Grandstanding and Spinning in VC-Backed IPOs on AIM UK

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Abstract

We run regression analyses on a hand-collected dataset including 507 IPOs on the UK Alternative Investment Market (AIM) from FY 2004 to FY 2010 and provide new empirical evidence that venture capitalists (VCs) *do* grandstand firms and strike *quid pro quo* agreements with underwriters, thus increasing the underpricing level. The grandstanding and spinning hypotheses also hold when controlling for IPO years and industries. We document that when VCs behave in this way they do not assume any certification role with respect to managed firms.

JEL Classification Codes: *G24, G32*

Keywords: Underpricing, Venture Capital, Grandstanding, Spinning, AIM UK

1. Introduction

We conduct an empirical test on a hand-collected dataset, which includes 507 IPOs occurred on the London Stock Exchange Alternative Investment Market (AIM) in United Kingdom from FY 2004 to FY 2010, in order to address the relationship between venture funds and underpricing in new listings. The collected sample has been firstly split into two pools: the first one containing venture capital backed IPOs (99 observations) and the second with non-venture capital backed ones (408 observations). The descriptive analysis immediately shows that venture capital backed issues are on average more underpriced. By employing OLS regressions with the IPO underpricing as the main dependent variable and grandstanding and spinning proxies as the main explanatory variables we find evidence that grandstanding and spinning hypotheses *do* explain IPO underpricing. These evidence hold also when controlling for industries and years. We provide also some temporal insights dividing the timeframe between the pre-crisis period (2004-2007) and the post-crisis period (2008-2010).

We contribute to the existing literature in several ways. Firstly, the focus on the AIM allows to investigate our hypotheses on a market specifically conceived to give an exit to VCs and more importantly, with much larger degree of variation in investors and listed companies countries and sectors.[1] As such, this limitedly exploited market provides a fertile testing ground for the grandstanding and spinning hypotheses with only marginal data snooping issues. Secondly, by excluding the dotcom bubble period we specifically test a more general form the grandstanding and spinning theories and we answer the question of whether this VCs behavior was specific to a unique environment such as the Internet bubble or is a structural bias in the investment and exit processes. Finally we extend our analysis to the crisis period and provide further insight on the exit decision process by investors in both favorable and unfavorable market conditions.

[1] London Stock Exchange website defines the AIM Market as the "London Stock Exchange's international market for smaller growing companies (where)…a wide range of businesses including early stage, venture capital backed as well as more established companies join (it) seeking access to growth capital." Since its establishment in 1995 more than 3,000 companies joined AIM from across the globe. At the end of 2011 a total of 1,143 companies were listed, 225 of which were non-UK.

2. Literature review

The question arisen all over the years is if venture capitalists increase or not the average underpricing. A first group of theories claims that venture capitalists assume a certification role on behalf of managed firms through monitoring activities. This should allow VCs to reduce the asymmetric information and then the underpricing, as confirmed by Barry et al. (1990), whose hypotheses state that the certification role and the complementary monitoring activity would be seen as the main causes decreasing the investors' uncertainty.[2] Supporting evidence is offered by Megginson and Weiss (1991), who affirm that VCs are able to certify that the offer price reflects all the private information, so that the initial share price can be equal to the intrinsic share fair value, excluding mispricing issues. Megginson et al. (1991) also argue that VC backed companies attract prestigious underwriters, which should reduce underpricing and then decrease the cost of going public, as confirmed by Carter and Manaster (1991). Since the authors find that VCs are usually the major shareholders, if they retain a large part of their shares at the IPO, the certification role should be easily ensured. Moreover, VCs are able to head companies to the market earlier (Megginson et al., 1991).[3] As proved by Sahlman (1990), retention of a portion of their holdings gives VCs credibility in their role of certification. Selling the whole participation at the IPO date may be seen as a negative signal by the market, which will reconsider the reputation level assigned to the fund. Moreover, it must be costly for issuers to purchase the reputational capital of the certifier and the authors assert that VCs are the most suitable source of financing for young rapidly growing companies, focusing their attention on high-tech businesses.[4] The importance of the certification role is also underlined by Chahine et al. (2006), who claim that on average VC backed IPOs in UK are less underpriced than non VC backed ones. Some studies about the reputation issue have been presented by Lin and Smith (1995) and by Neus and Walz (2004). Lin and Smith assert that venture capitalists are perceived as insiders, and a strong sale of stocks at the IPO time would be seen as a negative signal by the market. In fact, since VCs generally hold part of their positions beyond the IPO as well, selling the majority or the whole stake would conduce outsiders to consider overpriced

[2] This mechanism is then permitted by the presence of VCs on the board of directors also beyond the IPO date, which is clearly a signal of certification itself.

[3] According to Megginson et al. (1991), venture capitalists must meet three tests in order to guarantee their certification role. First of all, VCs must have reputational capital at stake, which means that they cannot afford to underprice new issues and then lose reputation. Reputation is a fundamental key to venture capitalists' success, because it affects the market perception about the fund, plus it allows VCs to have access to more favorable financing conditions and to build up solid and long-term oriented relationships with underwriters. Second, the value of the reputational capital must be higher than the payoff obtained if certifying falsely.

[4] Of course, these companies have a high-risk profile, hence they strongly need a reliable certifier in order to reduce asymmetric information and then the risk perceived, which is often connected to underpricing.

the new issue. Empirical analyses conducted by the authors confirm that VCs are aware that holding their positions at the IPO is a proof to underwriters and to the market that they are not acting opportunistically. Contributions brought by Neus et al. (2004) show that venture capital funds face a trade-off: although the fund reputation is a determinant key to get future financing, it is also true that postponing the exit time will bring VCs to waste many investment opportunities. Since VCs live for a short period of time and they request rates of returns up to 50% (Sahlman, 1990), a high *share overhang* (calculated as shares retained/shares issued) could be associated to high six-months underpricing, which might be the future compensation for venture capitalists when final exit occurs.

The previous comment leads us to the second school of thought about VCs and underpricing. The main finding is on the contrary that VCs increase underpricing, but many different explanations may be given. An exclusive interpretation is provided by Bradley and Jordan (2002), who find that VC backed IPOs are more underpriced than non-VC backed ones. They find no evidence about VC certification role, and agree with some other studies that hot issue periods are usually more underpriced than the others.[5] More to the point, one of the first issue to discuss is if VCs take companies public during high market peaks (Lerner, 1994) and if yes, what the main explanation for that is. As stated by Gompers et al. (2005), VCs effectively have great success during hot issue periods, so it can be assumed that during bubbles VCs underprice more. In fact, investors have incentives to buy what they perceive to be quality securities, generating what is generally called a "cascade effect". The latter consideration is supported by Bessler and Seim (2011), who recently conducted a research about the underpricing of the venture capital backed IPOs in Europe. Testing their assumptions on a sample of European IPOs, they find that the underpricing level, especially for venture capital backed IPOs, is higher during hot issue periods, such as the dotcom bubble and the pre-financial crisis period.[6] However, the authors show that underpricing experienced by European markets during 1998-2000 is much higher than the observed level during 2003-2007.[7] A further supporting test has been provided by Oehler et al. (2004), who argue that in certain periods underpricing is not really given by ex-ante uncertainty, but by the investor sentiment and demand. They empirically proved their hypothesis using a sample based on German IPOs.

[5] Nevertheless, they do not address underpricing to opportunistic behaviors of VCs, nor to agreements between venture capitalists and banks. They just think that VCs usually operate in highly underpriced sectors, and after controlling for industries, they show that venture-backing is not directly a determinant for underpricing.

[6] Obviously, VCs may take advantage of their huge expertise heading managed companies to the market during economic booms, in order to exploit the investor sentiment and their reputation of certifiers.

[7] Clearly, this can be partially explained considering the dotcom boom as an equity capital market phenomenon, while the pre-crisis period was featured by an explosion on the real estate market. When the bubble burst in 2007-2008, equity markets suffered due to some events strongly linked to the real estate mortgages default. Previous statements would confirm that underpricing seriously skyrockets when the economic boom is strictly correlated to the equity capital market, and when the latter is not affected by external events which bring to panic selling and speculations.

But why should VC backed IPOs experience a higher underpricing than non-venture backed issues? What are the main reasons provided by this school of thought to justify such an assertion? It is well known that the main explanations regard the *grandstanding theory* (Gompers, 1996) and the *spinning hypothesis* (Loughran and Ritter, 2004). Gompers (1996) states that underpricing is a natural consequence of the greater risk perceived by the market when venture capital funds take very young companies public, since these are still very risky due to their lifecycle phase. In fact, during the first years of their existence, companies are not capable of supporting their operations with internal resources. Thus, they are not able to get entirely financed by streams of incoming cash-flows. This is why they still need a strong partnership with a reliable source of financing, which can drive them towards the second phase of their lifecycle. It is obvious that when grandstanding theory holds, VCs are acting opportunistically, looking for a quick exit in order to cash out and catch some more opportunities. Dynamics and implications of grandstanding will be discussed in details in the next paragraph. The second main reason related to VCs and underpricing is presented by Loughran et al. (2004), and implies an agreement between IPO decision makers and the bank sponsoring the IPO. Underwriters may find convenient to underprice shares, especially to give clients great initial returns, which increases their reputation and makes their services much more marketable. At the same time, VC managers tolerate underpricing because they get indications about other hot and underpriced allocations, which will allow them to obtain some personal risk-free capital gains in a very short time. Furthermore, banks guarantee VCs their support for future trips to the market. Coakley et al. (2006) undertook a research on venture capital backed IPOs in UK for the period 1985-2003 and they found empirical evidence about spinning, but only during the dotcom bubble. Spinning practice will be further presented and debated later on in this section.

