HOW THE JOBS ACT IS RESHAPING IPOS:

IMPLICATIONS FOR ENTREPRENEURIAL FIRMS

ABSTRACT

The Jumpstart Our Business Startups (JOBS) Act was signed into law on April 5th, 2012. A key objective of the JOBS Act was to allow new ventures in the United States to go public and raise growth capital more easily and cost-effectively than before. The aim of this paper is to discuss the implications of the JOBS Act for initial public offerings (IPOs). We argue that the JOBS Act gives rise to important spillover effects that may create ambiguous consequences for firms' IPOs. The central question is whether the JOBS Act's mandate of facilitating fund raising can come to fruition and, if so, which features of it may lead to shifts in capital markets in entrepreneurship. Our paper begins to address this question and aims to serve as a catalyst for future academic work in this area.

INTRODUCTION

The Jumpstart Our Business Startups (JOBS) Act was signed into law on April 5th, 2012. The Act was the culmination of a series of bills passed by the US Congress to revitalize an economy that was trying to recover in the wake of the 2008 financial crisis. As a result of the JOBS Act, small businesses and startups have seen the most drastic changes to their capital raising processes in decades (Eiger *et al*., 2013). Specifically, two game-changing rules were implemented by the JOBS Act to make it both easier and less costly for firms to raise capital in the United States. First, the road to an initial public offering (IPO) was significantly altered, with provisions designed to reduce costs before, during, and after an IPO for newly-classified "emerging growth companies" (EGCs). Second, to satisfy these broader objectives, Congress enacted the CROWDFUND Act, with the aim of democratizing capital raising for early-stage ventures and allowing for equity crowdfunding. While the enactment of both pieces of legislation potentially carry powerful consequences, our paper focuses more specifically on the IPO provisions and their effects on EGCs.

At face value, the JOBS Act appears to bring about timely and effective changes in the process of going public that should boost entrepreneurial activity in the United States. For example, the provisions of the JOBS Act afford firms the ability to complete an IPO with benefits such as reduced filing costs, opportunities to test the demand of investors in a confidential manner, and communication with research analysts. Accordingly, on the positive side, EGCs may gain both faster and easier access to capital that enables them to seize growth opportunities. However, a potential downside of the Act is that by providing newer ventures more confidentiality and by reducing their information disclosure requirements, the problem of adverse selection facing IPO investors may be exacerbated. The adverse selection problem results when investors have less information than issuing companies about their resources and prospects, so investors are at risk of overpaying for the equity they receive—so they respond

by not providing funds, or offering them on less attractive terms. Consequently, while the JOBS Act brings about a significant shift in the institutional environment, it may also carry second-order consequences for ECGs and other stakeholders in IPO markets and beyond.

Our goal is to examine the broad question of how an abrupt shift in the institutional environment, such as the one created by the JOBS Act, can lead to changes in the mechanisms that explain how IPOs may be pursued by entrepreneurial firms and received by investors. Specifically, we discuss the changes brought forth by the JOBS Act that alter (1) the process by which firms elect to go public, (2) the incentives held by the firms' insiders as they near the sale of their equity holdings to the general public, and (3) the ways in which entrepreneurial firms might respond to build up their credibility through signaling mechanisms (e.g., affiliations with prominent underwriters, venture capitalists, alliance partners, etc.) given the lack of information prospective investors have on them.

We address these questions using information asymmetry as a conceptual prism that is related to different theories. In doing so, we integrate perspectives from several management theories that are commonly used to study IPOs. As an example, in our discussion of the changes in information requirements related to EGCs, we draw logic from agency theory and social influences (e.g., Certo, 2003; Gompers and Lerner, 2004; Hsu, 2004; Pollock and Gulati, 2007; Stuart, Hoang and Hybels, 1999) to illustrate how the key processes that contribute to IPO outcomes may have changed. Overall, our paper views the JOBS Act as an important backdrop that affords scholars the opportunity to address how an important public policy shift affects the business environment, and represents an interesting opportunity that allows scholars to connect management theory and practice—which is increasingly called for as a way to further shape our understanding of management theory (Phan and Wright, 2016).

The paper is structured as follows: first, we provide some context for IPO markets to illustrate the importance of the JOBS Act by highlighting the economic relevance of going

public. Second, we provide details of the various provisions of the JOBS Act that are likely to directly impact firms nearing the IPO stage, and we then discuss how IPO markets may feel the effects of the legislation. Furthermore, we also present some basic data that illustrate that there are some differences in traditional IPOs and EGCs going public. We then examine how the various aspects of the JOBS Act may play out in terms of the theoretical mechanisms that have been laid out by management and financial economics scholars over the years to explain the workings of IPOs. Finally, we draw some key conclusions and propose a few suggestions for how future research in several areas, such as management, entrepreneurship, macro-, micro- and financial economics, and law might further the investigation of this topic.

IPOS AND THE JOBS ACT

It may be useful to offer some basic evidence of the economic importance of IPOs in the US economy. Generally speaking, the market for first-time public firms has remained significant over time, easily amounting to multiple billions of dollars in any given year. As an illustration, in 2014 alone, IPO proceeds in the U.S. exceeded $86 billion, with 364 IPO filings—representing the most IPO activity since the technology collapse in the early 2000s, and the most IPO proceeds in more than a decade (Renaissance Capital, 2016). However, the following year saw a drop of 35 percent in IPO filings and of 60 percent in proceeds raised (i.e., 234 IPOs and $30 billion raised); even more stark is the contrast with 2009, when the recession brought on by the financial crisis saw a mere 118 companies filing for IPOs and raising a comparatively dismal $20 billion.

The implications of IPO markets simultaneously affect both the broader economy and entrepreneurial firms. From the perspective of entrepreneurial firms, IPOs are an important way for high-growth ventures to raise capital. These funds are necessary to help grow the firm at a pivotal point in its development, as it transitions from private to public (Gulati and Higgins, 2003). For example, according to data provided by the Securities Exchange

Commission (SEC), since the 1970s, 92% of job growth at public companies has occurred following its IPO, with most of the job growth occurring in the first few years of a firm's public life. As a result, the government has a clear interest in enabling more firms to go public, since these new firms are an important source of job growth for the economy—and this job growth is central to having a well-functioning labor market.

During the process of going public, firms undergo a rigorous information disclosure process that helps inform outside investors of the firm's potential prospects, with the goal of the entrepreneurial firms convincing such investors to provide needed capital in exchange for equity shares in the firm. In contrast, without IPOs, the same investors might not know about the firm in the first place, or they might find it too costly, or even impossible to obtain enough information to make a sound investment decision on a closely-held entrepreneurial venture (e.g., Pagano, Panetta and Zingales, 1998). Additionally, firms that are able to take on the costly IPO process "signal" their value and effectively distinguish themselves from other, lower-quality firms. Indeed, going public is an expensive endeavor, as it costs between 7 and 18 percent of total proceeds (e.g., Chen and Ritter, 2000; Draho, 2004; Lee *et al*., 1996). Moreover, underpricing – or the first day closing price being greater than the issuing price – effectively amounts to money being "left on the table," and it is an indirect cost that can add another 15 percent or more (i.e., Ibbotson *et al*., 1994). Firms that can bear such costs can therefore distinguish themselves from those unable to do so.

