responsible for the limited attention that previous studies have paid to the ECF mark et in the U.S. On the contrary, the UK sector has unified constraints and regulations for different types of investors across the country. SyndicateRoom has been chosen for an examination of the ECF syndicate model since it has implemented the lead investor syndicate model from the start. The syndicate structure on SyndicateRoom entails an angel lead investor who is responsible for doing due diligence, making substantial investments, and gathering further investments from other professional investors.

This study is conducted from the prospective of equity crowdfunding, which is in accordance with the pilot study of crowdfunding syndicates conducted by Agrawal et al. (2016). This paper examines the variables that influence the success of ECF campaigns on the SyndicateRoom platform. Additionally, it examines the factors that influence companies in selecting this platform and the resulting outcomes in terms of

performance. This research utilized a sample of 130 ECF campaigns on SyndicateRoom between 2013 and 2018. In order to assist a comparison, the dataset further includes 411 campaigns on Crowdcube and 139 campaigns on Seedrs. The exploration of factors that contribute to success has been popular in the field of equity crowdfunding. Previous studies demonstrate that equity retention (Ahlers et al., 2015; Vismara, 2016), human capital (Piva and Rossi-Lamastra, 2018), social capital (Vismara, 2016; Vismara, 2018; Cummings et al., 2021) and crowdfunding platforms (Rossi et al., 2018) all have significant impact on success of ECF campaigns. This paper conjectures that the success and performance of campaigns on SyndicateRoom are significantly influenced by the equity offered and fundraising goals. In addition, there is insufficient empirical evidence to establish a definitive conclusion that SyndicateRoom has a competitive advantage over the other two platforms in terms of the likelihood of achieving initial fundraising objectives and the actual amount raised.

This study demonstrates that setting higher fundraising objectives tends to have a beneficial effect on the amount of money obtained, however offering equity as part of the fundraising campaign has an adverse impact on the amount raised the probability of conducting a successful ECF campaign. This paper provides additional support to the signalling theory, indicating that the equity offered to potential investors served as a negative signal. The increasing amount of equity offered suggests that entrepreneurs are lacking in confidence in the development and growth of their own companies. On the other hand, each investor's individual contributions are significantly influenced by the equity percentage that is offered. This is not in opposition to the signalling theory,

as the percentage of equity offered does enhance the confidence of individual equity investors, particularly through effective due diligence processes. The timing of executing ECF campaigns on SyndicateRoom has been shown to have a substantial influence on the likelihood of success and the following performance. Campaigns undertaken before 2016 have a higher probability of reaching their initial fundraising goals and typically raise more capital. This is likely due to the direct rivalry with the other two platforms since 2016. Finally, there is a lack of evidence to conclude that campaigns on SyndicateRoom provide superior results in comparison to the other two platforms. Instead, campaigns on SyndicateRoom tend to have less probability to achieving their predetermined fundraising goals and raise less capital.

This paper's first contribution is that it offers a thorough examination of SyndicateRoom, examining the factors that affect the probability of success and performance of equity crowdfunding campaigns. To the best of our knowledge, this is the first paper to exclusively concentrate on the UK syndicated platform, SyndicateRoom, despite the fact that numerous studies have examined the UK ECF market (e.g. Estrin et al., 2018; Coakley et al., 2024). It expands the body of research on platform heterogeneity in the ECF market, aiding future studies in platform-specific comparative analyses. This chapter also offers actionable insights for entrepreneurs on campaign structuring, particularly regarding equity signalling and platform selection and highlights the trade-offs between accessibility (Crowdcube and Seedrs) and exclusivity (SyndicateRoom), aiding entrepreneurs in aligning platform choice with their fundraising strategies. This study presents empirical evidence demonstrating that

the initial fundraising goals of firms have a significantly positive impact on their subsequent performance, specifically the actual amount of funds raised during the campaign. In addition, the proportion of equity being offered also have great impact the capital that that each investor would contribute. SyndicateRoom pioneered the implementation of the equity crowdfunding syndicated model (lead-investor model) in the UK. The success of this lead-investor model has prompted Crowdcube and Seedrs to adopt it. The lead investor model is based on the idea of transferring the responsibility of conducting due diligence from the investor to the lead investor, who is normally an angel with expertise in the field. The lead investor is highly encouraged and motivated to endeavour in the campaign as they are rewarded financially and reputationally for executing a successful campaign. This mechanism, in turn, brings confidence to the investors as they believe that their interests are aligned with that of the lead investors'.

The second contribution of this paper is that it provides a pairwise comparison of performance between SyndicateRoom and the other two major ECF platforms in the UK (Crowdcube and Seedrs) using a matched sample, thereby contributing to the equity crowdfunding literature. Since Crowdcube and Seedrs recognized the benefits of lead-investor model and implemented it on the late 2015, there exists a direct competition between SyndicateRoom and these two platforms. Results in this paper demonstrate that campaigns on SyndicateRoom actually underperform than financially comparable campaigns on the other two platforms, they have a lower likelihood of achieving the initial goals and generally raise less capital. Despite the fact that SyndicateRoom pioneered to implement the lead-investor model in the UK, findings in this paper

indicate that Crowdcube and Seedrs achieve superior performance through the use of the lead-investor model.

The remainder of this paper unfolds as follows: the next section reviews and discusses the related literature and then develops the hypothesis; Section 3 provides an overview of the research design, including sample construction, introduction of methodology, explanatory and dependent variables; Section 4 presents the descriptive statistics and the regression result including the robustness test and the final section concludes.

## 4.2 Literature review and hypotheses

### 4.2.1 Literature review

#### 4.2.1.1 Crowdfunding and equity crowdfunding

Crowdfunding is derived from the broader concept of crowdsourcing which occurs when a profit-driven company outsources specific tasks for product production or sale to the general public (the "crowd"), in the form of an open call over the internet (Bayus, 2013; Howe, 2008; Kleemann et al., 2008). Instead of depending solely on a limited group of accredited investors, crowdfunding is closely connected to micro lending which enables firms to raise capital from a wider audience in which individuals contribute smaller amounts. There are four distinct types of crowdfunding: donation, reward, equity and loan-based (Ahlers et al., 2015, Mollick, 2014). All rely on a crowdsourcing mechanism for financing from the crowd who offer financial

contributions. Donation-based crowdfunding is generally associated with social entrepreneurs (Lehner, 2013) while the others are similar to traditional venture capital, involving the exchange of tangible or intangible returns (Mollick, 2014; Frydrych et. al., 2014). In reward-based crowdfunding, project supporters are considered as early "customers" instead of investors (Frydrych et. al, 2014). Lending-based crowdfunding (also known as peer-to-peer or marketplace lending) establishes a debtor-lender relationship between with lenders benefitting from a predetermined interest rate that varies with the riskiness of the project (Bouncken et al., 2015).

Equity crowdfunding is a relatively new phenomenon that distinguishes itself from other crowdfunding methods by providing investors with an equity stake in an unquoted company instead of product in return for their financial backing. As a result, investors in equity crowdfunding are subject a greater level of risk since their decisions may result in a return on investment, contingent upon the success of the equity crowdfunding campaign (Bapna, 2017; Mochkabadi and Volkmann, 2020).

#### 4.2.1.2 UK equity crowdfunding sector

Accelerating growth of equity crowdfunding markets (hereafter, ECF markets) over the past 15 years has provided new opportunities for firms to finance by issuing equity to a large number of "unsophisticated" outside investors (Cumming et al., 2021). The ECF markets are significantly impacted by the regulation and governance of their home countries owing to the nature of online security sales included in campaigns. (Bradford, 2012): Australia, France, Ireland, Netherlands, Switzerland, and the U.K. are the only OECD countries authorized to sell equity through ECF platforms around 2010,

followed by the United States passed JOBS Act in 2012 and Parts of the Act went into effect in the following year (Kshetri, 2015). There are many ECF markets (e.g. AngelList, Crowdcube, SyndicateRoom, WeFunder and Seedmatch). These platforms function as intermediaries and operate as the "two-sided" market (Zvilichovsky et al., 2013) due to the need of attracting both investors and entrepreneurs.

The United Kingdom hosts the largest and fastest expanding equity crowdfunding sector in Europe, both in term of number of campaigns and capital raised (Ziegler et al., 2018). Equity crowdfunding has emerged as a well-established financing option for companies at various stages in need of capital for expansion or development since 2011. The absolute volume of equity crowdfunding has seen a significant increase, rising from £3.9 million in 2012 to £333 million in 2017 (Zhang et al., 2018).

The UK equity crowdfunding market is currently highly concentrated, with three prominent platforms: Crowdcube, Seedrs, and SyndicateRoom. Each platform adopts a distinct mechanism (Estrin et al., 2016). Crowdcube has been considered as the largest equity crowdfunding platform in the UK since its establishment in 2011. Crowdcube has a direct model in which participants directly acquire shares in the firm they invest in. This makes Crowdcube especially appropriate for conducting corporate finance research (e.g. Cumming et al., 2016; Vismara, 2016; Vismara 2018; Walthoff-Borm et al., 2018). Seedrs was the first ECF platform to be subjected to regulation by the FCA in 2014. Since then, the FCA has assumed responsibility for the oversight of ECF activity and the establishment of a regulatory framework. Seedrs is not classified as a purely equity-based crowdfunding platform due to its use of a nominee model. This

platform gathers investments and consolidates the investors into a single entity on the venture's capitalization table. All investors participating in the Seedrs model are equivalent identical ordinary shares, which are collectively owned by the platform. SyndicateRoom, similar to AngelList, has introduced a Syndicate model, that merges conventional syndication arrangements of angels and venture capitalists with the online platforms provided by equity crowdfunding (Estrin et al., 2016). All these three platforms follow a conventional "All-or-Nothing" framework (Cumming et al., 2019), in which companies will not get any external financing until they achieve the fundraising goal, and the campaign is proved to be successful.