2.1. *Grandstanding theory*

One of the main causes for VC backed IPOs underpricing is explained by the *grandstanding theory* (Gompers, 1996). According to Sirri and Tufano (1993) and to Lee and Wahal (2004), reputation is a key factor for venture capital firms. In fact, their funding activity is strictly correlated to past performance, which is often measured by the number of IPOs sponsored by each fund (Sirri and Tufano, 1993). The finite lifetime of venture partnership leads to frequent recapitalizations, considering that a venture capitalist is supposed to cease operations if not raising money. In order to obtain funds to recapitalize and invest in new projects, VCs need a strong reputation, often given by quick and excellent results. This is why Gompers (1996) states that VCs,

especially if young, take companies to the market after a few years.[8] In his study, Gompers finds that on average VCs head companies to the market after four-five years. This finding is also supported by Lee and Wahal (2004).[9] Leading companies to IPOs is a clear signal, which provides with strong evidence of highly developed skills in managing portfolios very aggressively, with the end of obtaining elevated returns in a few years. In fact, Sahlman (1990) proves that the biggest portion of VCs returns is earned on IPO operations. Of course, if a venture capital firm manages companies that eventually go public, the market and its sources of financing would consider that VC reliable and outperforming. This would bring that VC to raise more money in order to invest in plenty of projects, which is a desirable effect when investment risk profiles are different and thus diversification is needed.[10] As argued by Welch (1989), Grinblatt and Hwang (1989), Allen and Faulhalber (1989), underpricing may belong to a defined strategy reported by their signaling models. To sum up their models, underpricing would be seen as a signal of quality given by the issuer to the market, since only a good company is able to bear such a cost and recoup in the future after leaving a lot of money on the table. Then, if VCs need to exit completely from the investment in order to get money to be used in other projects, that means that underpricing is a strong burden for venture capital firms. In fact, while in other researches is argued that VCs remain on the board of directors even beyond the IPO, a VC which needs to rush will not be able to wait a lot of time before cashing out (Gompers, 1996). This leads to another consideration: the stake held by VCs that need to sell most of their shares at the IPO must not be large, so that wealth losses due to underpricing may be reduced (Gompers, 1996).[11] Lin and Smith (1998) find that the cost VCs will

[8] . Gompers affirms that young VCs usually grandstand because they are anxious to build a solid reputation, which will consent them to have access to new sources of financing. Although it is empirically shown that young VCs grandstand more than old ones, it must be said that VCs grandstand in general. This may be caused by hot issue periods, which offer plenty of investment opportunities to be caught by VCs, which then need money to invest in several different ideas.

[9] A former model developed by Gompers (1993) shows that VCs prefer to bear the cost of underpricing by taking companies public after a few years than trying to maximize their return upon a single investment. Limited partnerships usually live for a short period of time, such as ten years. This means that returns must be earned quickly, and that the more investments they carry on, the more return opportunities they create (Gompers and Lerner, 2004).

[10] Clearly, young VCs are much more prone to grandstand than old and well-established venture capital firms. Nevertheless, also old VCs have incentives to grandstand, since also their limited partnerships need to obtain high returns quickly with the aim of pursuing other investment opportunities. Beside that, if venture capital firms rush companies to the market, the risk perceived will be higher. It is easy to figure out that a young company is risky, because its operating cycle is not able to provide long-lasting streams of cash flows. In fact, according to Caselli (2010), venture capitalist should take managed firms public when they experience the maturity phase of their lifecycle. Therefore, the greater ex-ante uncertainty of early-stage companies brings to higher underpricing, because investors purchasing those risky securities will require a higher risk premium, given a higher risk profile. The perceived risk may decrease if venture capitalists remain on the board of directors even after the IPO: the market would see a high share retention as a signal of quality, thus diminishing the required return.

[11] This statement is not actually very coherent with other theories arguing that the more the share overhang (calculated as shares retained by the leading VC/shares issued by the company), the more the underpricing, since VCs would not care about it when the majority of the stake is retained. Sometimes, VCs retain shares expecting an increasing trend of the stock price.

be bearing if heading companies to the market too early is strongly connected to the percentage of shares retained. Obviously, retaining too many shares do not allow VCs to reposition their resources somewhere else. At the same time, Lin et al. (1998) also argue that high reputation VCs experience less underpricing when selling the majority of their shares. This probably happens because the market does not see a negative signal in this behavior, since well-established VCs have a solid reputation. Thus, no big risk premiums are required through the underpricing.

In conclusion, the magnitude of the cost VCs are supposed to bear when taking prematurely companies to the market depends on the portion of stake held in the company and on the necessity to cash out. Young VCs need to realize capital gains in a short period in order to use those resources in other projects. Then, they will bear the cost of underpricing, because they will not be able to wait for long-term returns, moreover they are eager to signal quality by taking managed firms public (Lee and Wahal, 2004).[12] As a final point, it can be claimed that the kind of cost experienced depends on the age of the venture capital fund (Gompers, 1996). Stein (1988) stays on the same side of Gompers, Lee and Wahal. Even if the grandstanding theory was formulated in the nineties, he anticipated some of the main concepts and implications. He states that conflicts of interests may arise between VCs and founders, addressing the explanation to what he calls "managerial myopia". In fact, VCs could act opportunistically, pursuing returns in a short-term horizon, while entrepreneurs are much more focused on the long-term perspective. But how do VCs succeed in taking companies public and then exiting so easily? According to Kaplan and Stromberg (2000), there are some contractual covenants that allow VCs to exit with no struggles, such as the "Demand rights", which consents VCs to head a company to the market even if the management does not agree. Another important covenant is the "Drag-Along", which gives VCs the right to impose their views about selling if they find support on boards and among the major shareholders.[13]

Focusing the attention on UK, Jelic et al. (2005) conducted a research about VC backed MBOs, finding that they are usually more underpriced than non-VC backed ones. The same result has been found by Espenlaub et al. (2000), who claim that VCs tend to grandstand, especially if they are young. Nevertheless, it is interesting to notice that although Barnes and McCarthy (2002) state that VCs usually take companies public after a few years, they find no evidence that VC

[12] On top of that, Lee and Wahal (2004) find a positive relation between the first-day return and VCs' funding activities, giving evidence that underpricing is sometimes a necessary cost, which will probably bring some benefits in the future. On the contrary, old VCs will probably hold their position in the company, but will not be able to use immediately their capital gains in order to finance new projects. This does not represent a big problem, since they are well-established. In fact, their reputation will surely give them the chance to catch some other financing opportunities.

[13] Gifford (1997) gives one more evidence about young VCs taking companies public prematurely. She argues that young VCs do not have the chance to invest in high-quality companies, thus they address their efforts on lower quality firms. This kind of companies must be often monitored, allowing VCs to head them to the market earlier than usual. He does not mention any kind of relation with underpricing, though.

backed IPOs are significantly more underpriced than non-VC backed. In fact, they argue that young VCs usually rush companies to the market and that they will obtain new funds sooner than old VCs, according to the reputation theory discussed at the beginning of this paragraph. Despite of this, VCs do not seem to bear the cost of underpricing. Given theories previously analyzed, this finding seems to be contradictory and illogical, because it is undefined why the market should not ask for a greater compensation when purchasing shares issued by a risky company, nor there is any doubt that young and going public companies have a high risk profile. In fact, they structurally present a greater ex-ante uncertainty, given by factors related to the first phase of their lifecycle.

2.2. Spinning practice

When explaining the underpricing phenomenon, Loughran and Ritter (2004) consider a variety of explanations. As documented by Ritter (1984), riskier IPOs are more underpriced. So, it has been widely assumed in literature that underpricing is a form of compensation offered to investors that face a greater risk. This theory is known as the *changing risk composition hypothesis* (Loughran et al., 2004). One more explanation regards what the authors call the realignment of incentives hypothesis, which implies that issuers accept to leave money on the table for several reasons. The third and last theory proposed is the *changing issuer objective function hypothesis*. The latter may be split into two parts. The first one is known as the *analyst lust hypothesis*, which claims that issuers will let underwriters underprice new issues in exchange of future analyst coverage, which would provide with strong buy recommendations about issuer's shares. The second hypothesis is related to the *spinning practice*, which is supposed to be one of the main reasons why VC backed IPOs are usually more underpriced, on average (if they are). Basically, issuers would look for underwriters with a reputation of underpricing new issues. This may happen for a lot of motives. First of all, underwriters find convenient to underprice new shares, so that they will be able to offer their clients high first-day returns, which will increment their reputation and thus the number of subscribers (and commissions paid). Since underwriters use the bookbuilding method, their discretion in allocating shares would eliminate completely both the winner's curse problem and any kind of asymmetric information (Loughran et al., 2004). Second, a *quid pro quo* agreement arises between the issuer and the bank. In fact, since the issuer tolerates underpricing, it must receive something back. Usually, IPO decision makers get side payments, since underwriters give them indications about other hot issues. Therefore, VCs' managers would benefit personally from underpricing, obtaining in exchange suggestions about quick return opportunities. Furthermore,

banks usually promise them to sponsor their future trips to the market, which will allow VCs to set up convenient relations with underwriters (UWs) and then head companies to the market more easily.[14] In 2006 an interesting research has been conducted by Coakley et al. (2006) on the UK market. The authors do not find any empirical evidence that VCs grandstand and that they build relationships with banks that lead to spinning behaviors. Nevertheless, during bubble years (1998-2000) they show that grandstanding and spinning become significant, proving that during those years a lot of institutions acted opportunistically in order to exploit the investors sentiment.