Moreover, IPOs also introduce considerable demands in terms of managerial time away from running the business itself. The IPO process can last from a few months to several years (Andrews & Welbourne, 2000). In the months leading up to the IPO, the CEO and the top management team (TMT) travel around the country (or world in the case of foreign IPOs) to promote the firm to prospective investors via formal presentations as part of a "roadshow" (Jenkinson and Ljungqvist, 2001). The roadshow is an extensive process, and one with

uncertain outcomes. For instance, in the worst-case scenario, a firm may even end up withdrawing its IPO, if feedback from potential investors is negative. This potential risk is not minimal, since on average, approximately one in five IPOs are withdrawn in any given year (Busaba, Benveniste and Guo, 2001). Accordingly, the IPO process is a significant cost in terms of time for managers to complete. A recent quote by the CEO of Zafgen (a recent EGC IPO) brings this point home:

"The IPO is grueling physically, emotionally, and mentally. It will sleep deprive you, test the limits of endurance to tell your story over and over and over, and it will wear out your throat. You'll get headaches, and your eyes may twitch. Be ready for that, and rest when you can."

In sum, IPOs bring together capital providers and entrepreneurial firms, and requires the commitment of a host of institutional partners, such as underwriters, law firms, investors, auditors, and others (Gulati and Higgins, 2003; Pollock, 2004); all of which may have competing interests (Arthurs *et al.*, 2008). This adds substantial layers of complexity to the entire IPO endeavor and can impede the broader public interests of the process—offering indispensable fuel to the entrepreneurial engine of a country's economy. Accordingly, given IPOs pivotal role in economies that aim to thrive through the promotion of entrepreneurial activity, it is not surprising that IPOs have attracted the interest of US policy-makers over time, and that the government sought to intervene in an effort to reduce the complexity and costs that are involved with firms transitioning from private to public.

THE JOBS ACT PROVISIONS

Emerging Growth Companies (EGCs)

For a firm to be eligible to partake in the benefits of the JOBS Act during its IPO process, it needs to be classified as an Emerging Growth Company (EGC) by meeting two stipulations: (1) have annual revenue less than $1billion in its latest fiscal year, and, (2) not have completed its IPO before December of 2011 (Eiger *et al.*, 2013). The design of the law was intentionally broad in order to allow for a wide-range of firms to participate. For example,

when the well-known firm Twitter made its IPO debut, it did so under the classification of an EGC. However, it is important to note that most of the firms that have benefited from the EGC qualification are often much smaller. In fact, as often is the case in the life sciences sector, many of these firms have no revenue, so reducing the costs of raising capital takes on special importance.

While the implementation of the JOBS Act remains in its very early stages, there are already some basic differences emerging between EGCs and previous IPOs with just the first years of the legislation's passing. Table 1 provides descriptive data showing the IPO proceeds, underpricing, underwriter reputation, and whether the IPO was venture capital-backed (VC-backed) for EGCs, traditional IPOs post-JOBS Act, and all IPOs more generally over the past 15 years. A cursory look at the data in Table 1 shows some evidence of differences between EGCs and traditional IPOs.

INSERT TABLE 1 HERE

We can see that EGCs are raising less capital compared to the typical IPO that debuted over the preceding 15 years ($128MM vs $228MM, respectively). Moreover, underpricing is much higher with EGCs (20% vs 10%), and VCs appear to be capitalizing on the benefits involved with taking EGCs public, with 65% of ECGs backed by venture capitalists. However, some characteristics of IPOs are much more similar, as it appears that underwriters with similar reputations are involved with the capital raising processes for both EGCs and traditional IPO firms. Furthermore, early estimates found that the JOBS Act is leading to an annualized 25% volume increase in the number of IPOs making their debut, suggesting there may be a potential shift in the types of firms that are now capable of going public (Dambra, Field, and Gustafson, 2015).

Therefore, as a result of the JOBS Act, we can see that EGCs are going public with some interesting differences compared to the average IPOs over the past decade; however,

some aspects appear to be somewhat similar so far (e.g. underwriter reputation). To understand why these basic differences might be manifest, in the section below we detail the key provisions of the JOBS Act that were intended to allow EGCs to go public with greater ease, and that are also likely to be the drivers of the differences that are emerging between EGCs and traditional IPOs. Before we discuss the details of the provisions, it is also important to note that the following provisions are not mandatory, but rather EGCs can selectively opt-in, or opt-out, of the provisions. Indeed, their decisions to do so might themselves have consequences for their IPOs and performance after going public.

EGCs' Options before the IPO Debut

In the POST-JOBS Act era, EGCs are able to (1) confidentially file their initial registration statements for IPOs, and (2) "test-the-waters" with a limited group of potential investors—all without alerting competitors and the broader pool of available investors. Consequently, both of the aforementioned provisions have important implications with regard to the direct and indirect costs that a firm may bear during its IPO process. Furthermore, since the filing is confidential, EGCs are able to file the initial draft of their IPO with the SEC and make any needed adjustments before the publicly-filed submission. Subsequently, if the firm decides to move forward with the IPO process after this confidential period, the initial confidential filings become public information. Only at that time do firms generally initiate the costly process of securing lawyers, auditors, organizing roadshows, etc.

This streamlined process contrasts with the pre-JOBS Act process wherein all of these direct costs and filings would be experienced at the onset of the IPO, regardless of whether the firm eventually saw the offering through, or instead withdrew. Therefore, while going public has always been a socialization process, the nature of the socialization process and the communication taking place before the official registration of the IPO has been significantly altered. This has important implications for EGCs.

For example, there may be indirect benefits stemming from confidential filing as described above. With the JOBS Act, now firms may be able to advance their capital raising endeavors without alerting competitors and the broader financial community of their intentions. In turn, this could conceivably result in an information advantage that could prevent efforts by competing firms to saturate the capital markets by accelerating their own equity offerings, or to fill unmet demand for the products or services offered by the filing company. This particular benefit of confidential filing was specifically referenced by Michael Guthrie, the CEO of TrueCar, during a recent interview. He opined, "it was great to be able to get that document in place and start the SEC review without exposing our filing to the market or competitors or anyone else" (CFO Magazine, 2014).