#### 4.2.1.3 Equity crowdfunding syndicates

The application of traditional form of equity crowdfunding reduces investing barriers and expands firms' access to capital, therefore narrows the funding gap (Rossi, 2014; Bruton et al., 2015; Yasar, 2021). On the other hand, previous studies pointed out that equity crowdfunding faces serve agency problem (Agrawal et al., 2016) and information asymmetries (Ahlers et al. 2015; Bapna, 2017). The emergence of equity crowdfunding syndicate emphasizes on the advantages of syndication in venture capital firms and angel investment (Lerner, 1994a), as they encourage the exchange of information, construct diversified portfolios while keeping incentives for due diligence. The primary distinction between equity crowdfunding syndicates and venture capital is that ECF syndicates are exclusively performed online, making them more susceptible to the costs associated with due diligence compared to offline syndicates. This novel form of equity crowdfunding effectively addresses the issue of information asymmetry

by assigning distinct responsibilities towards different groups of investors (Agrawal, et al., 2015) and lead investors receive rewards or punishment based on their performance both financially and reputationally. AngelList, the pioneering online syndicate, was established in the United States in 2013 and has since established itself as a global leader in equity crowdfunding. It operates as a two-sided platform which brings lead investor and potential backers together (Zvilichovsky et al., 2013).

The UK equity crowdfunding platform, SyndicateRoom[6], was established in September 2013, inspired by the syndicate structure of the US angel crowdfunding platform, AngelList. SyndicateRoom was the pioneering platform in the UK that offered a digital solution for angel investors to connect firms they are investing in and potential backers. It experienced significant growth in the first 18 months since its establishment, especially in terms of the investment it attracted, surpassing comparable platforms in the UK. The terminology "equity crowdfunding syndicate" used by this study is defined by SyndicateRoom platform as individual investor co-invest with selective angel investors who have demonstrated their ability to outperform the market.

The model employed by SyndicateRoom is also called co-investment or lead investor model. The syndicate structure on SR involves an angel lead investor who has two roles. First, she conducts due diligence on the startup. Conventional ECF platforms perform due diligence by interviewing founders' team, examining founders' credit and accounts, looking at the projects' website, and collecting documentation from a third-party. Implementing effective due diligence is a costly task for platforms. However, it

[6]SyndicateRoom no longer runs crowdfunding campaigns and has moved to a VC fund model since 2019.

helps prevent the inclusion of low-quality projects on the platform and educes information asymmetries between the entrepreneur and the crowd and thus reduce potential adverse selection problem. Investors are encouraged to conduct due diligence but there is no proper incentive for them to perform a comprehensive one and share information with the others. Nevertheless, within a syndicated ECF platform, the lead investor, who has a substantial stake in the platform, have the capability and motivation to utilize the information they get via their own relationships and due diligence on behalf of other investors. First, active lead investors have the potential to raise more than one round across various campaigns. Their performance has the potential to impact investors' confidence and views of them. The reputation of the lead investor is often seen as a considerable indicator of the project's quality, much like a trusted brand. Furthermore, lead investors earn a carry-on investors' capital, guaranteeing their interests are aligned. The fundamental idea of this approach is based on the belief that the lead investor's interests are completely in line with the backers. This alignment enables the lead investor to effectively choose, monitor, and promote high-quality projects. Second, she makes a large investment, secures allocation of capital (Agrawal et al., 2015) and collects additional pledges from other professional investors (who co-invest with her) for 25% of the equity offered. A provision point mechanism (PPM) was implemented by SyndicateRoom while the lead investor syndicate is responsible for a minimum of 25% of the target amount before the public phase of the campaign. Early contribution induces L-shaped dynamics when the campaigns first enter the public phase. This implies the existence of a collective attention effect that increases

the interest of potential investors and alleviates the uncertainty of backers from the start of the campaign (Hornuf and Schwienbacher 2018; Vismara, 2018). Under the first-come, first-served (FCFS) mechanism, the prices remain unchanged. This lack of price variation facilitates the gain of early momentum and removes any motivation for backers to hold back their bids. Instead, they are encouraged to bid early in order to increase their likelihood of acquiring securities. The adoption of this particular mechanism was essential for the success of the SyndicateRoom campaigns, leading to its implementation by Crowdcube and Seedrs as well. SyndicateRoom performed under a direct model since its establishment in 2013 and it changed to a nominee syndicated equity crowdfunding platform in the late 2015, all platform investments are represented by one legal shareholder (SyndicateRoom Nominees Ltd) for each company. To participate in one SyndicateRoom campaign, an investor ("high-net-worth-individual") is required to possess an annual income of no less than £100,000 or own net assets valued at a minimum of £250,000. Alternatively, an investor should be qualified as a "sophisticated" investor who has professional background.

### 4.2.2 Hypotheses

This research concentrates on the UK ECF platform, SyndicateRoom, examining factors affecting firms' performance on this specific platform, proxied by the probability of success, amount raised, amount per investor and the ratio of amount to goal. This paper further investigates what drives firms to choose SyndicateRoom and their subsequent performance. The fundamental premise is that firms choose ECF platforms that are with their financing mode and potential participants, and therefore an

appropriate shareholder structure would offer a higher chance of success.

Given that SyndicateRoom, Crowdcube and Seedrs all adhere to an "All-or-Nothing" model, it is crucial for entrepreneurs to establish a realistic and attainable fundraising goal in order to attract investors and ensure the campaigns' success. The correlation between fundraising goals and campaigns' success varies across different types of crowdfunding. Contrary to the findings of Ahlers et al. (2015), Lukkarinen et al. (2016) suggest that ECF campaigns with greater fundraising goals tend to have better performance, in terms of the number of participants. On the other hand, several studies demonstrate that higher funding goal has a negative association with the probability of a successful campaign in equity crowdfunding (Vulcan et al., 2016) and reward-based crowdfunding (Mollick, 2014; Cumming et al., 2019;). The research conducted by Belleflamme et al. (2014) sheds light on the influence of fundraising goals in various forms of crowdsourcing. The study suggests that larger goals are more advantageous in equity-based crowdfunding, whereas lower goals are more effective in reward-based campaigns. We argue that investors demonstrate stronger confidence in firms with higher fundraising objectives due to the increased possibility for growth and development. This, in turn, encourages future investors to participate in such firms. This leads to the first hypothesis:

H1: Firm that have a more ambitious objective are more likely to achieve success and demonstrate superior performance.

Spence (1973) established the idea of signalling theory, offering a solution of information gaps arising among market participants (Spence, 1974; Spence, 2002).

Previous studies (Ahlers et al., 2015; Bapna, 2017) demonstrate that investors in equity crowdfunding campaigns are often lack of experience and therefore would encounter significant information asymmetries when assessing new companies and the presence of information asymmetry poses a significant hurdle to providing financial support for the start-ups. This problem weakens credibility and leads to increased uncertainties. Crowdfunding platforms mitigate this issue by viewing the accumulated funds as an indicator of quality, therefore stimulating more investment (Agrawal et al., 2015). Ahlers et al. (2015) were the first to establish a link between the ECF phenomenon and the signalling theory. According to the signalling theory, retaining equity and sharing more information can be seen as a positive signal because it reduces information asymmetry (Ralcheva and Roosenboom, 2020). This, in turn, significantly affects the probability of securing funding successfully. Furthermore, the founders' desire to be involved in the investment serves as an indicator of the project's quality. Investors may interpret a firm's high degree of equity retention, in this case, a low degree of equity offered, as a sign of optimism. (Leland and Pyle, 1977; Ahlers et al., 2015; Vismara, 2016; Correia et al., 2019). Previous studies (Ahlers et al., 2015; Vismara, 2016) provide strong evidence that retaining equity is indicative of project quality and there is a negative association between equity issued and campaign success. Therefore, it is crucial for companies to find a middle ground in issuing an optimal quantity of stock via appealing ECF campaigns, while also ensuring that investors have confidence in the firm's high likelihood of success.

Another theory to explain this relationship in equity crowdfunding is agency theory

(Jensen and Meckling, 1976). When a large amount of equity is issued to the new investors, current investors' claim on future wealth will be undermined (Ralcheva and Roosenboom, 2020). Additionally, inside owners (project founders or entrepreneurs) care only a fraction of cost of the benefits they receive, they are very prone to acting opportunistically and making choices that prioritize their own self-centred interests above those of external shareholders (Jensen and Meckling, 1976; Fama and Jensen, 1983; Schulze et al., 2003). As a result, fractional ownership leads to agency problems: inside owners are incentive to "free-ride" on the outside owners' equity.

This leads to the second hypothesis:

H2: Firms that issue a lower proportion of their equity are more likely to achieve success and demonstrate superior performance.

Ahlers et al. (2015) contend that the quality of projects stated on a crowdfunding platform may be collectively characterized by human capital, social capital, and intellectual capital. However, their findings do not provide any empirical proof that the latter two factors have an influence on the success of crowdfunding campaign. Quantitatively assessing the intrinsic value of a private company sometimes involves using the pre-money valuation, which represents the company's value prior to receiving any external investment. Entrepreneurs sometimes exhibit a tendency towards excessive confidence in their own enterprises, which leads to biased valuations (Shane and Venkataraman, 2000; Dushnitsky, 2010). This problem is exacerbated when entrepreneurs present on crowdfunding platforms since entrepreneurs have a stronger motivation to exaggerate a company's value to attract more investors and funds. On the

other, it is logical for equity investors to prioritize companies with higher pre-money valuations because they perceive them to possess more potential and capacity for growth and development. This leads to the third hypothesis:

H3: Firms with higher pre-money valuations are more likely to succeed and enjoy better performance.