3. Data and methodology

3.1 Data mining

Dataset used for analysis contains a sample of 507 IPOs occurred on the UK Alternative Investment Market (AIM) from January 1st, 2004 to 31st December, 2010. During this period, 1,132 companies went public on that market, then 44.79% of the total number of IPOs has been included in the sample.[15] The list of IPOs has been taken from the London Stock Exchange website, which also discloses the IPO date and sector for each firm gone public. SEOs and reallocations from the Main Market to AIM have been excluded. Initially, around 50% of the total number of IPOs was taken into account, but after the outliers detection some observations have been deleted from the sample. Thus, percentages of IPOs for each year considered range between 43% and 48%. Outliers deleted from the sample were far from the mean at least +/- five times the standard deviation. Outliers detection regards two variables: first-day underpricing and total money raised, hence the only data available on Bloomberg before analyzing IPO prospectuses one by one. As said before, the final result leads to a sample of 507 observations. Delisted companies have been also considered, taking into account successful and unsuccessful examples. The sample is divided into venture capital backed IPOs (99 observations) and non-venture capital backed IPOs (408

[14] One more contribution about the issue is provided by Arthurs et al. (2008), who elaborate a multiple agency theory model which includes three different actors: 1) the lead venture capital fund, 2) the lead underwriting bank, 3) the owners of the going public company. They state that VCs and underwriters have a short-term vision, then they have incentives to cooperate and create relationships in order to pursue their own interests. Long-term relationships with banks are actually fundamental for VCs to continue their investment activity, so they will accept the underpricing cost in exchange of indications about new hot issues. VCs can impose underpricing to the going public firm because they have a strong contractual power upon the backed company, plus entrepreneurs often prefer to have their personal wealth increased than overpricing new issues.

[15] Source: London Stock Exchange Website (2011).

observations).[16] Financial IPOs account for 22.68% of the total sample (115 observations).[17] This result is in line with the total percentage of financial firms currently listed on the AIM (around 23%), thus the sample used for this industry is considered to be representative of the reality. Given that, excluding financial IPOs from the sample would have not provided with a precise and reliable picture of the UK AIM. Even if financial firms (such as closed-end funds) are usually deleted from samples in literature, we decided to keep them for our analysis but, in order to avoid biases that can arise from anomalous trends given by the financial industry, models have been controlled also when financial firms are excluded from the sample. Information about financial data, money raised and initial offer prices has been collected both from the IPO prospectuses and from Bloomberg: this made possible to double-check information given by both sides, in order to verify its accuracy. Whenever a mismatch occurred, data found in the IPO prospectuses were considered more reliable. Sales to Total Assets ratio is built through Pre-IPO financial data.[18] Currency used is the GBP. Dates of incorporation have been collected by IPO prospectuses or companies' websites, in order to calculate the age of the firm going public. Whenever the incorporation date did not coincide with the foundation date, the former has not been considered indicative.[19] Underpricing has been calculated as the percentage differential of the first-day closing price and the offer price. Both prices have been found on Bloomberg, and the offer price has been compared to information given by the IPO prospectus, which also provides with data regarding the amount of shares issued and total money raised. Information about leading NOMADs and brokers come from the IPO list given by the London Stock Exchange website. Brokers operate also as NOMADs in most of the IPOs included in the dataset. Whenever this does not happen, the underwriter ranking – which is used to calculate the proxy representing the spinning practice – is related to the broker. The underwriter ranking is usually provided by Carter and Manaster's index, which ranked U.S. underwriters on a scale zero to nine, whereas a rank of eight or nine is given to prestigious underwriters. Unfortunately, since the analysis has been made on the UK market, some NOMADs/brokers are not

[16] In order to find out if a firm was VC backed or not, the IPO prospectus of each company has been analyzed. The AIM Rule 26 obliges companies to disclose information about the pre-IPO ownership structure, which is necessary to determine if a company was supported by one or more venture capital funds. When available, information about VCs have been taken from the British Venture Capital Association (BVCA) or from venture capital funds websites. When a syndicate existed, information about the lead VC has been taken.

[17] Financial IPOs are related to these sectors: Banks, Equity Investment Instruments, General Financial, Insurance, Non-Equity Instruments and Real Estate.

[18] Total Assets include both operating and financial assets at the IPO date. Information has been taken both from IPO prospectuses and from financial statements, when available. The potential bias regarding the window dressing phenomenon has not been considered relevant, since SALES / TOT. ASSETS is the only financial ratio used in regressions.

[19] For example, incorporation dates related to new holding companies are not useful to determine when the business has been set up. As a matter of fact, incorporations of parent companies often occur a few months before the IPO, showing that those firms are created with the only purpose of representing the whole group on the AIM. In order to figure out since when groups run their businesses, foundation dates have been taken into account.

included in Carter and Manaster's ranking. In order to assign a grade to each underwriter, the following criterion has been chosen: if an underwriter sponsored less than 15 IPOs among those included in the sample, it was considered a non-prestigious underwriter; *viceversa*, if it sponsored at least 15 IPOs, it was included among prestigious underwriters.[20]

3.2 Dataset Description

Insert Table I about here

The most prominent sector in the sample is Mining (59 observations), followed by General Financial (48 IPOs), Oil & Gas (43 observations), Support Services (42 observations), Software & Computers (39 IPOs), Real Estate (37 observations). Financial IPOs account for 22.68% of the total sample. Sectors with the highest number of venture capital backed firms are Pharma & Biotech, Software & Computers (both with 14 VC backed observations) and Chemicals (12 observations). In percentage terms, the sector with the largest number of VC backed IPOs is Pharma & Biotech (87.5%), followed by Chemicals (85.71%) and Alternative Energy (80%).

Insert Table II about here

The average underpricing is 16.7%, which is coherent with the average evidence reported in previous studies (Ibbotson et. al., 1994). Venture capital backed IPOs underpricing has been found to be extremely high (25.80%), while non-venture capital backed IPOs are underpriced less than the average (14.60%). The underpricing differential is then 11.20%, which clearly shows the venture capital backed IPOs are on average much more underpriced than non-venture capital backed ones. This is a fundamental consideration for the analysis we perform in the next section, because descriptive data show that the certification role of VCs does not work as argued by Barry et

[20] We are aware of the bias that may be generated by this criterion, since the quantity of sponsored IPOs is not always synonymous of quality. Nevertheless, it must be said that Nomads have a particular role in the AIM regulation. Therefore, the number of sponsored IPOs seems to be the most appropriate choice to represent reputation, because it should reflect the underwriter's credibility and how much going public firms trust it. Since it has been stated that VCs grandstand companies in order to increase the number of sponsored IPOs and then improve their reputation, it can be argued that also the number of operations made by underwriters is strictly related to their reputation. Given the above criterion, it was not possible to calculate the average underwriter rank for the whole sample and for VC backed or non-VC backed observations.

al. (1990) and by Megginson and Weiss (1991). On the contrary, it seems that data support the second school of thought discussed in section 2 (Lee and Wahal, 2004), but it still must be proved that these results are caused by VCs' moral hazard behaviors, such as *grandstanding* (Gompers, 1996) and *spinning* (Loughran and Ritter, 2004). Underpricing is quite high before 2008, while IPOs are on average slightly overpriced during 2009. Generally speaking, underpricing gets smaller over the years considered in the sample. A decreasing trend stands both for venture backed and for non-venture backed IPOs.

Insert Table III about here

The average time to IPO is 6.31 years, which is slightly lower than the average time to go public for non-venture capital backed firms (6.86 years). In line with expectations, VC backed firms need only 3.49 years to go public (on average) and time to IPO increases during the financial crisis.

Grandstanded firms are defined as VC backed companies that went public aged zero to four years. Hence, next percentages regard VC backed observations only. The average percentage of grandstanded firms in the whole sample is 74.75% (74 observations out of 99). This means that almost three VC backed firms out of four went public when aged four years or less. This result seems to support the grandstanding theory. Notwithstanding this, during the financial crisis grandstanded firms decrease significantly. Those sectors that are usually VC backed experience a strong percentage of grandstanded firms, such as 100% for IT, 85.7% for Pharma & Biotech, 75% for Chemicals, 66.67% for Electronic and 33.33% for Health and Health Care. Prestigious underwriters support IPOs before the financial crisis, while after 2007 only five VC backed IPOs occur in the sample, and only one of these is sponsored by a prestigious UW. It can be noticed that the percentage of VC backed companies that chose a prestigious underwriter is around 47% before the financial crisis. Afterwards, the spinning effect decreases and eventually disappears, because after 2007 just a few VC backed companies were taken to the market. Therefore, it could be hypothesized that both grandstanding and spinning do not exist during the 2008 financial crisis or during crises in general (Coakley et al., 2006).

Insert Table IV about here

The most underpriced sectors are Pharma & Biotech (54.74%), Health & Health care (31.75%) and IT (30.08%), which all experience an underpricing above 30%. If we take into account VC backed IPOs only, the most underpriced sectors are Specialty and Other Finance (80%),

Food Producers (72.62%), Health & Health Care (70.56%), Pharma & Biotech (68.41%) and IT (40.37%). These numbers show that the first two most underpriced sectors – considering VC backed observations only – are not the usual ground of investments for venture capitalists. Going further into details though, it can be seen that VC backed observations in Specialty and Other Finance are only 3.85% of the total number of IPOs in that sector (only one observation), while the number of VC backed IPOs in Food Producers is 18.18% (two observations overall). Thus, excluding sectors with low venture-backing frequencies, results obtained are in line with expectations, since the most underpriced sectors are those with the highest percentage of venture capitalists' IPOs.