A second provision of the JOBS Act is called "testing-the-waters," which allows entrepreneurial firms and their underwriters to legally hold meetings and conversations with potential (accredited) institutional investors in order to gauge the demand for the shares of the company. This is in stark contrast to the pre-JOBS Act era, where firms and their underwriters were prohibited from having any written or oral communication with potential investors until after the registration statement was filed. This affords EGCs with many potential benefits. For instance, these firms may decide whether to move forward with the IPO in the first place and, if so, how to more clearly articulate their firm's potential in a way that appeals to other potential investors. Moreover, if investor feedback is negative and the IPO is ultimately withdrawn, the company would not damage its reputation through a highly-visible public failure—in contrast to the pre-JOBS Act era where failures were highly observable and firms that failed to complete the IPO were stigmatized.

Finally, a particularly interesting aspect of this provision that allows EGCs to "test-the-waters" is that it extends the option of the EGC to have communication with research analysts before the IPO debut. Prior to the JOBS Act, communication with research analysts

before the IPO was strictly prohibited by securities laws, due to conflicts of interest. However, the JOBS Act enables analysts to communicate with investors, underwriters, and company management, and removes the previous quiet-period that was required before the JOBS Act. As a result, the EGC may gain important knowledge from research analysts, as well as perhaps even shape the research analyst's report with such communication that was previously not allowed (Dambra *et al.,* 2016).

During and after the IPO Debut

The JOBS Act goes well beyond just changing the process before filing the official IPO registration as well as communications with the various parties involved in the going-public process. The Act has also altered the required information disclosures relating to financial performance, accounting and auditing standards, and executive compensation at the time of the IPO, all of which can have implications that extend well beyond the going-public event. During the pre-JOBS Act era, firms needed to file three years of audited financial statements, along with five years of selected financial data. Furthermore, firms were required to comply with public company accounting standards (i.e., Generally Accepted Accounting Principles (GAAP)) and provide detailed executive compensation disclosures—including compensation discussion and analysis (CDA), internal pay comparisons, quantification of termination and change benefits, and the compensation of the CEO, CFO, and the three other highest paid executives.

However, in the post-JOBS Act era, only two years of audited financial statements and selected data are needed (a reduction amounting to 33% and 60%, respectively). Additionally, EGCs are not required to comply with new or revised accounting standards and are exempt from complying with Sarbanes-Oxley's auditor attestation requirements for internal controls. As such, now potential investors and partners must rely on the TMT's attestation of the internal controls, which means that governance mechanisms may have

weakened. Furthermore, EGCs do not have to include CDA, internal pay comparisons, quantification of termination and change benefits, and only have to disclose the compensation of the CEO and the next two highest paid employees.

Accordingly, the Post-JOBS Act requirements regarding financial, accounting, and governance matters have been sharply reduced, which in turn reduces the amount of information available to institutional and retail investors. In other words, as result of the JOBS Act the prospectus now provides less important information compared to those for IPOs in the past. Moreover, the aforementioned disclosure benefits persist into the IPO's transition as a public company until it EGC status changes as a result of obtaining revenue of $1 billion or more, reaching the end of the fifth year following the offering, or issuing more than $1 billion in non-convertible debt in the preceding three-year period. Accordingly, the consequences of an EGC opting to disclose less information extends well beyond the IPO debut.

Based on the provisions discussed above, the JOBS Act significantly alters the lead-up to the IPO and the process of going public (please see Table 2 for a summary), and it potentially has ramifications for companies, investors, and other stakeholders well after the IPO. As such, there are many important potential opportunities to explore how such an impactful piece of government policy can connect theory and practice (Phan and Wright, 2016). We therefore apply various management theories that have been commonly used in IPO research to better understand how the JOBS Act may change behaviors of firms seeking to utilize the various provisions afforded by the JOBS Act.

INSERT TABLE 2

The shifting value of information under the JOBS Act.

It is clear based on the above provisions that the JOBS Act incorporates many changes in order to facilitate capital formation. The provisions are almost exclusively focused on

reducing the burdensome costs of information disclosure for EGCs and providing ways for EGCs to have more confidentiality. Therefore, due to the drastic changes in information disclosure as a result of the JOBS Act, information economics offers an important theoretical anchor for discussing more generally how the JOBS Act may impact both potential investors, and entrepreneurial firms aiming to complete an IPO.

Information economics argues that in transactions where there is information asymmetry, namely, when one party possesses better information than the other party, high-quality sellers can differentiate themselves from others by issuing signals of their quality. Akerlof (1970) used warranties and money-back guarantees as examples of such signals in his famous model of the used car market. Absent these or other remedies, buyers would offer reduced offer prices for even high quality cars, given their inability to distinguish them from "lemons." Similarly, Spence (1973) used the labor market to explain how information affects markets. In particular, he demonstrated that job applicants can signal their ability to perform the tasks of a job via superior academic attainment. In this example, the applicant's degree serves as a signal that allows employers to potentially make better decisions with hiring job applicants, who know more about their own true productivity and potential.

In IPO markets, extant academic work has identified a host of signals newly-public firms can use to steer investors in their favor. The logic of these papers mirrors the arguments above in other markets – engaging in costly signals is a way to cope with information asymmetry between the IPO firm and the potential investors providing the necessary capital to the IPO. As just a few examples, managerial ownership, the reputation of the lead underwriter taking the firm public, and the prominence of the venture capitalists have been found to convey information on the firm's resources and prospects (e.g., Bruton *et al.*, 2010; Carter and Manaster, 1990; Gulati and Higgins, 2006; Hsu, 2006; Loughran and Ritter, 2004; Manigart, Baeyens and Van Hyfte, 2002; Petersen and Rajan, 1994; Ragozzino and Blevins,

2016). However, the question that comes to the fore, is whether and how the aforementioned signals will function in IPO markets following passage of the JOBS Act?

Given the reduced information disclosures brought about by the JOBS Act, it is expected that ownership and agency issues, the EGC's social network in the form of interorganizational partnerships, and other signals of the EGC's quality may become even more salient in the post-JOBS Act era. This plausible outcome of the JOBS Act is based on the notion that reaching an IPO is viewed as a desirable milestone and outcome for entrepreneurial firms. With this in mind, it is important to emphasize that only a very low percentage of firms are able to ever reach the IPO stage. Accordingly, a very stringent selection process has traditionally unfolded in IPO markets, such that those few firms that file for an IPO are inherently better (on average) than other firms that would like to pursue an IPO, but cannot do so. While a great deal of heterogeneity still exists among firms reaching the IPO, the screening mechanism that eliminates firms from reaching an IPO *already* provides investors important information about the quality of the firm, since most other firms won't be able to reach the IPO stage.