The last hypothesis examines the relationship between the selection of SyndicateRoom, in comparison with Crowdcube and Seedrs, and the performance of campaigns. Equity crowdfunding platforms facilitate online investment, hence significantly decreasing transaction costs and the expenses associated in uncovering deals for investors in comparison to traditional financing methods. However, the costs of conducting due diligence remain present (Agrawal et al., 2014). Equity crowdfunding syndicates have been developed in the last decade and they have the economic properties to provide the solution of the information asymmetry by bringing in the lead investor. Lead investors possess the ability and incentives to utilize the information they acquire through their personal connections and due diligence on behalf of other investors. This is because their interests are “aligned” with the supporters: they raise more than just one round of funding and also receive a “carry” once the ECF campaign is successfully conducted (Agrawal et al., 2016). On AngelList, syndicated deals surpassed non-syndicated deals in terms of total amount raised, the number of campaigns and the number of successful campaigns between 2013 and 2015 and it is reasonable to apply this conclusion to the UK equity crowdfunding market. This leads to the last hypothesis:

H4: SyndicateRoom initial ECF campaigns outperform the corresponding Crowdcube (Seedrs) campaigns in terms of their probability of success and the total amount raised.

## 4.3 Research Design

This section provides an overview of the data, constructs the sample, defines the variables, and explains the methodology used in this paper.

### 4.3.1 Data and sample

This paper seeks to conduct a comprehensive analysis of SyndicateRoom, exploring why companies opt for this platform over other major crowdfunding platforms in the UK, and identifying the key factors that contribute to the success and performance of equity crowdfunding campaigns on this platform. Thus, it is necessary to create an extensive sample that includes equity crowdfunding campaigns from the three most popular platforms in the UK (Crowdcube, Seedrs, and SyndicateRoom) spanning from 2013 to 2018. The crowdfunding data are sourced from TAB UK[7], consisting of 1450 campaigns in the UK from 2011 to 2018. The sample used in this study commences in 2013, corresponding with the establishment of SyndicateRoom in Cambridge in September of that year and it concludes in 2018, as SyndicateRoom declared its adoption of a new fund-first investing model, discontinuing opportunities for individual equity crowdfunding investment. Figure 4.1 depicts the pattern of the number of ECF campaigns across the three main platforms in the UK between 2013 and 2018, based

[7]These data were made available by Professor Coakley.

on the original sample. The number of ECF campaigns on both Crowdcube and SyndicateRoom experiences a steady rise until 2016, after which there is a notable decline in the number of deals on both platforms. Furthermore, the quantity of transactions on Crowdcube consistently surpasses those of the other two platforms. This suggests that Crowdcube is a more popular platform in the UK due to its lower investing barrier.

[INSERT FIGURE 4.1 HERE]

To assess the attributes and motivations of enterprises in selecting platforms and their chances of success, firms that have previously engaged in equity crowdfunding are excluded. This results in a sample consisting of 148 campaigns on SyndicateRoom, 720 campaigns on Seedrs and 359 campaigns on Seedrs. Furthermore, companies that opt for the co-investment model typically have ambitious objectives for future growth and expansion, resulting in the exclusion of small firms that have raised a minimal amount of funds. To prevent the consequences of outliers, any campaigns on SyndicateRoom that raise less than £0.15 million are excluded. This decision is based on the fact that the $10^{th}$ percentile of amount raised for campaigns on SyndicateRoom is equivalent to £0.147 million. The final sample comprises 130 campaigns on SyndicateRoom, 411 campaigns on Crowdcube and 139 campaigns on Seedrs and the regression will be presented based on this reduced sample. These campaigns include both successful and unsuccessful ones. Figure 4.2 illustrates the distribution of campaigns in the final sample employed in this study.

[INSERT FIGURE 4.2 HERE]

### 4.3.2 Methodology

The analysis will be divided into two separate phases. First, a sample comprising solely of SyndicateRoom is employed to examine the major factors that influence the success and performance of equity crowdfunding campaigns on this particular platform. The following equations are estimated where $Explanatory$ and $Control$ are vectors of explanatory and control variable respectively:

$$Success = \alpha_1 + \beta_1 Explanatory + \gamma_1 Control + \varepsilon_1 \quad (4.1)$$

$$Amount\ raised = \alpha_2 + \beta_2 Explanatory + \gamma_2 Control + \varepsilon_2 \quad (4.2)$$

$$Amount/investor = \alpha_3 + \beta_3 Explanatory + \gamma_3 Control + \varepsilon_3 \quad (4.3)$$

$$Amount - to - goal = \alpha_4 + \beta_4 Explanatory + \gamma_4 Control + \varepsilon_4 \quad (4.4)$$

The dependent variable used to evaluate the probability of success in equity crowdfunding campaigns on SyndicateRoom and Crowdcube is a binary variable, $Success$. It differentiates between successful campaigns, which takes a value of 1 if they have achieved or exceeded their fundraising goals, and unsuccessful campaigns, which takes a value of 0. The remaining three dependent variables serve as the measures of the performance on both SyndicateRoom and Crowdcube. The $Amount\ raised$ is the actual amount raised (£k) by the conclusion of each campaign. The $Amount\ per\ investor$, which is the actual amount raised (£k) divided by the number of funders. The last dependent variable is $Amount - to - goal$ ratio, measuring the ratio between firms' fundraising objectives and the actual amount of funds they have received. Equation (4.1) is estimated using a Logit model and the remaining three equations using OLS.

Furthermore, the coarsened exact matching method is employed to generate a

subsample consisting of ECF campaigns on SyndicateRoom that are financially comparable to campaigns on Crowdcube. Coarsened exact matching (CEM) is a monotonic imbalance-reducing matching method that strictly controls the degree of model dependence and the causal effect estimation errors (Blackwell et al., 2009). The matching conditions in this study are shown to have significant impact on the success of ECF campaigns. Therefore, campaigns on SyndicateRoom are matched with campaigns on Crowdcube and Seedrs according to their firm age, pre-money valuation, and industry group[8], following Coakley et al. (2024).

The dependent variables in this stage remain consistent with the previous step, including the binary variable *Success* and the indicators of campaigns' performance, namely *Amount raised*, *Amount per investor* and *Amount-to-goal* ratio. $SR_{dummy}$ is a binary variable distinguish between campaigns on SyndicateRoom and Crowdcube, so it takes value of 1 for ECF campaigns on SyndicateRoom and 0 otherwise. These regressions investigate the factors that influence firms' decisions to choose SyndicateRoom versus Crowdcube, as well as an analysis of their performances on multiple platforms. The inclusion of $SR_{dummy}$ differentiates campaigns on Crowdcube and SyndicateRoom. The following equations are estimated in this step:

$$Success = \alpha_5 + \beta_5 Explanatory + \delta_5 SR_{dummy} + \gamma_5 Control + \varepsilon_5 \quad (4.5)$$

$$Amount\ raised = \alpha_6 + \beta_6 Explanatory + \delta_6 SR_{dummy} + \gamma_6 Control + \varepsilon_6 \quad (4.6)$$

$$Amount/investor = \alpha_7 + \beta_7 Explanatory + \delta_7 SR_{dummy} + \gamma_7 Control + \varepsilon_7 \quad (4.7)$$

$$Amount - to - goal = \alpha_8 + \beta_8 Explanatory + \delta_8 SR_{dummy} + \gamma_8 Control + \varepsilon_8 \quad (4.8)$$

[8] Industry group is indicated by the first digit of the firm's 4-digit SIC code.

Equation (4.5) is estimated using a Logit model, whereas the Equation (4.6)-(4.8) are evaluated using the OLS approach.

### 4.3.3 Variables

The dependent variables are the binary variable, *Success* and three proxies of ECF campaigns' performance, actual amount raised, the contribution made by each investor and the ratio of the actual amount raised to the original fundraising objective.

Three independent variables describing firms' characteristic of this study are *Goal*, *Equity* and *Pre-money valuation*, representing fundraising goals, level of equity retention and the valuation of firms, respectively.

In order to examine the influence of the aforementioned financial feature on ECF campaigns on SyndicateRoom and account for any variance, other control variables are also utilized in this research. The set of control variables have been shown to influence on crowdfunding campaigns' performance. *Focus* is included in the regression, and it is assigned a value of 1 if the company has a single four-digit SIC code provided and 0 otherwise, expressing the level of concentration of firms' business scopes. The inclusion of *Focus* as a control variable is consistent with the studies by Signori and Vismara (2018) and Coakley et al (2024). Finally, *Post-2016* is a binary variable which takes value of 1 for ECF campaigns taking place in 2016 onwards, and 0 otherwise. In 2015, Crowdcube included nominee model campaigns in addition to their existing direct ownership campaigns. Later that same year, SyndicateRoom transitioned from a direct model to a nominee equity crowdfunding platform. *Post-2016* is a proxy for competition from Crowdcube. Therefore, campaigns prior to 2016 on Crowdcube can

be considered as “pure” ECF campaigns (Vismara, 2016) and the post-2016 campaigns are examples of syndicated ECF where Crowdcube adopted the lead investor concept from SyndicateRoom.

Table 4.1 provides a summary of the variable descriptions.

[INSERT TABLE 4.1 HERE]

## 4.4 Results

### 4.4.1 Descriptive statistics

Table 4.2 presents the descriptive statistics, aiming to provide a preliminary comparison of the financial characteristics of campaigns on the three main ECF platforms. Panel A displays the descriptive statistics derived from all the initial equity crowdfunding campaigns conducted from 2013 to 2018. Crowdcube delivers the most impressive success rate among the three platforms, standing at 66.4%, surpassing SyndicateRoom's rate of 59.5% and Seedrs' rate of 56.5%. Based on the results of the tests for equality of means and medians, there is not adequate evidence to suggest that campaigns on SyndicateRoom raised significantly more capital than that of the other two platforms. However, it can be inferred that campaigns on SyndicateRoom have higher initial fundraising goals. Due to SyndicateRoom's ongoing adoption of the lead-investor model since its inception, campaigns on this platform involve a smaller number of participants and hence, higher investor’s individual contribution.