Insert Table V and Table VI about here

To figure out more about the pre-crisis period and the financial crisis, the sample used has been split into two sub-samples, in order to conduct a further analysis taking into account separately two different periods of the economic cycle. The first one includes 463 observations from 2004 to 2007, while the second one contains 44 IPOs occurred between 2008 and 2010.[21]

3.3 Variables and variables definitions

In the following lines we describe the variables that are employed in the OLS regression framework of our study.

I.

% Underpricing: calculated as the percentage differential between the closing price after the first day of trading and the initial offer price, it represents the dependent variable used in regressions. Prices are in GBP.

II.

VC dummy: indicating venture-backing. A value of one represents venture capital backed IPOs.

III.

AGE: age is measured as the difference between the IPO date and the incorporation/foundation date and represents the timeframe to go public. Young companies

[21] Although the real estate crisis began in 2007 in the U.S., effects on the equity capital market occurred only in 2008, starting from the US ECM and then hitting hard the whole economic system. This is the reason why 2007 has been excluded from the financial crisis sample, which of course contains 2008, 2009 and 2010.

are supposed to be more underpriced than old ones, given a higher level of uncertainty. Coefficients are then supposed to be negative.

IV.

SALES/ TOT. ASSETS Ratio: sales do not always reveal fundamental information, because they must be compared to the firm's size. This is why this ratio has been created and Total Assets (which include both financial and operating assets) chosen as a proxy of the firm's size. A low Sales/Total Assets ratio should imply a greater risk, then higher underpricing is expected. If high values decrease underpricing, negative coefficients are expected. Financial data are in GBP millions.

V.

MONEY RAISED/ TOT. ASSETS: it shows the gross amount of proceeds collected through the IPO in relation to the going public firm's assets. Amount raised cannot stand alone because it would not be clear if enough money had been raised at the IPO date. In order to build a more explicative predictor, Total Assets has been chosen again as a proxy for firms' size. Fees have not been taken into account, because underwriters generally apply the same fixed percentage. Data are in GBP millions.

VI.

UW dummy: a value of one represents prestigious underwriters (underwriters with a rank of 8 or 9). If the spinning theory is true, a prestigious UW should increase the underpricing and coefficients be positive. Results may vary depending on the period of time considered.

VII.

MATURITY INDEX: it is built through the interaction between AGE and SALES/ASSETS ratio. It is supposed to be high for low-risk companies that should experience a low level of underpricing. Therefore, coefficients are supposed to be negative.

VIII.

CRISIS dummy: IPOs occurred during 2008, 2009 and 2010 have a value of one, the others have a value of zero. The aim of this dummy is to figure out if the financial crisis explains the underpricing.

IX.

GRANDSTANDING: a proxy of grandstanding has been produced through the interaction between VC dummy and Young Firm Dummy (Flagg, 2007). Young Firm Dummy assigns a value of one to going public companies aged zero to four, while it gives a value of zero to older companies, aged five or more. According to Gompers (1996), grandstanding should explain why VC backed IPOs are more underpriced. If this theory holds, coefficients are

expected to be positive. Grandstanding dummy is going to have a value of one when the considered observation is a VC backed company that went public aged zero to four.

X.

SPINNING: a proxy of spinning is built multiplying VC dummy by UW dummy (Flagg, 2007). If the spinning theory (Loughran and Ritter, 2004) is validated, this variable should explain and increase the underpricing. A value of one is assigned to VC backed companies that had been sponsored by prestigious UWs, a value of zero is given to the others. Coefficients are expected to be positive if prestigious UWs and VCs increase the underpricing level when working together.

XI.

IPO year dummies: IPO years have been used as controlling variables.

XII.

Industry dummies: industry dummies have been created only if 20 or more IPOs have occurred in a specific sector in the sample.[22]

XIII.

Financial dummy: it assigns a value of one to financial sectors (Banks, Equity Investment Instruments, General Financial, Insurance, Non-Equity Investment Instruments and Real Estate) – which account for 115 observations (22.68% of the total sample) – while it gives a value of zero to all the others. The aim of this dummy is to determine if results change when considering financial IPOs.[23]

XIV.

Share Overhang: calculated as the ratio between the shares retained by the venture capital fund and the total amount of shares issued. If a VC retains a lot of shares, it should care less about underpricing, then coefficients should be positive. *Share overhang* is used as a controlling variable**.**

[22] Dummies have been used for the following sectors: Equity Investment Instruments, General Financial, IT & Electronic, Media, Mining, Oil & Gas, Real Estate, Software and Computers, Specialty and Other Finance, Support Services, Telecommunications and R&D Intensive, which includes Alternative Energy, Chemicals and Pharmaceuticals & Biotechnology. "Other Sectors" contains all remaining sectors. Industry dummies are used as controlling variables.

[23] In fact, financial firms are unlikely to be venture capital backed, underpriced and old when going public. Many financial companies go public after a few months from their incorporation, because their aim is to raise money on the equity capital market in order to start their activity.

4. Empirical Results and Discussion

In this section, results obtained through OLS regressions are presented. The main analysis has been conducted on the whole sample, using variables described in section 3.3. After discussing the main results, the analysis will focus shortly on the pre-crisis and the crisis periods, in order to determine and compare the main trends occurring in two different economic cycles.

4.1 Analysis of the overall period (2004-2010)

The main aim of the first two models used for analysis is to figure out if venture-backing explains and affects the underpricing phenomenon. Independent variables used for regressions are VC DUMMY, UW DUMMY, CRISIS DUMMY, AGE, SALES / TOT.ASSETS and MONEY RAISED / TOT.ASSETS. In table VII, it can be seen that venture-backing strongly increases underpricing. Although the adjusted R-squared is only .101, most of the predictors show a p-value equal to .000 (or extremely close to it) proving that they are significant and reliable to explain the dependent variable. As expected, SALES / TOT.ASSETS has a negative coefficient and its p-value equals to .000, showing that higher ratios reduce underpricing.[24] MONEY RAISED / TOT.ASSETS has a p-value equivalent to .000 as well, then showing how underpricing is positively correlated with the amount of money raised through IPOs (in relation to the firm's size). Another extremely significant variable is CRISIS DUMMY, which indicates that underpricing strongly decreases during the financial crisis. Furthermore, there are a few VC-backed observations in those years. In fact, VCs usually take companies public in hot issue periods in order to exploit positive trends, as argued by Lerner (1994) and Gompers et al. (2005). As far as AGE is concerned, it shows a negative coefficient and it is significant at a confidence level equivalent to .966 which can be considered quite a good result. Therefore, it can be argued that the older a company is, the less the underpricing (Muscarella and Vetsuypens, 1989), both because uncertainty around old firms is smaller and because old companies are less likely to be VC backed, hence diminishing on average the probability of facing high underpricing, as seen before. The only variable which is barely significant at a confidence level equal to .90 is UW DUMMY, which is quite correlated to VC DUMMY (-0.427). This actually leads UW DUMMY to explain less the underpricing effect, which had already been partially captured by VC DUMMY. Moreover, UW DUMMY's coefficient is negative, showing that on average prestigious UWs reduce underpricing. Given that, financial IPOs

[24] Since SALES / TOT.ASSETS can be considered a proxy for risk, a company having a lot of sales compared to total assets is supposed to be less risky and thus a lower or no first-day return is required by the market.

account almost for a quarter in the whole sample, their weight might affect UW DUMMY's coefficient. In fact, financial firms are expected to decrease underpricing when working with prestigious UWs, thanks to their expertise and valuation know-how. The F test has a p-value equal to .000, confirming that predictors used well-fit the model

Next regression keeps the same independent variables but includes FINANCIAL DUMMY as well, which generates interesting implications. The adjusted R-squared is higher than before (0.148) and the F test produces a p-value of .000. AGE, SALES / TOT.ASSETS, MONEY RAISED / TOT.ASSETS and VC DUMMY are extremely significant, showing a p-value equal or close to .000. FINANCIAL DUMMY is also particularly significant and has a negative coefficient, proving that financial IPOs reduce underpricing sharply. Therefore, FINANCIAL DUMMY proves that underpricing regards on average real economy firms. An interesting consideration can be made on CRISIS DUMMY, which is not significant anymore. This probably happens because of the new variable included in the model, which perhaps captures much better the underpricing effect. UW DUMMY is quite significant (at a 97% confidence level) and its coefficient is positive, after controlling for financial IPOs. Since its coefficient was negative before adding FINANCIAL DUMMY to the model, it seems that prestigious underwriters reduce underpricing only when working with financial firms.

In the third regression, our main assumptions are applied to the model. In fact, proxies representing grandstanding and spinning are added as major predictors. Both of them are significant at a confidence level of .98 and their coefficients are positive, showing that the grandstanding theory and the spinning hypothesis are supported by empirical evidence. This means that venture capital funds *do* grandstand companies in order to cash out quickly and increase their reputation, heading to the market a big number of young companies. This should happen especially when there are plenty of investment opportunities to catch. At the same time, spinning hypothesis also stands, so it can be argued that VCs and prestigious UWs strike *quid pro quo* agreements in order to take reciprocal advantages from their relations. After controlling for GRANDSTANDING and SPINNING, VC DUMMY and UW DUMMY show negative coefficients, proving that both VCs and prestigious UWs reduce underpricing if grandstanding and spinning are isolated as independent variables. Except for CRISIS DUMMY, which is not significant, as shown in the previous model, all the other predictors are reliable. FINANCIAL DUMMY confirms that financial companies are less underpriced on average and they do not affect grandstanding and spinning, since none of the financial IPOs considered is VC backed. The adjusted R-squared of the model is .167 and p-value for F test is .000, as usual.