Consequently, in IPO markets prior to the JOBS Act, investors were already prone to utilize a variety of signals to evaluate the firm due to challenges stemming from the quantity and quality of information surrounding the firm (Certo, Holcomb, and Holmes, 2009). Now, and as a result of the JOBS Act's provisions that allow EGCs the opportunity to disclose less information, signals such as ownership of the firm (Zingales, 1995), social influences (Pollock, 2004; Rao, Greve and Davis, 2001), the credentials of the TMT (Cohen and Dean, 2005), and so on, can be expected to take on even more importance—since the explicit goal of the JOBS Act is to increase the number of firms going public, in particular smaller firms. More broadly, the question of whether the proportion of high-quality firms filing to go public

has dropped, stayed the same, or even increased vis-à-vis the total filing firms needs to be further studied.

Given that *early* estimates suggest annualized growth after the JOBS Act may be more than 25% (Dambra, Field, and Gustafson, 2015), and that such growth is undoubtedly an *intended* consequence of the JOBS Act, it is important to study whether the JOBS Act can increase the IPO volume without the quality of firms changing. If it does change the quality and uncertainty surrounding IPOs, how does it alter the benefits tied with IPOs and the challenges facing investors interested in IPOs? For example, if it does alter the quality of IPOs, this means there will inevitably be heightened importance of the commonly studied issues concerning IPOs, and questions such as the separation of ownership and control, known as agency theory, may play an even more central role in understanding IPOs in the post-JOBS Act era.

Agency theory has been a central theme not only with respect to IPO markets specifically (Zingales, 1995), but more broadly in terms of the misalignment of incentives held by insiders (agents) and owners (principals) in all public firms (Jensen and Meckling, 1976). The main proposition of the theory is that, all else equal, the lower the managerial ownership in a firm, the higher the agency costs and the worse the long-term performance of the firm. In the specific case of newly-public firms, invariably the proportion of ownership held by insiders suddenly and dramatically diminishes at IPO, as outside investors acquire floating shares in equity markets. Thus, IPO firms have been used as natural subjects to study the effects of the principal-agent problem.

Because it is widely understood that the agency problem affects all firms in which managers' and owners' interests do not perfectly coincide, the argument that the information disclosure required by IPOs will abate all concerns of this kind is implausible. However, the JOBS Act affects certain aspects surrounding the relationship between principals and agents

in ways that are worth noting. For example, the JOBS Act allows entrepreneurial firms to withhold information regarding insiders' compensation structure, and on a long-term basis at that. Despite continued efforts to increase disclosure on compensation, and given that shareholders evaluate firms based on how well the firm utilizes its funds, one has to wonder whether firms that choose to disclose less information about their compensation, may also be the ones that are prime for self-interested behavior by managers once insiders' ownership has been diluted through the IPO.

In other words, due to the various provisions created by the JOBS Act, in the worst-case scenario, managers holding perverse incentives – i.e., incentives that depart from the value maximization goals of shareholders – may be provided with a new opportunity by which to perpetrate their self-interest. If so, investors who observe differences in the utilization of the provisions, might infer that firms choosing to maximize the Act's allowance, will likely be the ones more prone to agency problems. In turn, this should cause investors to demand a higher discount for the shares of said firms, require stronger alternative governance mechanisms to curb possibly heightened moral hazard risks, or potentially, even eschew the investment in the first place.

If this sort of separating equilibria is indeed present, then it is bound to manifest over the long run, as the performance differences between firms choosing to go public in-line with the previous traditional ways of disclosing more information, and firms embracing more of the JOBS Act's provisions are empirically documented. Combined, the logic above leads us to believe that the intended merits of the JOBS Act may be at least partially offset by the negative spillover effects introduced by the exacerbation of the agency problem afflicting EGCs featuring the Act's key disclosure and governance provisions. Accordingly, the performance of EGCs is likely to change as the impact of the JOBS Act further emerges.

The Performance of EGCs

In addition to the various ways in which the JOBS Act can affect how entrepreneurial firms are perceived and valued by their stakeholders and prospective investors, it is also relevant to examine whether the JOBS Act holds the potential to materially shift the ability by firms to create the conditions for competitive advantages (e.g., Rumelt, 1984; Wernerfelt, 1984). As we have already discussed, the main purpose of IPOs is to allow resource-constrained firms to access markets and lay the foundations for their competitiveness. IPOs help achieve this goal not solely by increasing entrepreneurial firms' cash availability—which is in and of itself a crucial resource that enables them to pursue growth opportunities and invest in other resources—but also by reducing information asymmetries faced by investors and enhancing these firms' credibility and social status to their peers and other stakeholders, which may include alliance partners, key suppliers, governmental organizations, customers, etc.

Therefore, it is restrictive to think of IPOs as merely vehicles for an exit event or liquidity events, and it would be more accurate to consider going public as holding a host of other benefits that can help entrepreneurial firms navigate the ambiguity of the resource gathering process (e.g., Lippman and Rumelt, 1982; Rumelt, 1984) and overcome frictions in markets for strategic factors (e.g., Barney, 1986). Our earlier arguments have raised the possibility that many of the intangible and follow-on benefits inherent in going public may be lower as a result of the introduction of the JOBS Act. For example, reduced information disclosure requirements lead to more uncertainty on the value of the firm to investors and stakeholders alike. Given the discretion afforded to entrepreneurial firms' managers to opt-in or to opt-out of the various provisions, outsiders' perceived uncertainty of newly-public firms will likely be positively correlated with the number, and the specific combination of provisions elected by these firms.

It should be noted that this is true even if such provisions were adopted solely to take advantage of the JOBS Act purpose of facilitating the process of going public, because

outsiders would be unable to tell good-faith adopters apart from ill-faith ones. As a result, entrepreneurial firms seeking to enhance their value, status and credibility in the eyes of stakeholders, may find themselves either compromising on this goal (by choosing the JOBS Act provisions), or foregoing the benefits of the JOBS Act to achieve it. In sum, from the perspective of entrepreneurial firms, it is unclear whether the JOBS Act will facilitate their ability to compete, or whether the information content embedded in going public via the JOBS Act route will result in a net negative outcome following the IPO. Given that firms raise only a portion of the financing they need through IPOs; it is also critical to examine whether firms are able to return successfully to equity markets to obtain growth capital on attractive terms. Hence, a closer look at EGCs and their performance is necessary.

Understanding the performance of IPOs is a conundrum that has long existed in the IPO literature, and continues to attract much scholarly interest (Certo *et al.*, 2009). The inherent lack of historic and codified information on these firms (Stinchcombe, 1965), the nature of their assets – which are often based on future expectations and the qualities of the entrepreneur rather than hard assets in place (Barzel, 1987; Shane and Cable, 2002; Shane and Stuart, 2002), as well as the inclination of entrepreneurs to be overconfident and exaggerate their prospects (Cooper, Dunkelberg and Woo, 1988; Busenitz and Barney, 1997; Baron, 1998) – raise valuation concerns and create significant variation in IPO performance (Ravenscraft and Scherer, 1987; Mitchell and Singh, 1992; Mody, 1993; Hagedoorn and Sadowski, 1999).