Due to the significantly lower investing thresholds on Crowdcube and Seedrs compared to SyndicateRoom, there are certain campaigns on these platforms that have raised only a modest amount of capital. As the $10^{th}$ percentile of amount raised for

SyndicateRoom campaigns is equivalent to £0.147 million, the minimum amount raised for all three platforms is set to £0.15 million. Panel B describes the descriptive statistics based on this final sample consisting of campaigns raising more than £0.15 million between 2013 and 2018. First, the rate of success for campaigns on SyndicateRoom is marginally lower than that of the other two platforms. Only 66.2% of campaigns on SyndicateRoom have achieved their original fundraising goals, while the success rate on the other two platforms is in excess of 80%

[INSERT TABLE 4.2 HERE]

The data indicates that there is no statistically significant difference in the actual mean amount raised across three platforms. Among the three platforms, the average amount raised is around £578k while SyndicateRoom stands out with the greatest median amount of £488k. The difference in mean fundraising goals is statistically significant only between Crowdcube and SyndicateRoom. The mean fundraising goals declared for projects on SyndicateRoom are slightly greater than those of Crowdcube and Seedrs, totalling £570k, £430k, and £480k respectively. Furthermore, there is a notable disparity in the ratio of the funding capital achieved compared to the desired aim across the three platforms. SyndicateRoom has a ratio of 1.06, whereas Crowdcube and Seedrs have ratios of 1.39 and 1.30 respectively. This suggests that campaigns on SyndicateRoom have the least variance in the actual amount raised and the initial objective. In contrast to SyndicateRoom, Crowdcube and Seedrs manage overfunding events in a distinct manner. In these cases, companies have the freedom to accept more investments in return for a reduced amount of equity retained.

The gap in both the number of participants and the investment amount per participant between SyndicateRoom and the other two platforms is substantial. Specifically, SyndicateRoom campaigns, on average, have the lowest number of funders (32 compared to 384 and 292) and the largest contribution per investor (£37950 compared to £2270 and £2300). This can be attributed to the application of distinct ECF models by platforms. The major difference is that that SyndicateRoom is an angel only crowdfunding platform while both angels and crowd investors are involved in Crowdcube and Seedrs campaigns. Moreover, while they offer a minimum investment option of £10, SyndicateRoom establishes a much higher ceiling for investment.

The percentage of equity offered significantly different between SyndicateRoom and the other two platforms. More precisely, the average equity provided by campaigns on SyndicateRoom is 17.8% with a median of 14.4%. In comparison, the average equity offered by campaigns on Crowdcube and Seedrs is 14.9% and 11.5%, respectively. This indicates that campaigns on SyndicateRoom generally involve a higher amount of equity. This can be further confirmed by the values of medians of *Equity* of these three platforms, with 14.4%, 13.6% and 10%.

Companies who choose to raise funds on SyndicateRoom have a lower average pre-money valuation (£363k) compared to Crowdcube and Seedrs (£492k, and £448k separately), but a similar median (£267k, £228k, and £281k respectively). This is due to the fact that the pre-money valuation range for campaigns on Crowdcube and Seedrs is broader than that of Syndicate room. Companies may have a legitimate motive to exaggerate their valuations in order to attract more investors, given the limited

availability of accurate information on the valuations of private companies. However, both platforms and lead investors are susceptible to writing down the company's valuation. This arrangement can offer benefits to both the platform and the lead investor, as it would increase the probability of conducting a successful ECF campaign and allow the investor to acquire a stake in the company at a reduced cost.

The average of *Focus* suggests that less than 15% of companies that opt to raise capital through these three ECF platforms have multiple SIC codes. The mean of *Post-2016* indicates that the majority of campaigns occur from the year 2016 onwards. Crowdcube and Seedrs were initially regarded as "pure" ECF platforms until they introduced the lead-investor model.

The presence of multicollinearity among variables is tested by employing Pearson correlations and the results are reported in Table 4.3. There exist some correlation coefficients are significant at the 1% significance level. However, the actual values of the coefficients are predominantly below 0.5 and this reveals no severe problem of multicollinearity.

[INSERT TABLE 4.3 HERE]

### 4.4.2 Regression results

Table 4.4 provides empirical evidence pertaining H1, H2 and H3, investigating factors that influence performance of campaigns on SyndicateRoom between 2013 and 2018. The dependent variables are proxies of performance of campaigns, campaign success for the logit Model (1), *Amount raised* (£k) for Model (2), *Amount/investor* (£k) for Model (3) and *Amount-to-goal* ratio for Model (4).

[INSERT TABLE 4.4 HERE]

The coefficient of *Goal* in Model (2) in Table 4.4 demonstrates a statistically significant and positive relationship between the fundraising goals and the amount raised at the 1% significance level. Statistically, for every £1000 increase in the goal, there is a corresponding £1094 increase in the actual amount raised. This provides strong support for H1, suggesting that companies with larger fundraising goals are more likely to raise greater amounts of money on the ECF platform. These findings align with those of Lukkarinen et al. (2016) who found that fundraising goals have a significantly positive relationship with the performance of campaigns, in terms of the number of investors who participated. This study does not include the number of investors participating as an indicator of campaigns' performance as SyndicateRoom only allows "high-net-worth" individuals and accredited investors to invest and these are limited in number.

*Equity* (%) has a significantly negative impact on the probability of success for campaigns on SyndicateRoom and the *Amount-to-goal* ratio, both at the 10% significance level. These results provide support for H2, indicating that increasing the proportion of equity offered would greatly decrease the likelihood of achieving success on SyndicateRoom. In addition, these findings are aligned with previous studies (Ahlers et al., 2015; Vismara, 2016), adding more empirical evidence to the ECF literature that equity offered serves as a "negative signal" within ECF campaigns. The positive coefficient of *Equity* in Model (3) indicates that equity offered (%) would significantly increase individual investor's contribution on this platform, at the 1% significance level.

Specifically, for every 1% increase in equity offered, the amount contributed by each entity would significantly increase in £2938. ECF syndicates function similarly to venture capital syndicates and have effectively performed due diligence, thereby reducing information asymmetry. In this scenario, the provision of equity promotes confidence in both the lead investor and the professional investors. One could reasonably argue that for certain companies with promising prospects, the increase in equity being offered would significantly boost the individual contribution of investors who have confidence in the future.

The dummy variable *Post-2016*, capturing time effects of more recent larger campaigns has a notable effect on the outcome of SyndicateRoom campaigns. More precisely, the *Post-2016* variable shows a strongly negative relationship (with coefficient equals to -1.756) with the probability of reaching or exceeding initial funding goals at the 1% significance level. This strongly negative coefficient suggests that campaigns occurring from 2016 onwards are less likely to reach their initial fundraising goals. In late 2015, Crowdcube introduced the syndicated nominee model. As a result, all three large equity crowdfunding platforms in the UK now offer the lead-investor model. This allowed enterprises who prefer the lead-investor model to have additional options starting from the beginning of 2016. The inclusion of *Post-2016* demonstrates direct competition for SyndicateRoom from the other two platforms. Ironically, the findings do not provide any evidence that SyndicateRoom was in the ascendancy post-2016, despite being the first to implement the lead-investor model in the UK.

In a second step, a matched sample is constructed by employing the coarsened exact matching (CEM) to compare the performance of campaigns on SyndicateRoom with campaigns on the other two platforms. This sample contains campaigns on SyndicateRoom and Crowdcube that share similar characteristics on a number of important dimensions (firm age, pre-money valuation, and industry group). The presence of a $SR_{dummy}$ in this step distinguishes campaigns on Crowdcube from those on SyndicateRoom. The dependent variables remain consistent with the previous step, utilizing performance measures of campaigns: *Success* for the logit Model (1), *Amount raised* (in £k) for Model (2), *Amount/investor* (in £k) for Model (3) and the *Amount-to-goal* ratio for Model (4).

Table 4.5 reports the regression results including those for a $SR_{dummy}$ that gives the effect on performance on SyndicateRoom (SR) relative to Crowdcube. It also reports empirical evidence related to hypothesis H4.

[INSERT TABLE 4.5 HERE]

The $SR_{dummy}$ variable plays a crucial role in determining the outcome of initial offerings, indicating that ECF campaigns have statistically significant variations across various platforms in the UK. It should be pointed out that results in Table 4.4 do not provide any evidence to support the existence of a significant relationship between the probability of success for ECF campaigns and the selection of Crowdcube and SyndicateRoom. However, there exists a relationship between platform selection of and the quantity of funds collected, the individual contribution of each investor, and the ratio of funds raised to the initial fundraising goal. Overall, the coefficients of the

$SR_{dummy}$ jointly indicate that campaigns on SyndicateRoom often receive a substantially smaller quantity of capital compared to that of Crowdcube, but the amount of capital raised per investor is notably larger. Additionally, the degree of overfunding (*Amount-to-goal*) is significantly smaller for campaigns on SyndicateRoom. One reason for this is that the entry barrier for SyndicateRoom is much higher than Crowdcube, only high-net-worth individuals and accredited investors are allowed to participate. This result first confirms strong direct competition from Crowdcube platform and lacks empirical evidence to substantiate hypothesis 4. On the contrary, SyndicateRoom does not seem to possess any competitive advantages over Crowdcube, since it consistently raised less funds for initial offerings from 2013 to 2018.

The notably positive coefficients of *Goal* in Model (2) indicate that the number of goals has a significantly positive influence on the actual amount raised, at the 1% significance level. Economically, a £1000 increase in fundraising goals would result in a corresponding £869 increase in the amount raised by the end of the ECF campaign. These results are consistent with Belleflamme et al. (2014) and Lukkarinen et al. (2016), which suggest that setting larger fundraising goals lead to greater benefits in equity crowdfunding campaigns. Firms with greater fundraising goals tend to attract greater interest from equity investors. This is because these investors assume that larger amount of capital gathered would encourage companies to taking more meaningful steps to expand and grow, which will eventually be advantageous to these investors. In addition, the higher fundraising goals bring equity investors confidence in the campaigns they invest and encourage tentative investors to get involved.