Insert table VII about here

Further regressions were employed as robustness checks for previous models. The first one analyzes results and potential changes occurring when controlling for industries and years. In table VIII, it is proved that the model holds also when using YEAR DUMMIES and INDUSTRY DUMMIES. Age is not as significant as before, but a confidence level of 95% can still be acceptable. The adjusted R-squared is .169 and p-value is still .000, sustaining the strength of the model.

Insert Table VIII about here

Second robustness check regards financial IPOs. In order to realign to the main methodology used in literature, core models are also tested when financial IPOs are not considered, decreasing sample used to 392 observations. In table IX it is shown that models hold when controlling without financial firms. Variables are as much significant as before, while CRISIS DUMMY is not significant at all, as expected. Adjusted R-squared are .154 and .159, whereas F-tests support the strength of the analysis (its p-value is .000). The model regarding grandstanding and spinning has also been controlled for YEAR DUMMIES and INDUSTRY DUMMIES, confirming its robustness.

Insert Table IX about here

In further analysis, some other variables have been added in order to enrich the model and make additional investigations. The first predictor added is the *share overhang*. In the model, SHARE OVERHANG has a positive coefficient, thus it should increase the underpricing (see Table X). Although the other variables are significant (except for CRISIS DUMMY, which is insignificant), SHARE OVERHANG has a very high p-value (.13). This does not allow any certain consideration about this predictor, therefore it is not possible to state that the effect shown by the model is absolutely correct.[25] The adjusted R-squared is here quite satisfying (.168) and the F test shows a p-value of .000.

[25] Literature regarding the relation about share overhang and underpricing is quite broad and confused. Megginson and Weiss (1991) point out that selling shares at the IPO would be perceived as a negative signal by the market, thus VCs that retain the majority of their stake are basically assuming a strong certification role and then the underpricing should be decreased. Another similar theory is proposed by Lin and Smith (1995), who argue that whenever VCs sell a lot of shares at the IPO date, outsiders would consider overpriced the issue and would ask for higher remuneration. On the contrary, Neus and Walz (2004) claim that when VCs retain a big portion of their stake at the IPO, they will probably seek for a greater future compensation, since they are not able to replace their resources immediately. Thus, the share price is expected to increase in the long-run, when final exit occurs. On top of that, the authors do not clarify what is the

MATURITY INDEX is then added to the model (see Table X). MATURITY INDEX is built through the interaction between AGE and SALES / TOT.ASSETS, and should represent a better proxy for risk. Coefficients are expected to be negative, since values are supposed to be greater for older companies, which should have higher sales. If a firm is facing a strong expansion period, or operates in a capital intensive sector, TOT.ASSETS could increase sharply, hence decreasing the ratio. Therefore, when multiplying SALES / TOT. ASSETS by AGE, the value given should provide with better indications about the company risk-profile. Young companies are expected to have low MATURITY INDEX values, both because of their age and because of low volumes of sales experienced in the first phase of their lifecycle. Contrary to our expectations we find that MATURITY INDEX shows a positive coefficient. Thus, underpricing doesn't seem related to the youngness of firms *per se*, but some factors like the role played by VC funds seem to take action in the relationship between young companies and underpricing. The model shows a small rise in the adjusted R-squared (.172) and the F test still gives excellent results (p-value equals to .000). Variables used are all significant using confidence levels ranging between 0.96 and 0.99, except for CRISIS DUMMY, which is insignificant, and UW and VC DUMMY that are only significant at a 10% level. It must be said that AGE and SALES / TOT.ASSETS are quite correlated to MATURITY INDEX (around 0.55), as expected.

Insert Table X about here

All the previous models show that venture-backing increments strongly the underpricing phenomenon. Despite of this, after controlling for grandstanding and spinning, which are both statistically significant, it is proved that venture-backing reduces average underpricing. Thus, first-day returns are sharply driven by grandstanding and spinning hypotheses, whose consistency is verified and supported by empirical evidence also when controlling for industries and years or when financial companies are excluded from the sample. We may conclude that VCs play a certification role only when grandstanding and spinning do not hold.[26] The following step of the analysis will be to figure out if trends and results found through the overall period occurred during the pre-crisis period and the financial crisis as well, or if the financial crisis is characterized by other outcomes.

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relation between share overhang and first-day returns. Results found in this model are partially in line with what Habib and Ljungqvist (2000) and Filatotchev and Bishop (2002) said. They think that VCs care about the underpricing only <<*if they stand to lose from it*>>. Thus, if they do not sell shares (or if they sell just a little portion of their stakes), their incentive to control underpricing decreases strongly. This could lead to high underpricing of course, but it is not very clear why the previous statement should be always true.

[26] An interesting consideration can be made about financial firms: they decrease underpricing consistently, probably thanks to their expertise (Peavy, 1990).

4.2 Analysis of the pre-crisis period (2004-2007)

The number of IPOs considered in this period is 463, which is 91.32% of the whole sample. Year 2007 has been included in the pre-crisis sample because UK equity capital market had not been affected yet by the financial crisis that began in those days on the real estate market in US.[27] Table XI shows the basic model used for previous analyses. All the predictors are exceptionally significant. UW DUMMY is the only insignificant variable using a 99% confidence level. Thus, venture-backing and prestigious underwriters increase underpricing during years before the financial crisis by 18.2% and 8.4%. The adjusted R-squared is slightly lower than usual (.146) and the F test gives back an excellent result (p-value = .000).

In the next regression GRANDSTANDING and SPINNING are added to the model. Except for VC DUMMY and UW DUMMY, all the other variables are extremely significant. For this reason, we can assert that both grandstanding and spinning hypotheses stand during the pre-crisis years, confirming overall period findings.[28] After controlling for GRANDSTANDING and SPINNING, VC and UW DUMMY show again a negative coefficient, proving that VCs and prestigious UWs reduce average underpricing when grandstanding and spinning are isolated as predictors. The adjusted R-squared increases up to .164, which is a positive result, since underpricing is a very complex phenomenon that could be explained in several ways. The F-test provides with positive indications about the strength of the model (its p-value is .000).

Results show that models hold even if financial firms are excluded from the sample. Grandstanding and spinning are slightly less significant than before, but confidence levels of 95% and 97% can still be used, thus the main assumptions of the model are confirmed. The model based on the whole sample and including grandstanding and spinning is controlled for industries and years, as well. Outcomes shown are the same as before, but AGE is significant only at a 95% confidence level. The adjusted R-squared reaches .161.

Insert Table XI about here

[27] Since the sample has been divided into two different periods, CRISIS DUMMY has been dropped from the model, because considered useless.

[28] In fact, since a confidence level of 97,5% can be used for grandstanding and 98% for spinning, proxies representing those theories can be considered reliable and efficient.

SHARE OVERHANG is then taken into account. Its p-value is around .16, which is a result not improving previous outcomes. In fact, a confidence level of 0.84 is too high to be used, thus no certain considerations can be made about share overhang and its relation with the dependent variable.[29] The F-Test (p-value = .000) and the adjusted R-squared (.165) are still satisfactory.

In the next regression share overhang is replaced by the MATURITY INDEX. Still we observe a positive coefficient of this variable, in contrast with our initial expectations. The adjusted R-squared jumps to .170, while the F-test confirms that data fit very well the model. All the variables used have a quite high degree of reliability, excepting for VC DUMMY and UW DUMMY, which are less significant when GRANDSTANDING and SPINNING are included in regressions. FINANCIAL DUMMY validates assumptions made on financial IPOs (coefficient is negative), moreover grandstanding and spinning theories stand at a confidence level of 95% and 98%. MATURITY INDEX is significant at 0.955, but it is extremely correlated with AGE (with a coefficient of correlation equal to 0.558) and SALES / TOT.ASSETS (correlation coefficient of 0.534).

Insert Table XII about here

In conclusion, it may be inferred that grandstanding and spinning theories hold in the pre-crisis period as well, but after controlling for both of them VC DUMMY and UW DUMMY show negative coefficient, proving that without opportunistic behaviors venture capital funds and prestigious underwriters reduce underpricing. Furthermore, all the main results shown in the overall period analysis can be found here, as well. Models hold even when excluding financial firms and controlling for industries and years. Financial IPOs are confirmed to be less underpriced on average, MONEY RAISED and SALES / TOT. ASSETS are in line with expectations. Doubts about the SHARE OVERHANG issue have not been settled, though. Moreover, AGE is less significant during 2004-2007 than during the overall period. The last step of the analysis regards the financial crisis. Contradicting results are expected to be found, since grandstanding and spinning should characterize hot issue periods, while the timeframe 2008-2010 represents a dark chapter of the whole world's economic history and financial markets.

[29] Doubts arisen in the previous paragraph are not settled, since still too many interpretations may be given. Beside the significance, SHARE OVERHANG's coefficient is positive, as it was in regressions based on the overall period. However, UW DUMMY and VC DUMMY have negative betas after controlling for GRANDSTANDING and SPINNING. SALES / TOT.ASSETS, MONEY RAISED / TOT.ASSETS, AGE and FINANCIAL DUMMY keep their p-values close to .000, while GRANDSTANDING and SPINNING are significant at a 95% confidence level, which somehow proves their consistency.