We expect that the JOBS Act could add even further complexity in understanding the drivers of IPO performance. Indeed, the literature on the short and long-term performance of IPOs has become quite significant in both scale and scope (see Certo *et al.*, 2009, and Draho, 2004 for reviews) due to the complexity involved. Most research has focused on short-term performance, which generally refers to the price performance of the first day of trading and

shortly thereafter, or to changes in pricing in the time leading up to the IPO. Research on long-term performance usually studies outcomes that span years from the initial IPO, generally 1-5 years after the IPO event. We argue that the JOBS Act can have important implications for both the short-term and long-term success of EGCs, since the provisions affect EGCs before, during, and after the IPO process.

For example, studies looking at short-term outcomes have provided evidence that when information on issuing firms is costly to obtain, these firms find themselves having to underprice (the percentage difference between the offer price, and the first day close of the IPO (Ritter, 1987)) their offerings, thereby leaving valuable capital "on the table" (e.g., Allen and Faulhaber, 1989; Grinblatt and Hwang, 1989; Welch, 1989). Given that most firms undertake IPOs to raise capital, studying underpricing could yield interesting insights on the impact of the JOBS Act. Past arguments have suggested that underpricing is strongest for issuing firms that face high levels of uncertainty, with the first day increase as a form of compensation for investors' risk-bearing (Rock, 1986), and a direct transfer of wealth from the pre-IPO investors to first-day investors (Certo, Dalton and Daily, 2001).

Accordingly, scholars using these lines of argument would likely argue that the JOBS Act is likely to increase underpricing, due in part to increased information asymmetry and agency problems (Loughran and Ritter, 2004; Rock, 1986). Moreover, the data through 2015 shows that when comparing firms solely on the basis of whether they test-the-waters, firms that "test-the-waters" have reduced underpricing (17% vs. 23% respectively). However, given the drastic variation in underpricing, and the complexity of the mechanisms underlying this outcome as a measure of IPO performance, some scholars have criticized its measure as an indicator of IPO performance (Tsang and Blevins, 2015), and that valuation measures may be more insightful.

Therefore, other studies have focused on the IPO price premiums, often using some measure of the stock price relative to the firm's book value per share (Welbourne & Andrews, 1996). Such measures incorporate an objective measure of a firm's asset base, rather than just focusing exclusively on stock price movements. Accordingly, these types of measure may be particularly useful understanding the impact of the JOBS Act—given that firms now have the ability to test-the-waters with potential investors, and may generate more relative value after accounting for their assets and so on. Consequently, substantial changes may have emerged in the valuation of IPOs due to the socialization processes found in the bookmaking process.

While many of the changes of the JOBS Act were targeted at the process leading up to a firm's IPO, as previously noted, important benefits to reduce costs in the early years of the firm's public life are afforded to EGCs in the years following its IPO. These provisions are important, since IPOs tend to underperform the market in the years immediately following their IPO, with IPOs routinely underperforming more established firms (Ritter, 1994). Therefore, scholars may be interested in examining the returns to investors. Financial market measures are commonly used to measure the success of IPOs (Chahine and Filatotchev, 2008). For these measures, the stock price change over time relative to the offer price for a certain holding-period is generally used. The logic behind this measure is that the stock price performance should correlate with the firm's performance relative to investors' assessment—accordingly, the potential benefit of the JOBS Act's aimed cost reductions may be manifested over a longer period time, and demonstrated by investors' favorably reactions in the stock market over time. Likewise, other longer-term measures using accounting-based ratios such as sales growth, return on assets, return on equity etc. should have similar trends if the JOBS Act is effective in its goals.

Finally, while it is too early to tell, the survival of IPO firms could be a particularly interesting measure, especially when viewed in conjunction with results of short-term performance, and staged access to capital in equity markets. Hence, while the JOBS-Act may shift short-term performance, this shift may be a function that affects the longer-term survival of IPOs. For instance, while decisions to opt-in to various provisions could lead to negative short-term performance, the longer term cost savings may ultimately be beneficial for the EGC. Therefore, IPO survival also represents an interesting opportunity to better understand how changes in the institutional environment and the rules of the game, may ultimately impact the long-term growth and survival rates of entrepreneurial firms. Consequently, the JOBS Act represents an important opportunity in understanding what influences the longer-term success of IPOs, given the significant changes throughout the IPO process that are afforded to EGCs. Regardless of the measure employed, scholars will need to be sensitive to constructing appropriate comparisons and counterfactuals (e.g., what would the firm's performance had been had it chosen another path besides an IPO under the provisions of the JOBS Act?).

DISCUSSION

We raised important questions regarding the impact of the JOBS Act. We asked whether the JOBS Act has the unintended, second-order consequences of lowering the quality of firms going public or exacerbating the uncertainty experienced by investors. The potential drawbacks of the JOBS Act come into view when one considers the implications of the JOBS Act beyond the immediate costs of the IPO process and considers the broader growth and development of the firm and its operations in markets other than the equity markets. To begin with, as an initial example we argued that traditional signals may play different roles after the introduction of the JOBS Act, since it will be even more important for investors, partners, employees, and other stakeholders to resort to signals as cues by which to distinguish good

and bad firms. While our goal is certainly not to bring conclusive evidence on this important question, some anecdotal points are worth further discussion.

For example, when comparing the JOBS Act against traditional IPOs, we see that there are some similarities and some differences between EGCs and previous IPOs. With regard to the latter, for example, a comparison of firms with VC backing across EGCs and non-EGCs shows that roughly 65 percent of all JOBS Act IPOs featured at least one VC, whereas preceding IPOs had a VC less than 35 percent of the time on average. While there are many potential explanations, it is possible that VCs may be seeing the JOBS Act as an opportunity to bring smaller firms to the market, and perhaps even at earlier stages. Therefore, there is the potential that VCs may be using the JOBS Act's provisions as way to benefit from grandstanding, by taking companies to the IPO market earlier than they normally would without the JOBS Act provisions (Gompers, 1996).

Similarly, changes are emerging with regard to the role of research analysts, with early analysis showing that research analysts are issuing more optimistic research reports when they communicate with EGCs during the testing-the-water process compared to the pre-JOBS Act era (Dambra *et al.*, 2016). Therefore, interesting insights may be gained by further studying how increased communication affects EGCs and their performance. In addition, more general cues of legitimacy, such as the importance of the stock exchange chosen for the IPO debut, may be impacted where a high number of EGCs that embody substantially different firm characteristics pursue their IPOs based on meeting demand for specific exchanges (e.g., the NASDAQ vs. the NYSE) (Rao, Ward, and Davis, 2000).