Findings in Table 4.5 reveal that there is a significant positive relationship between the quantity of equity provided to investors and the amount of money generated, as well as the amount of money invested by each investor, at the 1% significance level. Economically, every 1% increase in equity offered would lead to £10,760 increase in the total amount raised and £2069 increase in each investor's contribution. Our findings do not completely align with the results of Ahlers et al. (2015) and Vismara (2016), who discovered a negative correlation between the amount of equity issued to investors and the likelihood of a ECF campaign being successful. Equity retention is often seen as a favourable indication of project quality. The greater the amount of equity held by entrepreneurs, the smaller the amount of equity available to equity investors. However, the positive impact of equity offered indicate that equity investors are more interested in campaigns that they can have more financial participation. One plausible reason is that the backers have faith in the lead investors and, owing to due diligence, they are less inclined to invest in the firms they lack confidence in. Instead, prospective equity investors choose the project based on their own knowledge and the endorsement of lead investors, since they have confidence in their decision and anticipate more returns with increased equity received.

The strong positive coefficients of the *Pre-money valuation* in Model (2) and (3) indicate that the valuation of firms before they get external financing has a considerable positive effect on the actual amount raised and the money invested by each investor, at the 1% significance level. In other words, higher-valued companies are more likely to get more funding on the ECF platforms and individual investors tend to contribute more

on these companies. Quantitatively, a £1000 rise in the pre-money valuation of the company leads to a subsequent increase of £36 in the amount raised in the ECF campaign and each investor would invest £2 more. Our results are consistent with Astebro et al. (2017), firms with higher pre-money valuations will bring confidence to external investors and hence attract more capital. Valuations of private companies, particularly start-ups, may sometimes be imprecise due to the absence of standardized criteria. Additionally, new start-ups have challenges in determining their own values since they have little information and a short operating history. Nevertheless, the positive effect of pre-money valuation on the funding success and the actual amount raised suggests that equity investors share the companies' optimism and confidence in the growth prospects of the chosen enterprises.

There is a strongly positive relationship between the concentration of firms' business scopes and the likelihood of undertaking successful campaigns on ECF platforms, at the 1% significance level. The relationship between business scope concentration and ECF success can be significantly enhanced by considering investor expertise and domain knowledge. When firms focus on a single industry, investors with sector-specific experience can leverage their expertise to better evaluate venture potential, risks, and competitive advantages. This specialized understanding enables more informed investment decisions, supporting Zhang et al.'s (2017) finding that industry familiarity drives over 65% of equity investment decisions. The alignment between investor expertise and firm focus creates a dual advantage. First, industry specialists can more accurately assess technical feasibility, market opportunities, and

execution capabilities within their domain. Second, firms can communicate more effectively with investors who understand sector-specific nuances, fostering stronger connections and trust. This shared understanding of industry challenges and opportunities enhances the credibility of business plans and growth projections, potentially explaining why single-industry focused firms are perceived as more reliable (Coakley et al., 2024). This expertise-driven dynamic suggests that successful ECF campaigns benefit from a natural matching between knowledgeable investors and focused ventures, reducing information asymmetry and perceived investment risk.

The variable *Post-2016* has a strong negative effect on the likelihood of successfully carrying out ECF campaigns, as well as on the actual quantity of funds collected and the ratio of funds raised to the campaign objective, all at the 1% significance levels. That is, ECF campaigns performed on SyndicateRoom and Crowdcube from 2016 onwards are less likely to be successful, acquire less capital, and have lower Amount-to-goal ratios. The negative and significant *Post-2016* dummy coefficient of -2.209 in Model (1) suggests that economically, ECF campaigns are 11% less likely to achieving their initial fundraising goals compared to ECF campaigns taking place prior to 2016. The benefits of syndicated nominee model are realized by Crowdcube in 2015 and Crowdcube implemented syndicated nominee model later that year, in addition to their existing direct model. Starting in 2016, all three platforms in the UK began providing a syndicated nominee model to companies. As a result, the period after 2016 may be seen as a representation of direct competition. The adverse consequence of the post-2016 era is not an isolated occurrence. According to a report

conducted by British Business Bank (2019), the UK SME equity financing markets had a consistent growth in the annual number of equity deals and investment volumes from 2011 to 2015. However, in 2016, there was a reduction in both the number of deals and the value of investments, marking the first overall decrease in these metrics. One may reasonably claim that the decline in campaign outcomes after 2016 can be attributed to the influence of Brexit, given that the referendum took place in June 2016. According to Zhang et al. (2017), over 50% of crowdfunding platforms in the UK recognized "the impact of Brexit" as a risk above the average level. In 2016, the most important concern for individual platforms was cyber security.

To comprehensively analyse the difference in performance between campaigns on SyndicateRoom and other platforms in the UK, and to provide concrete evidence for hypothesisH4, Equations (5)-(8) are retested again with a different matched sample. Rather than matched with campaigns on Crowdcube, campaigns on SyndicateRoom are matched with campaigns on Seedrs by employing coarsened exact matching. Regression results based on this matched sample are reported in Table 4.6.

[INSERT TABLE 4.6 HERE]

The statistically significant coefficients of the $SR_{dummy}$ in Models (1)-(4) jointly indicate that campaigns on SyndicateRoom are less likely to achieve their initial fundraising goals, raise less capital, have lower funding ratios but the individual investor's contributions are higher compared to campaigns on Seedrs. Hence, the results of $SR_{dummy}$ shown in Table 4.5 and 4.6 jointly demonstrate that campaigns executed on SyndicateRoom have lower success rates and generate a smaller overall capital

amount. However, the individual contributions in these campaigns are generally bigger in comparison to campaigns on other platforms in the UK. The finding is consistent with the fundamental rationale of SyndicateRoom, which aims to attract sophisticated investors rather than the general public. Nevertheless, the inverse correlation between the selection of SyndicateRoom and the likelihood of attaining early goals in Model (1) on Table 4.5 and Table 4.6 suggests that campaigns on SyndicateRoom are less likely to succeed in their ECF efforts compared to Crowdcube and Seedrs. These results do not empirical provide for H4, on the contrary, SyndicateRoom initial ECF campaigns underperform the corresponding Crowdcube (Seedrs) campaigns in terms of their probability of success and the total amount raised. Again, the relationship between the fundraising objectives and the actual amount generated, as well as the individual contributions of each investor across ECF platforms from 2013 to 2018, is substantially positive and statistically significant.

In terms of the probability of success, there is no convincing evidence that SyndicateRoom initial ECF campaigns outperform the financially corresponding initial campaigns on the other platforms. Instead, the results of Model (1) in Tables 4.5 and 4.6 reveal that the success rate of campaigns on SyndicateRoom is lower than that of the corresponding campaigns on the other two platforms. When contrasted with Crowdcube, this relationship is exceedingly significant (at the 1% level). One possible explanation is that although SyndicateRoom was probably the first to implement the Syndicated model in the UK, Crowdcube and Seedrs remain the leading ECF platforms in the country, in terms of the total amount raised and number of deals. Beauhurst's

report[9] reveals that Crowdcube promoted 234 ECF campaigns, totalling £198 million, for UK firms in 2021. By comparison, Seedrs facilitated 272 deals, amounting to a total of £126 million.

Table 4.5 and Table 4.6 do not provide any empirical information to support H4, which supposes that campaigns choosing SyndicateRoom had superior results compared to the similar campaigns on Crowdcube and Seedrs, in relation to the investment amount. On the other hand, the results suggest that campaigns carried out on SyndicateRoom achieve much lower amounts of funding. However, the amount of investment from each investor for first offers on SyndicateRoom is greater. The superior level of individual contribution of campaigns on SyndicateRoom is not apparent enough to definitively infer that they have greater performance, due to the stringent admission conditions. The syndicated model used by SyndicateRoom targets investors with professional backgrounds rather than the general public (the “crowd"). This approach ensures that the prospective investors have more financial ability to invest.

### 4.4.3 Robustness test

A set of robustness test are performed based on the results presented in Table 4.4 and Table 4.5. The robustness checks are conducted based on a reduced sample. As indicated in the descriptive statistics (see Table 4.2), more than 50% of campaigns on SyndicateRoom have successfully acquired capital. The success rate of ECF campaigns on Crowdcube between 2013 and 2018 is even higher, reaching an impressive figure of 85.6%. The All-or-Nothing mechanism of the two platforms, SyndicateRoom and

[9] https://www.beauhurst.com/blog/uk-equity-crowdfunding/.

Crowdcube, allows for robustness checks to be undertaken using a restricted sample of just successful campaigns.

The robustness tests are conducted in two phases, using the methodology described in the preceding section. The first phase involves analyzing a reduced sample, namely 86 successful ECF campaigns on SyndicateRoom between 2013 and 2018. The explanatory variables are *Goal* and *Equity* and *Pre-money valuation*. OLS methods are used to analyse the relationship between the explanatory variables and the dependent variables are three proxies of performance of ECF campaigns, namely *Amount raised*, *Amount/investor*, and *Amount-to-goal*. The dependent variable, *Binary success*, in this instance, is not considered since it is only the successful initial offerings that are included in the reduced sample. In the second stage, the coarsened exact matching approach is employed again to construct a subset of ECF campaigns on SyndicateRoom that are financially similar to the campaigns on Crowdcube. Once again, only campaigns that have successfully obtained funding are included. There are a total of 86 successful campaigns on SyndicateRoom and 152 successful campaigns on Crowdcube.

[INSERT TABLE 4.7 HERE]

The findings in Table 4.7 of the reduced sample provide further evidence that the initial fundraising goals have a considerable positive impact on the overall capital obtained in the ECF campaigns on SyndicateRoom. The disparity in the performance of campaigns on SyndicateRoom, as represented by the coefficients of the variable *Post-2016*, is not readily apparent. Furthermore, the robustness of the influence of stock given to the investors is not confirmed.

[INSERT TABLE 4.8 HERE]

The results shown in Table 4.8 provide extra evidence of the disparity in performance between ECF campaigns on SyndicateRoom and Crowdcube. When compared to successful ECF campaigns on Crowdcube, campaigns on SyndicateRoom tends to attract a smaller amount of capital. However, the level of engagement from individual investors is often greater. The significant and beneficial effect of fundraising goals and equity offered on ECF campaigns has once again been verified. Equity provision is no longer seen as an indicator of founders and entrepreneurs lacking confidence, according to our data. Conversely, equity investors are eager and willing to allocate more funds in campaigns that provide more equity, resulting in deeper financial participation. A higher level of equity offered would enhance confidence to the lead investor and, by extension, the general investors, as the syndicated model gives the general investors a novel way to engage by backing the lead investors rather than the ventures. Finally, the robustness of the impact of firms' pre-money valuation on the amount raised has also been verified. Using this reduced sample, the significantly positive coefficients of *Pre-money valuation* demonstrates that higher-valued firms are more likely to attract more capital on SyndicateRoom and Crowdcube.