4.3 Analysis of the crisis period (2008-2010)

The sample used for the following analysis contains only 44 observations, and includes FY2008, FY2009 and FY2010. Among the IPOs considered, only five are venture capital backed. Of course, given the low number of observations in this sample, results are not expected to be extremely significant. Beside CRISIS DUMMY, some other variables have been dropped from the model. SHARE OVERHANG cannot be included in regressions, since there are only five VC backed IPOs and results given would be useless for proper interpretations. Industry dummies have not been taken into account, given the reduced size of the sample. IPO years dummies have been excluded as well, since they almost never show statistically relevant outcomes. Furthermore, since SALES / TOT.ASSETS and AGE are not expected to be good predictors as before, MATURITY INDEX would not fit properly the model. Thus, regressions on this period of time only regard the basic assumptions, while controlling variables have been dropped out. Nevertheless, it must be said that also GRANDSTANDING and SPINNING are not expected to be useful in order to provide with empirical evidence, as both of their proxies are interactions based on VC DUMMY, which is going to assume the value of one only five times out 44. In table XIII the basic model is tested. The adjusted R-squared is .062, while the F test gives negative results, since its p-value is really high (.219). This means that predictors do not fit the model, as imagined. Variables are actually never significant, except for FINANCIAL DUMMY (p-value = .018). The only relevant statistical result is therefore that financial firms reduce underpricing, as shown in previous models, as well. Those predictors that were totally reliable, such as AGE, SALES / TOT. ASSETS and MONEY RAISED / TOT.ASSETS, do not explain the dependent variable at all. Beside the fact that the sample size is considerably small, equity capital market's performances may strongly affect the results.[30] AGE and SALES / TOT.ASSETS, which were considered proxies for risk, do not work efficiently anymore, plus a relation with underpricing is difficult to be found, given a very low or no first-day return. As far as MONEY RAISED / TOT. ASSETS is concerned, the insignificant output obtained can be

[30] For example, if it was found that the average underpricing in those years was very low or slightly negative, there should be no differences between young and old companies. Very few IPOs occurred during the crisis for several reasons, and the market was not able to price properly going public firms. Furthermore, the majority of IPOs regards financial companies, which went public perhaps seeing some profitable investment opportunities somewhere, helped by their expertise and excellent skills in collecting good quality information. Thus, it is quite rational that variables such as AGE and SALES / TOT. ASSETS do not provide with any significant results, since relations with underpricing cannot be easily found when the latter does not even exist and stock exchanges totally collapse. Moreover, it has been stated that junk bonds and shares affected good securities also, while the cascade effect generated by the panic selling did not allow investors to recognize good and bad issues. Very few operators managed to act rationally, whereas the investor sentiment was strongly oriented to a negative direction.

justified by the same explanations given previously, plus money raised during the financial crisis decreased substantially, and this is supposed to reduce underpricing.[31] Although MONEY RAISED p-value is extremely high, the related coefficient is negative, giving signs (not supported by empirical evidence, though) that a smaller amount of money raised leads to lower underpricing. VC DUMMY and UW DUMMY are insignificant, as well. They were expected to have negative coefficients, because venture capital funds and prestigious underwriters are not supposed to increase underpricing in recession periods, since they cannot fight the negative trend given by the market. Again, explanations given are rational but cannot be supported by statistical evidence.

Last step regards GRANDSTANDING and SPINNING. As for the previous regression, SALES / TOT. ASSETS, MONEY RAISED / TOT. ASSETS and AGE are not significant, while FINANCIAL DUMMY can be taken into account at a confidence level of .982. FINANCIAL DUMMY has a negative coefficient once again. GRANDSTANDING and SPINNING are totally insignificant, but they are not expected to hold over the time horizon considered. In fact, venture capitalists encounter several difficulties when exiting through IPOs during crises plus they have to deal with the negative sentiment of the market, that does not allow the initial offer price to raise once securities are available for trading. Thus, it is really difficult to underprice shares, and the scenario more likely to happen is that underpricing is close to zero, or there might be just little adjustments upward or downward the initial offer price.[32] In any case the model does not have any statistical relevance here, as proved by the low adjusted R-squared (.03) and by the high p-value shown by the F-test (.35). Thus, empirical evidence does not support previous interpretations. Although crisis models are not statistically useful, it can be argued that grandstanding and spinning theories do not hold after bubbles burst, as pointed out by Coakley et al. (2006), who conducted a

[31] Explanations about why VCs do not raise so much money and what kind of problems they face during crises are given by Block and Sandner (2009). They argue that the amount of money raised decreases because the main investors in venture capital funds are institutional, such as pension funds, insurance companies and banks. During hard times, these kind of institutions are not interested in placing the few resources they have in risky investments, that are more likely to fail due to difficulties encountered. The second main issue regards the severe problems VCs face when exiting. As seen in section 3, time to exit increases dramatically during crises. Going public becomes more costly, and the amount of money raised is not expected to be high, since investors will run away from the equity capital market. Thus, the amount of money raised by VCs depends on how hot the issue period is (Black and Gilson, 1998). This would explain why underpricing and money raised are strongly tied in a bull market. Thirdly, VCs are not able to invest in profitable firms during recessions, since it is not easy to generate long-lasting streams of cash flows while consumers diminish their expenses. This leads to lower effective rates of return, given a higher risk though, which is not the optimal allocation solution, financially speaking.

[32] Anyway, since VCs do not have investment opportunities to catch, they have no heist in exiting from their investments. Moreover, even if VCs were able to find profitable investments to undertake, two more issues would arise. First of all, since the cost of going public is extremely high, IPOs would not be convenient anymore if the main aim is cashing out. Secondly, they would not be able to have access to new funds. Fund-raising is an incredibly complicated activity during crises. Only mature and high-reputation VCs may be able to raise money in dark periods and try to gain returns over their investments. Furthermore, given the decreasing trends of the share price, the spinning practice becomes impossible. VCs and prestigious UWs are not able to artificially underprice shares, because they cannot be sure that the volume of buy orders on that security will be high enough to increase substantially the initial offer price after the first-day of trading (and not only).

similar study on the UK Main Market using a different time horizon and proving that spinning is significant only during the dotcom bubble, which is the hot issue period analyzed in their sample.

Insert Table XIII about here

4.4. Limits of research

Although findings previously shown are supported by a broad literature (Gompers, 1996; Habib and Ljungqvist, 2000; Bradley and Jordan, 2002; Loughran and Ritter, 2004; Lee and Wahal, 2004; Gompers et al., 2005), it's our duty to discuss the limits of the research. First of all, it is not possible to support the assumptions and considerations made for the financial crisis period (2008-2010) through empirical evidence. This happens because a few IPOs occurred all over that period of time, thus the size of the sample used for analysis is not robust enough for significant tests. In addition, underpricing is negative or close to zero during the financial crisis period, therefore it is quite hard to explain it through significant predictors. Secondly, UW DUMMY is not totally built through a validated ranking for underwriters. Unfortunately, Carter and Manaster assigned a rank to US banks, thus UWs sponsoring IPOs in the sample are not always found in their list. The criterion built to assign ranks to those underwriters not taken into account by Carter and Manaster has been clearly specified, but it must be said that it might not be considered representative of the reality. Thus, a bias could be generated over a variable that assumes a critical role in this research, since it is also used to create the proxy representing the *spinning theory*.[33] Finally, some issues regarding venture capitalists must be discussed. Firstly, it was not possible to collect information about venture capital funds' age, thus models do not clarify if grandstanding phenomenon is more related to young VCs or if their age does not matter. Nevertheless, what has been said about grandstanding and its statistical significance may lead to conclude that the majority of VCs heading companies to the AIM is young and still have to deal with reputational problems. Furthermore, information about pre-IPO ownership structures has been collected by IPO prospectuses. So, whenever a venture capital fund exited through an M&A deal some years before the IPO, such information has been missed and that observation considered non-venture capital backed. In any case, since the majority of VC backed IPOs are grandstanded (hence, going public

[33] In fact, SPINNING is supposed to increase the underpricing (Loughran and Ritter, 2004) of the VC backed IPOs, according to the assumptions made. Nevertheless, if it has been assumed that VCs grandstand in order to increase the number of sponsored IPOs and thus their reputation, it could be asserted that only prestigious UWs deal with a high volume of transactions. Furthermore, since NOMADs (which often operate as underwriters) risk their own reputation when sponsoring companies on the UK AIM, it may be argued that only quality underwriters are able to help a lot of companies to go public. Therefore, criterion used in order to build UW DUMMY shows some pros, as well.

firms were aged zero to four), an M&A deal is unlikely to happen at least for 75% of VC backed observations. Lastly, venture-backing could be an endogenous choice (Lee and Wahal, 2004). Some entrepreneurs do not want venture capitalists to manage their firms, or they are not able to get their financing. Thus, when arguing that venture-backing provokes some effects, it is not sure that those effects are caused by venture capitalists. It might be that VCs prefer to invest in companies already experiencing similar effects, thus venture-backing would not actually generate any of them. As shown by Bradley and Jordan (2002), VC backed IPOs are generally more underpriced, but they do not address the cause of underpricing to venture-backing itself, but they argue that VCs usually invest in already high underpriced industries.