However, there is the potential that the JOBS Act may not significantly alter other aspects of the IPO process, or if it does, the change may be subtler. For example, it is well understood in the literature that reputable investment banks will be selective of the firms they take public and they will also refrain from "window-dressing" these firms, because in the

long-run these practices will tarnish their ability to engage in repeat business, as investors and issuing firms will discount the value of these bank's endorsement of the IPO (e.g., Carter and Manaster, 1990; Gulati and Higgins, 2003; Podolny, 1994). If these banks stay true to their selectivity after the JOBS Act, and if the average expected value of firms going public has lowered, then we should witness a far smaller proportion of issuing firms featuring top investment banks as their lead underwriters. However, with the data that has emerged to date, this shift does not appear to be taking place despite EGCs raising substantially less proceeds on average.

Accordingly, the apparent sudden inclination by signaling parties to take on more and smaller business as a function of the fact that the road to an IPO has been made more manageable by new legislation has important implications that affect a host of organizational partners. We believe that if the availability and the quality of information signals on firms filing to go public has diminished since the JOBS Act, both the new ventures paying for the acquisition of such signals, as well as the signal recipients will eventually lead to discounting of such signals in the long run despite their increased importance in weaker information environments after the Act's passage. This raises the question of how the venture can signal its value in the weaker information environment in IPO markets brought by the JOBS Act.

Still, given the recent passage of the JOBS Act and the lack of evidence on various performance measures (e.g., the post-IPO survival, fundraising) the jury is very much still out on the net benefits to firms going public, as well as whether the value of certain signals might change in the future. At the very least, it appears that there is clearly greater information asymmetry surrounding EGCs than preceding IPOs, as evidenced by lower disclosure, regulatory requirements, and the suggestive evidence presented by the increase in underpricing for firms going public under the provisions of the JOBS Act. Nonetheless, given

the recency of the Act, time will tell whether we will witness lower or higher gains from signaling for high-quality issuing firms in years to come.

IMPLICATIONS, FUTURE DIRECTIONS AND CONCLUSION

It is important to reiterate that we focused specifically on the IPO aspect of the JOBS Act, rather than other important changes shaping equity markets for entrepreneurial ventures (e.g., equity-crowdfunding). Accordingly, we need to acknowledge that we are merely scratching the surface of the broader question of institutional changes affecting equity financing, and the JOBS Act in particular. The goal of our paper was twofold: first, we aimed to bring to the attention of management scholars the existence of the JOBS Act, which is legislation that holds the potential – and in fact, it has already done so – to change the way in which entrepreneurial firms can gain access to capital and hence grow and develop. Second, we sought to examine how the JOBS Act might produce ambiguous information spillover effects in IPO markets and some unintended consequences in other markets as well.

The changes brought by the JOBS Act have important implications beyond the functioning of financial markets, and these new IPOs need to be studied by management scholars as they can affect labor markets, markets for partners, acquisitions, corporate governance, and other topics central to management research. By summarizing some of the key provisions of the JOBS Act as it relates to IPOs, we wished for this paper to create awareness of this topic in our scholarly community, and to stimulate others to investigate its far-reaching impact. Clearly, there is much more to do and at this point, it may be helpful to discuss to whom this information might be of use. Through this discussion, we hope to inspire the readership of the journal and trigger formal conceptual and empirical work that will provide answers to the various questions we have raised.

We have argued and shown preliminary data that the JOBS Act holds the potential of fundamentally changing the ex-ante and ex-post conditions governing IPOs. Broadly

speaking, IPOs have attracted the interest of a host of academic disciplines, ranging from macro-, micro- and financial-economics to law, management and entrepreneurship, among others (see among many others Audretsch and Stephan, 1996; Beatty and Welch, 1996; Certo *et al.*, 2009; Doidge, Karolyi and Stulz, 2004; Ljungqvist and Wilhelm, 2002; Podolny, 1993). Clearly, the focus of these areas of study differ significantly, and so can the outcome variables of interest in each field. However, the existing work on IPOs finds common ground in some fundamental issues surrounding this phenomenon, such as the incentives held and the roles played by the various stakeholders involved in taking companies public, the market mechanisms that shape IPOs, and the impact that IPOs can have on stakeholders from individual entrepreneurs to entire countries' populations, productivity and welfare.

To the extent that virtually all the issues above are affected by the introduction of the JOBS Act, then it is imperative that scholars begin to examine just how the state-of-the-art knowledge on IPOs might be altered by this new legislation. For example, IPO pricing has been central to financial economics and we have already discussed the roles that agency theory and information economics can play. It appears to us that financial economists will have to revisit the roles of incentives and information in IPOs, as they pertain for example to share pricing (Ljungqvist and Wilhelm, 2003), allocations (Aggarwal, Prabhala and Puri, 2002) and trading volumes (Lee and Swaminathan, 2000). Taking the extremely sizable work on such topics as prima-facie evidence of the relevance of these questions, it is all the more important to understand theoretically and empirically how the received wisdom might change in the post-JOBS Act era.

As another illustration, law scholars have already highlighted the various difficulties inherent in drafting complete contracts, when bounded rationality and shifting conditions can give rise to unexpected contingencies (Fischel and Ross, 1991). The contractual relationships tying entrepreneurial firms nearing an IPO with equity investors, underwriters, legal firms,

and (tacitly) the broader investment community are no exception. In fact, lawsuits following IPOs are far from uncommon and they often find their roots in issues surrounding information disclosure and misrepresentation (Alexander, 1993; Choi, Pritchard & Rev, 2004). Insofar as the JOBS Act alters the incentives held by many of the parties involved in IPOs and it allows for the distribution of less information on the underlying firm nearing an IPO, it might also expose these parties to changing legal hazards. In turn, this might result in a host of implications, including the need to create better contracts to curb misaligned incentives.

In the areas of macroeconomics and policy, it is rather understood that the existence of fluid and liquid entrepreneurial markets is an essential ingredient for the promotion of creative disruption, innovation, employment and social welfare more generally (e.g., Audretsch, Keilbach and Lehmann, 2006). For example, according to the Bureau of Labor and Statistics (2017), small entrepreneurial firms account for 40-50 percent of total employment. Moreover, the National Venture Capital Association (NVCA) estimates that VC capital flowing into these firms hovers over $20 billion dollars annually in the United States alone (NVCA, 2016). The very reason why legislators have focused efforts in creating the JOBS Act is perhaps the most compelling evidence of the importance of entrepreneurship and IPO markets from their perspective, as a matter of welfare creation.