## 4.5 Discussion and conclusion

This research extends the current body of literature on equity crowdfunding by providing the first analysis of a very specific UK ECF platform, SyndicateRoom. This was unique in operating as a pure angel ECF platform that attracted investments from

angels and other qualified investors only. As such, it is the diametric opposite of the pure ECF model of Vismara (2016) that attracts crowd investors only.

This research first focusses on the ECF campaigns on SyndicateRoom and presents empirical evidence that the predetermined fundraising objectives and equity offered exert a substantial influence on the success of these campaigns. More precisely, companies with more ambitious objectives have a tendency to secure a greater amount of funding. The percentage of equity offered is shown to have significantly negative impact on the probability of achieving goals and the overfunding ratio (amount raised divided by goal). These results provide additional empirical evidence supporting the argument that equity offered (retention) serves as the negative (positive) signal of entrepreneurs' confidence in their firms (Vismara, 2016). In particular, investors regard the proportion of equity retention as a favourable indicator, as they expect that entrepreneurs will retain a greater quantity of equity if they are optimistic about the growth and development of their companies. Furthermore, the likelihood of carrying out successful ECF campaigns is affected by the time period. Results of this study demonstrate that campaigns prior to 2016 are more likely to achieve their fundraising goals and raise less capital on this platform. One possible explanation is that Crowdcube and Seedrs then recognized the benefits of the syndicated model and started offering it alongside their original models. This has led to intense rivalry between SyndicateRoom and the other two platforms since the start of 2016.

To understand the competition between SyndicateRoom and the other two main ECF platforms in the UK, this chapter utilizes a matched sample to examine the

performance of campaigns on SyndicateRoom in comparison to those on the other two platforms. In general, campaigns on SyndicateRoom attract less capital but with a higher degree of investor contribution, as evidenced by the results of comparison to Crowdcube and Seedrs, respectively. Thus, there is insufficient information for a firm conclusion that SyndicateRoom has a competitive edge over the other two platforms.

Our investigation is not without its limitations, as is the case with any research. Initially, this study exclusively compares ECF campaigns on SyndicateRoom with those that were conducted on other ECF platforms. An alternative approach would be to compare firms that have secured capital through ECF campaigns with firms that utilized alternative private financing methods, such as venture capital. This is because venture capital, like equity crowdfunding syndicates, also promotes the exchange of information about investment opportunities.

**Figure 4.1. Distributions of campaigns of three major platforms in the UK**

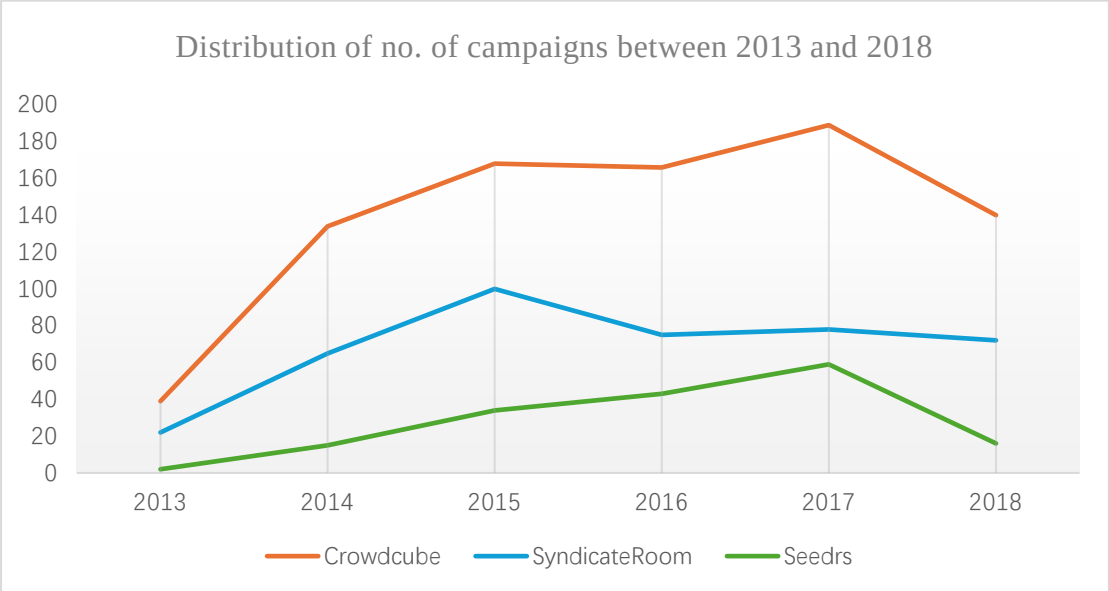


**Figure 4.2. Distributions of campaigns in the final sample.**

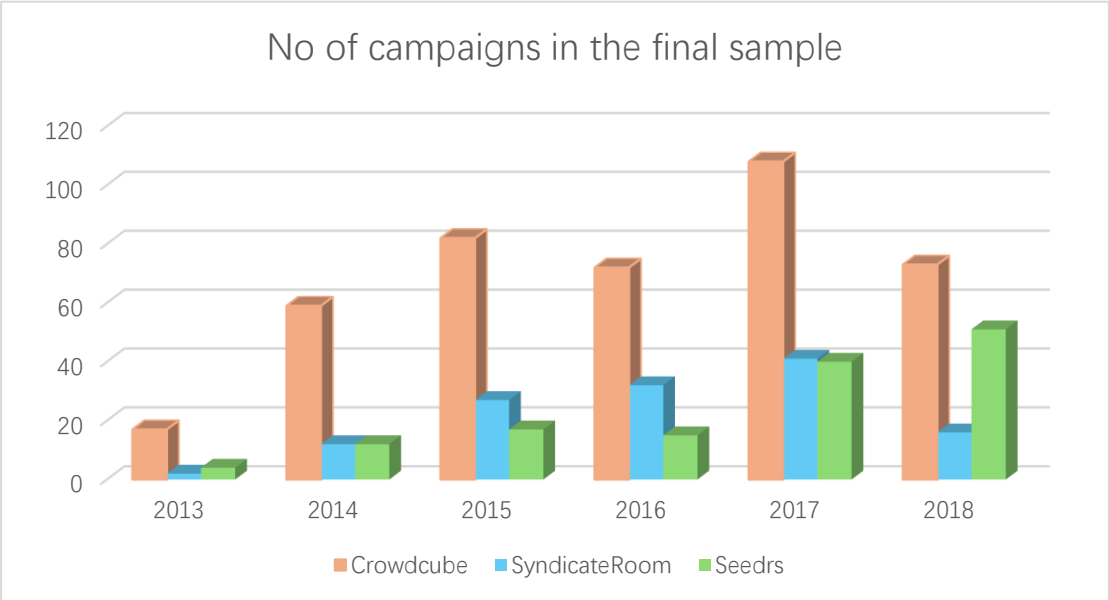


**Table 4.1. Variable definitions**

| Variable | Definition |
|---|---|
| **Dependent Variables** | |
| *Binary success* | A binary variable that takes value 1 for those campaigns that reach or exceed their initial fundraising goals, zero otherwise |
| *Amount raised*(£k) | Total amount raised |
| *Amount/investor*(£k) | Amount raised divided by number of investors |
| *Amount-to-goal* | Amount raised divided by the goal |
| **Explanatory variables** | |
| *Goal*(£k) | The goal or target of the ECF campaign |
| *Equity(%)* | Percentage of equity offered |
| *Pre-money valuation*(£k) | The value of a company before receiving external funding |
| **Controls** | |
| *SR* | A dummy variable that takes value 1 for SyndicateRoom offerings, zero otherwise |
| *Focus* | A dummy variable that takes value 1 if the firm has only one 4-digit SIC code, 0 otherwise |
| *Post-2016* | A dummy variable with 1 for post-2016 campaigns and 0 otherwise |

**Table 4.2. Descriptive statistics for ECF campaigns 2013-2018**

Panel A Equality of means and median tests between SyndicateRoom and Crowdcube and Seedrs campaigns

| | SyndicateRoom (148 campaigns) | | | | Crowdcube (720 campaigns) | | | | Seedrs (359 campaigns) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | Median | Min | Max | Mean | Median | Min | Max | Mean | Median | Min | Max |
| *Binary success* | 59.5% | | | | 66.4% | | | | 56.5% | | | |
| *Amount*(£k) | 548.7 | 394.3 | 9.85 | 3797 | 365.6*** | 169.6*** | 10.34 | 5000 | 256.6*** | 103.8*** | 0.058 | 7188 |
| *Funders* | 30.1 | 24 | 1 | 151 | 260*** | 144*** | 3 | 3205 | 158.3*** | 97*** | 1 | 1966 |
| *Amount/investor*(£k) | 36.7 | 17.1 | 1.41 | 500 | 1.80*** | 1.19*** | 0.17 | 52.15 | 1.47*** | 0.96*** | 0.018 | 20 |
| *Amount-to-goal* | 0.98 | 1.04 | 0.06 | 2.34 | 1.11** | 1.14** | 0.02 | 4.51 | 0.94 | 1.01 | 0.003 | 4.08 |
| *Goal*(£k) | 551.5 | 400.0 | 100 | 3519 | 319.0*** | 200*** | 20 | 5000 | 258.2*** | 130*** | 0.99 | 6000 |
| *Equity* | 17.2 | 14.0 | 1.16 | 67.7 | 14.88*** | 13.91 | 0.39 | 54.27 | 11.33*** | 10*** | 0.08 | 49.8 |
| *Pre-money valuation*(£k) | 3401 | 2470 | 0.001 | 22066 | 3436 | 1329*** | 0 | 68600 | 2460** | 1122*** | 0 | 49944 |
| *Focus* | 85.1% | | | | 85.6% | | | | 85.5% | | | |
| *Post-2016* | 68.9% | | | | 59.9% | | | | 56.5% | | | |