5. Conclusion

The aim of this research was to verify whether venture capitalists increase average underpricing of going public companies. In literature, a broad school of thought proved empirically that venture capital backed IPOs are more underpriced, on average. As discussed in previous sections, the most popular explanations of this phenomenon lead to grandstanding and spinning theories. Our contribution regards the time period (which includes the 2008 financial crisis and its effects and implications) and the country analyzed. Despite of the fact that UK equity capital market is one of the most developed in the world and the closest to the US one, most of the studies about underpricing have been undertaken on the US market. Moreover, UK is the most relevant European country for venture capitalists, since they play a vital role in the whole British economy, and the AIM Market serves as an ideal marketplace for their exit process. We thought this was fairly enough to demand an action to fill the gap by providing new research on the UK market. Regressions clearly show that assumptions of grandstanding and spinning by VCs stand all over the period considered and during the pre-crisis years (2004-2007). Nevertheless, the reduced size of the sample regarding the financial crisis period (2008-2010) does not allow to make any statistically significant conclusion about those years, although none of the considered theories should hold during negative economic cycles.

Our new empirical evidence leads to state that agency theory issues, such as grandstanding and spinning, *do* affect Venture Capital backed IPOs' underpricing. Moral hazard behaviors are in fact likely to occur whenever principal and agent's interests are not aligned, thus conclusions underline arising conflicts of interests between venture capitalists, underwriters and firms that go public during hot issue periods, as shown by Arthurs et al. (2008), and Gifford (1997).

Nevertheless, after controlling for grandstanding and spinning we find evidence that venture capitalists and prestigious underwriters reduce underpricing, again in line with previous evidence (Barry et. al., 1990; Carter and Manaster, 1990; Megginson and Weiss, 1991). Thus, it may be argued that when moral hazard behaviors are avoided, VCs assume a certification role reducing the asymmetric information and thus the underpricing (Coakley et al., 2006). However, agency theory issues are likely to occur during hot issue periods. Nonetheless, FY 2004 to FY 2007 can be considered the hottest period ever on the AIM UK.[34]

Grandstanding and spinning are not meant to be the only explanations for underpricing. Venture capital backed IPOs are generally perceived as high-quality issues by the market, hence it may be asserted that part of the underpricing generated during hot issue periods is simply given by the positive sentiment featuring equity capital markets (Ritter, 1998; Loughran and Ritter, 2002).

[34] In fact the highest peak of money raised through IPOs was reached in those years.

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Appendix

Table I

The sample

This table contains the main descriptive data regarding the sample of IPOs on the AIM Market UK selected for the analysis during the period 2004-2010. VC Backed IPOs reveal the presence of a venture fund in the ownership structure of the listing firm.

IPO Year	N. Obs.	VC Backed IPOs	VC Backed IPOs (%)
2004	107	23	21.50%
2005	147	30	20.41%
2006	124	24	19.35%
2007	85	17	20.00%
2008	18	3	16.67%
2009	6	0	0.00%
2010	20	2	10.00%
Total	**507**	**99**	**19.53%**

Table II

IPO Underpricing (2004-2010)

This table contains the average underpricing for the sample companies during the period 2004-2010. Underpricing is calculated as the percentage differential between the closing price of the stock after the first day of trading and the initial offer price. The table also reports the average underpricing registered by VC backed companies and Non VC backed companies in the same timeframe.

IPO Year	Underpricing	VC Backed IPOs Underpring	Non VC Backed IPOs Underpricing
2004	21.80%	27.90%	20.10%
2005	17.30%	24.30%	15.50%
2006	18.80%	25.50%	17.20%
2007	15.40%	32.10%	11.30%
2008	2.30%	4.60%	1.50%
2009	-2.10%	0.00%	-2.10%
2010	3.30%	3.50%	2.90%
Total	**16.70%**	**25.80%**	**14.60%**

Table III

Average age to IPO (2004-2010)

This table shows the average age to IPO of the sample companies during the period 2004-2010 and the average age to IPO when splitting the sample between VC backed companies and Non VC backed companies.

IPO Year	Avg. Age to IPO	Avg Age to IPO for VC Backed companies	Avg Age to IPO for Non VC Backed companies
2004	6.52	3.30	7.40
2005	6.27	3.13	7.07
2006	5.83	4.08	6.24
2007	6.45	3.50	7.23
2008	5.55	4.33	6.70
2009	7.00	0.00	7.00
2010	6.70	5.50	7.94
Total	**6.31**	**3.49**	**6.86**

Table IV

Grandstanding and spinning main data (2004-2010)

This table shows the percentage of grandstanded companies within the sample during the period 2004-2010. Grandstanded companies are those companies that are VC backed and aged zero to four. The table also reports the absolute and relative numbers of VC backed companies whose IPO was run by a prestigious underwriter.

IPO Year	Grandstanded companies (%)	VC Backed IPOs with prestigious UW	VC Backed IPOs with prestigious UW (%)
2004	73.91%	11	47.83%
2005	86.67%	14	46.67%
2006	58.33%	13	54.17%
2007	82.35%	8	47.06%
2008	66.67%	1	33.33%
2009	0.00%	0	0.00%
2010	50.00%	0	0.00%
Total	**74.75%**	**47**	**47.47%**

Table V

Sample industries (2004-2010)

This Table contains the main descriptive data for the sectors of the sample companies during the period 2004-2010. It provides the absolute and relative numbers of VC backed companies per sector, the average underpricing and the average VC backed underpricing per sector.

Sector	N. Obs.	VC Backed companies	VC Backed companies (%)	Avg. Underpricing	Avg. VC Backed Underpricing
Alternative Energy	5	4	80.00%	15.70%	19.63%
Automobiles	2	0	0.00%	0.65%	0.00%
Banks	2	0	0.00%	-1.50%	0.00%
Chemicals	14	12	85.71%	27.12%	32.13%
Construction	8	0	0.00%	-1.39%	0.00%
Electricity	2	0	0.00%	13.75%	0.00%
Electronic	8	3	37.50%	24.95%	34.72%
Engineering	3	0	0.00%	11.26%	0.00%
Equity Inv. Instruments	26	0	0.00%	-4.68%	0.00%
Food Producers	11	2	18.18%	14.01%	72.62%
Forestry & Paper	1	0	0.00%	-11.82%	0.00%
Gas & Water	1	1	100.00%	0.00%	0.00%
General Financial	48	0	0.00%	1.40%	0.00%
General Retailers	9	3	33.33%	15.07%	32.71%
Health & Health Care	12	6	50.00%	31.75%	70.56%
Household goods	3	0	0.00%	13.04%	0.00%
Industrial	16	4	25.00%	2.50%	12.68%
IT	13	5	38.46%	30.08%	40.37%
Insurance	1	0	0.00%	1.14%	0.00%
Investment Companies	1	0	0.00%	2.00%	0.00%
Leisure Goods	3	0	0.00%	19.61%	0.00%
Leisure & Hotels	4	0	0.00%	-9.03%	0.00%
Media	28	5	17.86%	12.17%	23.73%
Mining	59	7	11.86%	24.12%	21.68%
Mobile	3	2	66.67%	1.26%	1.89%
Non Equity Instruments	1	0	0.00%	-14.31%	0.00%
Non-life insurance	4	0	0.00%	-3.22%	0.00%
Oil&Gas	44	8	18.18%	28.60%	28.84%
Personal Goods	1	0	0.00%	7.46%	0.00%
Pharma & Biotech	16	14	87.50%	57.74%	68.41%
Real Estate	37	0	0.00%	3.51%	0.00%
Software & Computers	39	14	35.90%	11.21%	18.30%
Specialty and other finance	26	1	3.85%	21.71%	80.00%
Support Services	42	7	16.67%	7.46%	22.29%
Telecom Services	3	1	33.33%	3.22%	20.00%
Travel & Leisure	10	0	0.00%	2.35%	0.00%
Utilities - Other	1	0	0.00%	-16.00%	0.00%

Table VI

Grandstanding and spinning by sector (2004-2010)

This table contains the percentage of grandstanded IPOs, IPOs with a prestigious underwriter and the VC backed IPOs with a prestigious underwriter filtered for the sectors of the sample companies during the period 2004-2010.

Sector	Grandstanded IPOs (%)	Prestigious UW IPOs (%)	VC Backed IPOs with prestigious UW(%)
Alternative Energy	100.00%	20.00%	25.00%
Automobiles	0.00%	0.00%	0.00%
Banks	0.00%	50.00%	0.00%
Chemicals	75.00%	42.86%	41.67%
Construction	0.00%	62.50%	0.00%
Electricity	0.00%	0.00%	0.00%
Electronic	66.67%	37.50%	66.67%
Engineering	0.00%	66.67%	0.00%
Equity Inv. Instruments	0.00%	42.31%	0.00%
Food Producers	100.00%	36.36%	100.00%
Forestry & Paper	0.00%	100.00%	0.00%
Gas & Water	0.00%	0.00%	0.00%
General Financial	0.00%	27.08%	0.00%
General Retailers	66.67%	66.67%	66.67%
Health & Health Care	33.33%	58.33%	66.67%
Household goods	0.00%	33.33%	0.00%
Industrial	50.00%	37.50%	50.00%
IT	100.00%	46.15%	100.00%
Insurance	0.00%	100.00%	0.00%
Investment Companies	0.00%	100.00%	0.00%
Leisure Goods	0.00%	33.33%	0.00%
Leisure & Hotels	0.00%	0.00%	0.00%
Media	100.00%	57.14%	40.00%
Mining	71.43%	42.37%	42.86%
Mobile	0.00%	33.33%	50.00%
Non Equity Instruments	0.00%	0.00%	0.00%
Non-life insurance	0.00%	25.00%	0.00%
Oil&Gas	75.00%	38.64%	37.50%
Personal Goods	0.00%	100.00%	0.00%
Pharma & Biotech	85.71%	50.00%	57.14%
Real Estate	0.00%	62.16%	0.00%
Software & Computers	78.57%	48.72%	42.86%
Specialty and other finance	100.00%	53.85%	0.00%
Support Services	71.43%	30.95%	28.57%
Telecom Services	100.00%	66.67%	100.00%
Travel & Leisure	0.00%	60.00%	0.00%
Utilities - Other	0.00%	100.00%	0.00%

Table VII

Regression results for the basic model

This table reports the underpricing of IPOs on the AIM UK Market during the 2004-2010 period in an OLS regression framework. Underpricing is calculated as the percentage differential between the closing price of the stock after the first day of trading and the initial offer price. Column I contains the results of the basic model, whereas Column II and Column III shows the results when a dummy on IPOs belonging to financial sectors (financial dummy) and dummies for grandstanding and spinning are introduced. P-values are reported in parentheses. ***, **, * denote statistical significance at the 1%, 5%, 10% levels respectively.