In this sense, we have provided logic that points at some of the potential undesirable consequences stemming from the Act. Moreover, the CROWDFUND Act, which is effectively a part of the JOBS Act, allows for the purchase of equity ownership by small retail investors. This is bound to create competition for angel investors and VCs, once again altering the relationship between the risk these ventures traditionally take on and the returns they need to generate in exchange for taking on such risks. In sum, the net result of the JOBS Act as a mechanism to facilitate the road to IPOs and therefore strengthen one of the

backbones of the US economy is far from obvious, and the need to investigate the question more formally through sound scholarly research is apparent in our eyes.

In the few short paragraphs above, we have mentioned some of the broad research areas that are likely affected by the JOBS Act. It is not surprising that scholars in these areas have already begun to study this very question. On the empirical front, the challenges are mostly dictated by the scarce data available to date. Given its recency, the JOBS Act has not yet given birth to a substantial number of public firms to allow for large-scale investigations of its effects on the various issues we listed above. This sort of investigation should be done cross-sectionally and comparatively – i.e., vis-à-vis traditional IPOs that are concomitant to JOBS Act IPOs. However, it appears that since the introduction of the legislation, most firms have embraced at least some of the provisions afforded by the Act, and this makes separating traditional and non-traditional IPOs rather challenging. Alternatively, one might compare IPOs *since* the JOBS Act against IPOs *before* the Act. In this case, the most compelling challenge would be to control for the several variables that might ultimately drive firms' decisions to go public as well as the outcomes they experience from their IPOs. These variables range from the cyclicality of IPO markets to industry dynamics.

In sum, while apparently extremely attractive, future research endeavors aimed at shedding light on the effects of the JOBS Act on IPOs face a number of research design challenges, at least in the short term. However, in overcoming these challenges significant opportunities remain in developing a deeper understanding of the broader implications of the JOBS Act. Although there are clearly far more items to discuss than we have the space or the ability to cover within the scope of this paper, we hope that the diverse readership of the journal will be inspired to take on some of the questions we have outlined and beyond.

REFERENCES

Aggarwal, R., Prabhala, N. R., & Puri, M. 2002. Institutional allocation in initial public offerings: Empirical evidence. ***Journal of Finance***, 57*:* 1421-1442.

Akerlof, G. A. 1970. The market for 'lemons': Qualitative uncertainty and the market mechanism. ***Quarterly Journal of Economics***, 84: 488-500.

Alexander, J. 1993. The lawsuit avoidance theory of why Initial Public Offerings are underpriced. ***UCLA Law Review*** 41: 17–73.

Allen, F., Faulhaber, G. R. 1989. Signaling by underpricing in the IPO market. ***Journal of Financial Economics***, 23(2): 303-323.

Andrews, A. O., & Welbourne, T. M. 2000. The people/performance balance in IPO firms: The effect of the Chief Executive Officer's financial orientation. ***Entrepreneurship Theory and Practice***, 25(1): 93-106.

Arthurs, J. D., Hoskisson, R. E., & Busenitz, L. W., & Johnson, R. A. 2008. Managerial agents watching other agents: Multiple agency conflicts regarding underpricing in IPO firms. ***Academy of Management Journal,*** 51: 277-294.

Audretsch, D. B., Keilbach, M. C., & Lehmann, E. E. 2006. ***Entrepreneurship and Economic Growth***, Oxford University Press, New York, United States.

Audretsch, D. B., & Stephan, P. E. 1996. Company-scientist locational links: The case of biotechnology. ***American Economic Review***, 86: 641-652.

Barney, J. B. 1986. Strategic factor markets: Expectations, luck, and business strategy. ***Management Science***, 32: 1231-1241.

Baron, R. A. 1998. Cognitive mechanisms in entrepreneurship: Why and when entrepreneurs think differently than other people. ***Journal of Business Venturing***, 13: 275-294.

Barzel, Y. 1987. The entrepreneur’s reward for self-policing. ***Economic Inquiry***, 25: 103–116.

Beatty, R., & Ritter, J. R. 1986. Investment banking, reputation, and the underpricing of initial public offerings. ***Journal of Financial Economics***, 15: 213-232.

Beatty, R. P., & Welch, I. 1996. Issuer expenses and legal liability in initial public offerings. ***Journal of Law and Economics***, 39: 545-602.

Bruton, G. D., Filatotchev, I., Chahine, S., & Wright, M. 2010. Governance, ownership structure, and performance of IPO firms: The impact of different types of private equity investors and institutional environments. ***Strategic Management Journal,*** *31*(5): 491-509.

Bureau of Labor Statistics. 2017. Entrepreneurship and the U.S. economy. Accessible at: www.bls.gov/bdm/entrepreneurship/entrepreneurship.htm)

Busaba, W. Y., Benveniste, L. M., & Guo, R. J. 2001. The option to withdraw IPOs during the premarket: empirical analysis. ***Journal of Financial Economics,*** *60*(1): 73-102.

Busenitz, L. W., & Barney, J. B. 1997. Differences between entrepreneurs and managers in large organizations: Biases and heuristics in strategic decision-making. ***Journal of Business Venturing***, 12: 9-30.

CFO Magazine. "***On the IPO On-Ramp: How the JOBS Act helped five CFOs take their companies public.***" Accessible at: http://ww2.cfo.com/capital-markets/2014/09/ipo-ramp/

Carter, R., & Manaster, S. 1990. Initial public offerings and underwriter reputation. ***Journal of Finance***, 45: 1045-1067.

Certo, S. T. 2003. Influencing IPO investors with prestige: Signaling with board structures. ***Academy of Management Review***, 28: 432-446.

Certo, S. T., Holcomb, T. R., & Holmes, R. M. 2009. IPO research in management and entrepreneurship: Moving the agenda forward. ***Journal of Management,*** 35: 1340-1378.

Chang, S. J. 2004. Venture capital financing, strategic alliances, and the initial public offerings of Internet startups. ***Journal of Business Venturing***, 19(5): 721–741.

Chen, H., Gompers, P., Kovner, A., & Lerner, J., 2009. Buy local? The geography of successful and unsuccessful venture capital expansion. Working paper, ***Harvard Business School Division of Research***, 1-41.

Chen H., & Ritter J. R. 2000. The seven percent solution. ***Journal of Finance***, 55(3): 1105-1131.

Choi, S. F., & Pritchard, A. C. 2004. Should issuers be on the hook for laddering? An empirical analysis of the IPO market manipulation litigation. ***University of Cincinnati Law Review***, 1: 179-206.

Cooper, A. C., Dunkelberg, W. C., & Woo, C. Y. 1988. Entrepreneurs' perceived chances for success. ***Journal of Business Venturing***, 3: 97-108.

Dambra, M., Field, L., & Gustafson, M. 2015. The JOBS Act and IPO volume: Evidence that disclosure costs affect the IPO decision. ***Journal of Financial Economics***, 116(1):121-143.