Panel B Equality of means and median tests between SyndicateRoom and large (above median) Crowdcube and Seedrs campaigns

| | SyndicateRoom (130 campaigns) | | | | Crowdcube (411 campaigns) | | | | Seedrs (139 campaigns) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | Median | Min | Max | Mean | Median | Min | Max | Mean | Median | Min | Max |
| *Binary success* | 66.2% | | | | 85.6% | | | | 82.0% | | | |
| *Amount*(£k) | 578.6 | 488.1 | 150 | 3979 | 577.2 | 364.0** | 150 | 5000 | 574.9 | 332.4*** | 150 | 7188 |
| *Funders* | 31.8 | 25 | 1 | 82 | 384.4*** | 243*** | 3 | 3205 | 292.1*** | 220*** | 20 | 1966 |
| *Amount/investor*(£k) | 37.95 | 16.83 | 4.71 | 500 | 2.27*** | 1.53*** | 0.337 | 52.15 | 2.30*** | 1.71*** | 0.159 | 11.11 |
| *Amount-to-goal* | 1.06 | 1.07 | 0.27 | 2.34 | 1.39*** | 1.28*** | 0.21 | 4.51 | 1.30*** | 1.21*** | 0.22 | 4.08 |
| *Goal*(£k) | 570.3 | 475.0 | 100.0 | 3519 | 429.5*** | 300*** | 50 | 5000 | 479.6 | 300.0*** | 75.0 | 6000 |
| *Equity*(%) | 17.8 | 14.4 | 1.16 | 67.7 | 14.9*** | 13.6* | 0.39 | 54.3 | 11.5*** | 10*** | 1.96 | 49.8 |
| *Pre-money valuation*(£k) | 3626 | 2672 | 250 | 22066 | 4922* | 2275 | 120 | 68600 | 4479 | 2813 | 0 | 49944 |
| *Focus* | 85.4% | | | | 86.6% | | | | 84.9% | | | |
| *Post-2016* | 68.5% | | | | 61.6% | | | | 76.3% | | | |

Notes. Mean, median, standard deviation, and maximum and minimum values for all variables used in the regressions are presented in this table. *Goal*, *Amount/investor*, *Amount* and *Pre-money valuation* are expressed in £k. Panel A gives the descriptive statistics of the full sample of ECF campaigns between 2013 and 2018 on the three major platforms in the UK. It also reports equality of mean and median (Mann–Whitney) test results for the 148 campaigns on SyndicateRoom, 720 campaigns on Crowdcube and 359 campaigns on Seedrs. Panel B shows the descriptive statistics based on the sample of 130 campaigns on SyndicateRoom, 411 large campaigns on Crowdcube and 139 large campaigns on Seedrs (those raising more than £150,000) from 2013 to 2018. Equality of means test results between SyndicateRoom and the other two platforms, respectively, are reported. Similarly, equality of median test results between SyndicateRoom and the other two platforms are also reported.
Significance levels for coefficients are denoted as * for $p \leq 0.10$, ** for $p \leq 0.05$ and *** for $p \leq 0.01$.

**Table 4.3. Correlation matrix**

| | Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | *Binary success* | 1.000 | | | | | | | | |
| 2 | *Amount*(£k) | 0.2716* | 1.000 | | | | | | | |
| 3 | *Funders* | 0.6666* | 0.5153* | 1.000 | | | | | | |
| 4 | *Amount/investor (£k)* | -0.4753* | 0.0201 | -0.4429* | 1.000 | | | | | |
| 5 | *Goal*(£k) | -0.0814 | 0.8750* | 0.2042 | 0.2715* | 1.000 | | | | |
| 6 | *Equity*(£%) | -0.1643 | 0.1396 | -0.0047 | 0.4196* | 0.2134 | 1.000 | | | |
| 7 | *Pre-money valuation*(£k) | 0.0094 | 0.4666* | 0.1422 | 0.0137 | 0.5179* | -0.4608* | 1.000 | | |
| 8 | *Focus* | 0.1642 | -0.1128 | -0.0054 | -0.0903 | -0.1614 | 0.0495 | -0.2248 | 1.000 | |
| 9 | *Post-2016* | -0.3106* | 0.0659 | -0.1467 | 0.2216 | 0.1675 | 0.2108 | -0.0235 | 0.0004 | 1.000 |

This table shows the Pearson correlation coefficient for the variables in Table 1. * denotes statistical difference at the 1% significance level. The sample involves 130 initial offerings on SyndicateRoom between 2013 and 2018. Variable *Amount-to-goal* is omitted in this test because it is constructed by *Amount* divided by *Goal.*

**Table 4.4. Determinants of performance for SyndicateRoom campaigns**

Table 4.4 reports the determinants of performance for initial SyndicateRoom campaigns 2013 to 2018. Model (1) reports the coefficients of a logit model when *Binary success* is the dependent variable. Models (2)-(4) report the coefficients of an OLS model when *Amount raised*(£k), *Amount per investor*(£k) and *Amount-to-goal* are employed as the dependent variables. Significance levels for coefficients are denoted as * for $p \leq 0.10$, ** for $p \leq 0.05$ and *** for $p \leq 0.01$.

| | (1) Binary success | (2) Amount raised(£k) | (3) Amount/ investor(£k) | (4) Amount-to-goal |
|---|---|---|---|---|
| Goal(£k) | 0.001 | 1.094*** | -0.001 | |
| | (0.81) | (0.080) | (0.019) | |
| Equity | -0.048* | -4.677 | 2.938*** | -0.006* |
| | (-1.72) | (2.821) | (0.673) | (0.003) |
| Pre-money valuation(£k) | -0.000 | -0.0182 | 0.005* | -1.69e-05 |
| | (-1.08) | (0.012) | (0.003) | (1.26e-05) |
| Focus | 1.350* | 47.55 | -8.066 | 0.010 |
| | (1.69) | (78.64) | (18.76) | (0.125) |
| Post-2016 | -1.756*** | -49.06 | 15.50 | -0.086 |
| | (-2.91) | (50.41) | (12.02) | (0.080) |
| Constant | 0.389 | -111.7 | 4.771 | 0.975*** |
| | (0.28) | (129.1) | (30.78) | (0.202) |
| Industry FE | YES | YES | YES | YES |
| Observations | 120 | 127 | 127 | 127 |
| R-squared | | 0.801 | 0.293 | 0.112 |
| Pseudo R-squared | 0.169 | | | |

**Table 4.5. Performance on different ECF platforms**

Table 4.5 reports the results on how an SR dummy affect the performance of campaigns on SyndicateRoom and Crowdcube, employing a matched sample from the coarsened exact matching method to address potential endogeneity issues between ECF platforms. SyndicateRoom campaigns are matched with Crowdcube (with above-median Pre-money valuation) campaigns according to firm age, pre-money valuation and industry group. Model (1) reports the coefficients of a logit model when *Binary success* is employed as dependent variables. Models (2)-(4) report the coefficients of an OLS method when *Amount raised*(£k), *Amount/investor*(£k) and *Amount-to-goal* ratio are employed as the dependent variables. Significance levels for coefficients are denoted as * for $p \leq 0.10$, ** for $p \leq 0.05$ and *** for $p \leq 0.01$.

| | (1)<br>Binary success | (2)<br>Amount raised(£k) | (3)<br>Amount/ investor(£k) | (4)<br>Amount-to-goal |
|---|---|---|---|---|
| SR | -0.930*** | -197.0*** | 27.56*** | -0.388*** |
| | (-2.68) | (47.21) | (5.402) | (0.074) |
| Goal(£k) | -0.001 | 0.869*** | 0.002 | |
| | (-1.38) | (0.061) | (0.007) | |
| Equity | 0.008 | 10.76*** | 2.069*** | 0.004 |
| | (0.41) | (3.04) | (0.348) | (0.004) |
| Pre-money valuation(£k) | 0.000 | 0.036*** | 0.002** | 6.74e-06 |
| | (0.86) | (0.008) | (0.001) | (9.56e-06) |
| Focus | 0.888** | 115.7* | -8.66 | -0.001 |
| | (2.00) | (64.50) | (7.381) | (0.101) |
| Post2016 | -2.029*** | -165.6*** | 5.989 | -0.166** |
| | (-4.15) | (47.38) | (5.42) | (0.074) |
| Constant | 2.774*** | -26.92 | -22.57* | 1.45*** |
| | (3.19) | (106.9) | (12.23) | (0.166) |
| Industry FE | YES | YES | YES | YES |
| Observations | 288 | 288 | 288 | 288 |
| R-squared | | 0.722 | 0.315 | 0.151 |
| Pseudo R-squared | 0.156 | | | |

**Table 4.6. Performance on different ECF platforms**

Table 4.6 reports the results on how the SR dummy affect performance of campaigns on SyndicateRoom and Seedrs, employing a sample yielded by the coarsened exact matching to address potential endogeneity issue between ECF platforms. SyndicateRoom campaigns are matched with Seedrs campaigns according to firm age, pre-money valuation and industry group. Model (1) reports the coefficients of a logit method when *Binary success* is employed as dependent variables. Models (2)-(4) report the coefficients of an OLS method when *Amount raised*(£k), *Amount/investor*(£k) and *Amount-to-goal* ratio are employed as the dependent variables. Significance levels for coefficients are denoted as * for $p \leq 0.10$, ** for $p \leq 0.05$ and *** for $p \leq 0.01$.