	Underpricing		
	I	II	III
Age	-0.009	-0.012	-0.011
	(0.034)**	(0.006)***	(0.012)**
Money raised/Tot. Assets	0.004	0.005	0.005
	(0.000)***	(0.000)***	(0.000)***
Sales/Tot. Assets	-0.090	-0.099	-0.094
	(0.000)***	(0.000)***	(0.000)***
VC Dummy	0.167	0.178	-0.131
	(0.001)***	(0.002)***	(0.076)*
UW Dummy	-0.034	0.095	-0.038
	(0.098)*	(0.027)**	(0.083)*
Crisis Dummy	-0.209	-0.067	-0.068
	(0.004)***	(0.386)	(0.370)
Financial Dummy		-0.216	-0.208
		(0.000)***	(0.000)***
Grandstanding			0.263
			(0.018)**
Spinning			0.251
			(0.019)**
Constant	0.209	0.057	0.075
	(0.004)***	(0.273)	(0.150)
Adj R^2	0.101	0.148	0.167
Number of Observations	507	507	507

Table VIII

Robustness check for the basic model (I)

This table serves as robustness check for the basic models presented in Table VII. It contains the results of the regression when controlling for industries (through Industry dummies) and issuing years (through IPO year dummies). P-values are reported in parentheses. ***, **, * denote statistical significance at the 1%, 5%, 10% levels respectively.

	Underpricing
Age	-0.008
	(0.048)**
Money raised/Tot. Assets	0.005
	(0.000)***
Sales/Tot. Assets	-0.077
	(0.003)***
VC Dummy	-0.089
	(0.072)*
UW Dummy	-0.038
	(0.084)*
Grandstanding	0.252
	(0.026)**
Spinning	0.263
	(0.016)**
Industry	YES
IPO year	YES
Constant	0.190
	(0.089)*
Adj R^2	0.169
Number of Observations	507

Table IX

Robustness check for the basic model (II)

In this table the basic model is tested without considering the IPOs belonging to the financial sectors and controlled for the remaining industries and IPO years in the overall period of the analysis (2004-2010). P-values are reported in parentheses. ***, **, * denote statistical significance at the 1%, 5%, 10% levels respectively.

	Underpricing	
Age	-0.016	-0.012
	(0.003)***	(0.044)**
Money raised/Tot. Assets	0.006	0.006
	(0.000)***	(0.000)***
Sales/Tot. Assets	-0.106	-0.087
	(0.000)***	(0.004)***
VC Dummy	0.160	-0.117
	(0.012)**	(0.074)*
UW Dummy	0.100	-0.019
	(0.056)**	(0.089)*
Crisis Dummy	-0.177	
	(0.287)	
Grandstanding		0.239
		(0.031)**
Spinning		0.287
		(0.019)**
Industry (No Fin.)		YES
IPO year		YES
Constant	0.307	0.302
	(0.000)***	(0.056)**
Adj R^2	0.154	0.159
Number of Observations	392	392

Table X

Robustness check for the basic model (III)

This table contains a further development of the basic models. In Column I the model includes the *share overhang* variable, calculated as the ratio between shares retained by VC funds/total shares issued, while in Column II the model is tested again introducing the *Maturity Index* that is calculated as the age multiplied by the ratio Sales/Total Assets. P-values are reported in parentheses. ***, **, * denote statistical significance at the 1%, 5%, 10% levels respectively.

	Underpricing	
	I	II
Age	-0.011	-0.017
	(0.011)**	(0.001)***
Money raised/Tot. Assets	0.005	0.005
	(0.000)***	(0.000)***
Sales/Tot. Assets	-0.091	-0.168
	(0.000)***	(0.000)***
VC Dummy	-0.231	-0.113
	(0.064)*	(0.076)*
UW Dummy	-0.040	-0.038
	(0.075)*	(0.091)*
Crisis Dummy	-0.068	-0.074
	(0.375)	(0.330)
Financial Dummy	-0.208	-0.223
	(0.000)***	(0.000)***
Grandstanding	0.271	0.234
	(0.015)**	(0.036)**
Spinning	0.235	0.247
	(0.028)**	(0.020)**
Share Overhang	0.334	
	(0.130)	
Maturity Index		0.007
		(0.043)**
Constant	0.073	0.330
	(0.164)	(0.000)***
Adj R2	0.168	0.172
Number of Observations	507	507

Table XI

Regression results for the basic model in the pre-crisis period (2004-2007)

This table measures the underpricing of IPOs on the AIM UK Market during the pre-crisis period (2004-2007) in an OLS regression framework. Column I contains the results of the basic model when a dummy on IPOs belonging to financial sectors (financial dummy) is introduced, whereas Column II extends the results when dummies for grandstanding and spinning are introduced. Column III contains the results of the model without considering IPOs belonging to the financial sectors (excluding the financial dummy) and Column IV extends the results of the model when controlling for grandstanding and spinning dummies, industries and IPO years. P-values are reported in parentheses. ***, **, * denote statistical significance at the 1%, 5%, 10% levels respectively

	Underpricing			
	I	**II**	**III**	**IV**
Age	-0.013	-0.012	-0.017	-0.013
	(0.007)***	(0.013)**	(0.003)**	(0.033)**
Money raised/Tot. Assets	0.005	0.005	0.006	0.006
	(0.000)***	(0.000)***	(0.000)***	(0.000)***
Sales/Tot. Assets	-0.102	-0.096	-0.107	-0.081
	(0.000)***	(0.000)***	(0.000)***	(0.001)***
VC Dummy	0.184	-0.141	0.163	-0.123
	(0.003)***	(0.063)*	(0.017)**	(0.063)*
UW Dummy	0.084	-0.024	0.096	-0.020
	(0.068)*	(0.087)*	(0.034)**	(0.082)*
Financial Dummy	-0.212	-0.202		
	(0.000)***	(0.001)***		
Grandstanding		0.268		0.254
		(0.025)**		(0.052)*
Spinning		0.265		0.296
		(0.019)**		(0.023)**
Industry				YES
IPO year				YES
Constant	0.076	0.098	0.322	0.205
	(0.170)	(0.081)*	(0.000)***	(0.189)
Adj R^2	0.146	0.164	0.156	0.161
Number of Observations	463	463	357	357

Table XII

Robustness checks for the basic model in the pre-crisis period (2004-2007)

This table contains a further development of the basic model on the pre-crisis period (2004-2007). In Column I the model includes the *share overhang* variable, calculated as the ratio between shares retained by VC funds/total shares issued, while in Column II the model is tested again introducing the *Maturity Index* that is calculated as the age multiplied by the ratio Sales/Total Assets. P-values are reported in parentheses. ***, **, * denote statistical significance at the 1%, 5%, 10% levels respectively.

	Underpricing	
	I	**II**
Age	-0.012	-0.018
	(0.012)**	(0.001)***
Money raised/Tot. Assets	0.005	0.005
	(0.000)***	(0.000)***
Sales/Tot. Assets	-0.094	-0.175
	(0.000)***	(0.000)***
VC Dummy	-0.233	-0.119
	(0.080)*	(0.078)*
UW Dummy	-0.026	-0.024
	(0.091)*	(0.089)*
Grandstanding	0.270	0.235
	(0.023)**	(0.050)**
Spinning	0.248	0.260
	(0.030)**	(0.021)**
Financial Dummy	-0.202	-0.218
	(0.001)***	(0.000)***
Share Overhang	0.323	
	(0.163)	
Maturity Index		0.008
		(0.045)**
Constant	0.298	0.351
	(0.000)***	(0.000)***
Adj R^2	0.165	0.170
Number of Observations	463	463

Table XIII

Regression results of the basic model in the post-crisis period (2008-2010)

This table measures the underpricing of IPOs on the AIM UK Market during the post-crisis period (2008-2010) in an OLS regression framework. Column I contains the results of the basic model when a dummy on IPOs belonging to the financial sectors (financial dummy) is introduced whereas Column II extends the results of the model by introducing dummies for grandstanding and spinning. P-values are reported in parentheses. ***, **, * denote statistical significance at the 1%, 5%, 10% levels respectively.

	Underpricing	
	I	**II**
Age	-0.009	-0.008
	(0.295)	(0.336)
Money raised/Tot. Assets	-0.056	-0.047
	(0.538)	(0.617)
Sales/Tot. Assets	-0.022	-0.011
	(0.771)	(0.888)
VC Dummy	0.194	0.033
	(0.134)	(0.880)
UW Dummy	0.081	0.065
	(0.319)	(0.465)
Financial Dummy	-0.051	-0.046
	(0.018)**	(0.019)**
Grandstanding		0.177
		(0.441)
Spinning		0.100
		(0.658)
Constant	0.119	0.107
	(0.272)	(0.343)
Adj R^2	0.062	0.030
Number of Observations	44	44