| | (1) Binary success | (2) Amount raised(£k) | (3) Amount/ investor(£k) | (4) Amount-to-goal |
|---|---|---|---|---|
| SR | -0.716** | -60.01* | 21.55*** | -0.217*** |
| | (-2.00) | (33.94) | (6.179) | (0.0716) |
| Goal(£k) | 0.000 | 1.126*** | -0.0004 | |
| | (0.50) | (0.060) | (0.011) | |
| Equity | -0.044* | -5.47** | 2.110*** | -0.012*** |
| | (-1.90) | (2.189) | (0.399) | (0.004) |
| Pre-money valuation(£k) | -0.000 | -0.012 | 0.003* | -3.47e-05** |
| | (-1.64) | (0.010) | (0.002) | (1.39e-05) |
| Focus | 0.605 | 17.65 | -5.975 | 0.076 |
| | (1.09) | (53.54) | (9.75) | (0.113) |
| Post2016 | -0.849** | -22.67 | 9.777 | -0.074 |
| | (-2.17) | (34.18) | (6.223) | (0.072) |
| Constant | 2.375** | 38.28 | -10.44 | 1.746*** |
| | (2.42) | (95.71) | (17.42) | (0.199) |
| Industry FE | YES | YES | YES | YES |
| Observations | 238 | 244 | 244 | 244 |
| R-squared | | 0.753 | 0.310 | 0.149 |
| Pseudo R-squared | 0.097 | | | |

**Table 4.7. Determinants of performance for SyndicateRoom campaigns (Robustness test)**

Table 4.7 reports the determinants of performance for successful initial SyndicateRoom campaigns 2013 to 2018. Models (1)-(3) report the coefficients of an OLS model when *Amount raised*(£k), *Amount/investor*(£k) and *Amount-to-goal* ratio are employed as the dependent variables. Significance levels for coefficients are denoted as * for $p \leq 0.10$, ** for $p \leq 0.05$ and *** for $p \leq 0.01$.

| | (1) Amount raised(£k) | (2) Amount/ investor(£k) | (3) Amount-to-goal |
|---|---|---|---|
| Goal(£k) | 1.148*** | 0.022*** | |
| | 0.054 | 0.003 | |
| Equity | -1.049 | -0.268** | -0.004 |
| | 2.129 | 0.114 | 0.004 |
| Pre-money valuation(£k) | -0.006 | -0.001** | -0.000 |
| | 0.008 | 0.000 | 0.000 |
| Focus | -115.3* | -0.021 | -0.090 |
| | 67.58 | 3.621 | 0.141 |
| Post-2016 | 75.54** | 3.251* | 0.137** |
| | 32.43 | 1.737 | 0.068 |
| Constant | -8.091 | 15.39** | 1.152*** |
| | 133.9 | 7.173 | 0.281 |
| Industry FE | YES | YES | YES |
| Observations | 84 | 84 | 84 |
| R-squared | 0.958 | 0.650 | 0.120 |

**Table 4.8. Performance on different ECF platforms(Robustness test)**

Table 4.8 reports the results on how the SR dummy affect performance in SyndicateRoom and Crowdcube, employing a sample matched by the coarsened exact matching to address potential endogeneity issue between ECF platforms. Only successful initial offerings are included in this regression. SyndicateRoom campaigns are matched with Crowdcube (with above-median pre-money valuation) campaigns according to firm age, pre-money valuation and industry group. Models (1)-(3) report the coefficients of an OLS model when *Amount raised*(£k), *Amount/investor*(£k) and *Amount-to-goal* ratio are employed as the dependent variables. Significance levels for coefficients are denoted as * for $p \leq 0.10$, ** for $p \leq 0.05$ and *** for $p \leq 0.01$.

| | (1)<br>Amount raised(£k) | (2)<br>Amount/ investor(£k) | (3)<br>Amount-to-goal |
|---|---|---|---|
| SR | -196.8*** | 14.10*** | -0.338*** |
| | 51.69 | 0.884 | 0.078 |
| Goal(£k) | 1.075*** | 0.015*** | -0.0003*** |
| | 0.076 | 0.001 | 0.000 |
| Equity | 11.85*** | -0.219*** | 0.015*** |
| | 3.593 | 0.061 | 0.005 |
| Pre-money valuation(£k) | 0.034*** | -0.004*** | 4.34e-05** |
| | 0.008 | 0.000 | 1.14e-05 |
| Focus | 7.346 | -0.812 | -0.145 |
| | 75.77 | 1.295 | 0.114 |
| Post-2016 | -63.41 | 1.1713** | 0.021 |
| | 48.94 | 0.837 | 0.074 |
| Constant | -64.40 | -1.343 | 1.369*** |
| | 110.2 | 1.883 | 0.166 |
| Industry FE | YES | YES | YES |
| Observations | 204 | 204 | 0.234 |
| R-squared | 0.775 | 0.744 | 204 |

## Chapter 5 Conclusions

This thesis examines the equity financing of small companies in the United Kingdom, examining some of the equity financing options available in this country within the field of entrepreneurial finance. Given the decrease in the number of deals in PE/VC funds and the number of new listings in London AIM over the past few years, it is worthwhile to investigate whether there are alternative sources of funding available to support the development and growth of young and expanding firms. The research consists of three chapters and addresses the overarching question of the factors that motivate firms to make this decision and the manner in which financial characteristics influence their subsequent performance.

Chapter 2 investigates voluntary delistings in London AIM, examining the reasons why firms choose to exit this stock market despite the fact that being listed offers increased liquidity and greater investor recognition. Chapter 3 compares AIM IPOs and financially similar ECF campaigns, examining the factors that influence firms' decisions to select private equity over public equity and their subsequent performance on ECF campaigns. Chapter 4 examines SyndicateRoom, the pioneering angel equity crowdfunding syndicate platform in the UK. It offers a comprehensive analysis of this platform, examining the financial characteristics of firms that select it and their performance in comparison to financially similar firms on the other two UK platforms (Crowdcube and Seedrs).

Chapter 2 first offers new insights into the delistings of London AIM, thereby demonstrating that remaining listed on a stock exchange may not suit all small firms. A

more extensive and diverse sample timeframe (1997–2021), capturing both the market's growth and decline, as well as major external shocks like the Great Financial Crisis, Brexit, and the COVID-19 pandemic, is employed to analyze the determinants of voluntary delistings. Findings in this chapter can be related to existing research by examining the motivations for delisting in order to compare various categories of delistings. The evidence from a longer and more varied sample period shows that limited growth opportunities are no longer the primary determinant of voluntary delistings, contrary to previous studies (Leuz et al., 2008; Bharath and Dittmar, 2010; Kashefi Pour and Lasfer, 2013). The finding that larger firms and firms with more growth opportunities are more likely voluntarily to exit the London AIM reinforces the view that that a stock market listing is not the sole source of financing (Cumming et al., 2021). This confirms the presence and competitiveness of alternative equity financing options in the UK. Finally, inadequate financial performance consistently ranks among the primary criteria for enterprises to exit the stock market, thereby providing empirical evidence supporting current research (Leuz et al., 2008; Kashefi Pour and Lasfer, 2013; Thomsen and Vinten, 2014).

Chapter 3 examines the reasons behind firms' preference for private equity over public equity and the link between their subsequent performance and their inherent characteristics. The findings show that firms with larger pre-money valuations and firms with higher fundraising goals prefer public equity over private equity. This leads to the conclusion that, despite the advantages of limited financial and intellectual process disclosure and lower costs in comparison to the AIM listing procedure, equity

crowdfunding is not an equivalent for public listing. Public listing consistently serves as a reliable source of equity financing for larger firms and firms that wish to raise a significant amount of capital. These results offer novel insights into the listing gap in the UK and have similar results to Lattanzio et al., (2023), who demonstrate that private equity is not responsible for listing gap in the U.S.

Chapter 3 provides an analysis of determinants of success and performance of ECF campaigns in the UK by employing a sample consisting of ECF campaigns on Crowdcube, Seedrs, and SyndicateRoom between 2013 and 2018. First, it confirms the detrimental effects of equity offered and concludes that a higher (lower) level of equity offered (retention) suggests a diminished level of confidence among founders in their companies, which, in turn, leads to a lower probability of successful ECF campaigns. These findings are consistent with the current literature (Ahlers et al., 2015; Vismara 2016). In addition, firms with larger pre-money valuations tend to attract more crowd investors as they bring confidence to the external investors, and this substantially increases the probability of conducting a successful ECF campaign (Astebro et al., 2017; Wasiuzzaman and Suhili; 2021). The effectiveness of signaling theory (Spence, 1973) in the field of entrepreneurial equity financing is further substantiated in this chapter.

Finally, chapter 4 extends knowledge on equity financing in the UK. To the best of our knowledge, this is the first paper that analyses and sheds light on ECF campaigns on the syndicated angel platform, SyndicateRoom. It first studies the determinants of success and performance of campaigns between 2013 and 2018. Similar to results in chapter 3, campaigns larger fundraising goals tend to attract more capital, align with

Lukkarinen et al. (2016). The empirical evidence regarding impact of equity offered is mixed. First, new empirical evidence is added to the current research (Ahler et al., 2015; Vismara, 2016; Cumming et al., 2021; Rossi et al., 2021) that ECF campaigns with more equity issued are less likely to succeed. On the other hand, equity offered has a significantly positive impact on Amount/investor. This positive impact validates the effectiveness of lead investors and supports the existing literature that the lead-investor model employed by SyndicateRoom has helped to alleviate information asymmetry (Agrawal et al., 2015). In this case, the provision of equity fosters confidence in both the lead investor and the individual investors, thereby encouraging them to invest more.

Chapter 4 also provides a pairwise comparison of ECF campaigns on SyndicateRoom and the other two leading ECF platforms in the UK, Crowdcube and Seedrs. Results indicate that although SyndicateRoom was the first to adopt the lead-investor model, it does not guarantee a dominant position in the competition. In fact, Crowdcube and Seedrs outperform SyndicateRoom in terms of the probability of success and the actual amount raised. These findings illustrate that SyndicateRoom eventually was a victim of its own success because both of its UK competing ECF platforms - Crowdcube and Seedrs - adopted its lead investor approach. Because their campaigns included both professional investors and crowd (small) investors, they were more attractive to small firms and professional investors alike.

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