Dambra, M., Field, L., Gustafson, M., & Pisciotta, K. 2016. Pre-IPO communications and analyst research: evidence surrounding the JOBS Act. Working paper, accessible at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2530109)

Doidge, C., Karolyi, G. A., & Stulz, R. M. 2004. Why are foreign firms listed in the US worth more?. ***Journal of Financial Economics,*** 71: 205-238.

Draho, J. 2004. ***The IPO decision: Why and how companies go public*.** Edward Elgar, Cheltenham, UK and Northampton, MA.

Eiger, Z., Evans, N. R., Lynn, D. M., & Pinedo, A. T. 2014. JOBS Act quick start: A brief overview of the JOBS Act. ***International Financial Law Review***, 1-104.

Fischel, D. R., & Ross, D. J. 1991. Should the law prohibit "manipulation" in financial markets? ***Harvard Law Review,*** 105: 503-553.

Gompers, P. A., & Lerner, J. 2004. ***The Venture Capital Cycle***. MIT Press, Cambridge, MA and London.

Grinblatt, M., & Hwang, C. Y. 1989. Signaling and the pricing of new issues. ***Journal of Finance***, 44: 393-420.

Gulati, R., & Higgins, M. C. 2003. Which ties matter when? The contingent effects of inter-organizational partnerships on IPO success. ***Strategic Management Journal***, 24: 127–144.

Hagedoorn, J., & Sadowski, B. 1999. The transition from strategic technology alliances to mergers and acquisitions: An exploratory study. ***Journal of Management Studies***, 36: 87-107.

Helwege, J., & Liang, N. 2004. Initial public offerings in hot and cold markets. ***Journal of Financial and Quantitative Analysis***, 39(3): 541–569.

Hsu, D. H. 2006. Venture capitalists and cooperative start-up commercialization strategy, ***Management Science***, 52: 204-221.

Ibbotson, R. G., Sindelar, J., & Ritter, J. 1994. The market's problem with the pricing of initial public offerings. ***Journal of Applied Corporate Finance***, 7: 66-74.

Jenkinson, T., & Ljungqvist, A. 2001. ***Going public: The theory and evidence on how companies raise equity finance*** (Second Edition). Oxford: Oxford University Press.

Krishnan, C. N. V., Ivanov, V. I., Masulis, R. W., & Singh, A. K. 2011. Venture capital reputation, post-IPO performance, and corporate governance. ***Journal of Financial and Quantitative Analysis***, 46: 1295-1333.

Lee, C., & Swaminathan, B. 2000. Price momentum and trading volume. ***Journal of Finance,*** 55: 2017-2069.

Lee, I., Lochhead, S., Ritter, J., & Zhao, Q. 1996. The costs of raising capital. ***Journal of Financial Research***, 19(1): 59-74.

Ljungqvist, A., & Wilhelm, W. J. 2003. IPO pricing in the dot- com bubble. ***Journal of Finance,*** 58: 723-752.

Lippman, S., & Rumelt, R. 1982. Uncertain imitability: Analysis of interfirm differences in efficiency under competition. ***Bell Journal of Economics***, 13: 418-438.

Loughran, T., & Ritter, J. 2004. Why has IPO underpricing changed over time? ***Financial Management***, 33: 5-37.

Manigart, S., Baeyens, K., & Van Hyfte, W. 2002. The survival of venture capital backed companies. ***Venture Capital: An International Journal of Entrepreneurial Finance***, 4(2): 103–124.

Megginson, W., & Weiss, K. 1991. Venture capitalist certification in initial public offerings. ***Journal of Finance***, 46: 879-903.

Mitchell, W., & Singh, K. 1992. Incumbents' use of pre-entry alliances before expansion into new technical subfields of an industry. ***Journal of Economic Behavior and Organization***, 18: 347-372.

Nahata, R. 2008. Venture capital reputation and investment performance. ***Journal of Financial Economics***, 90: 127–151.

NVCA. 2016 NVCA yearbook. Accessible at: http://nvca.org/research/stats-studies/

Pagano, M., Panetta, F., & Zingales, L. 1998. Why do companies go public? An empirical analysis. ***Journal of Finance***, 53: 27-64.

Petersen, M., & Rajan, R. 1994. The benefits of lending relationships: Evidence from small business data. ***Journal of Finance***, 49: 3-37.

Phan, P., & Wright, M. 2016. Whither the academy of management Perspectives. ***Academy of Management Perspectives,*** *30*(1): 1-4.

Podolny, J. M. 1993. A status-based model of market competition. ***American Journal of Sociology***, 98: 829-872.

Pollock, T. G. 2004. The benefits and costs of underwriters' social capital in the US initial public offerings market. ***Strategic Organization***, 2: 357-388.

Pollock, T. G., & Gulati, R. 2007. Standing out from the crowd: The visibility-enhancing effects of IPO-related signals on alliance formation by entrepreneurial firms. ***Strategic Organization***, 5: 339-372.

Ragozzino, R., & Blevins, D. 2016. Venture-backed firms: How does venture capital involvement affect their likelihood of going public or being acquired? ***Entrepreneurship: Theory and Practice***, 40: 991-1016.

Rao, H., Davis, G. F., & Ward, A. 2000. Embeddedness, social identity and mobility: Why firms leave the NASDAQ and join the New York Stock Exchange. ***Administrative Science Quarterly***, *45*(2): 268-292.

Rao, H., Greve, H. R., & Davis, G. F. 2001. Fool's gold: Social proof in the initiation and abandonment of coverage by Wall Street analysts. ***Administrative Science Quarterly,*** 46: 502-526.

Ravenscraft, D. J., & Scherer, F. M. 1987. Life after takeover. ***Journal of Industrial Economics***, 2: 147-156.

Renaissance Capital. 2016. IPO Center. available at: http://www.renaissancecapital.com

Reuer, J. J., Tong, T. W., & Wu, C.-W. 2012. A signaling theory of acquisition premiums: Evidence from IPO targets. ***Academy of Management Journal***, 55: 667–683.

Ritter, J. R. 1991. The long- run performance of initial public offerings. ***Journal of Finance,*** *46*(1): 3-27.

Rumelt, R.P. 1984. Towards a strategic theory of the firm. In ***Competitive Strategic Management***, edited by Lamb, R.B. (ed), Englewood Cliffs, N.J.: Prentice-Hall, 556-570.

Shane, S., & Cable, D. 2002. Network ties, reputation and the financing of new ventures. ***Management Science***, 48: 364-381.

Shane, S., & Stuart, T. 2002. Organizational endowments and the performance of university start-ups. ***Management Science***, 48: 154-170.

Sørensen, M. 2007. How smart is smart money? A two-sided matching model of venture capital. ***Journal of Finance***, 62: 2725-2762.

Spence, M. A. 1973. Job market signaling. ***Quarterly Journal of Economics***, 87: 355-74.

Stinchcombe, A. L. 1965. Social structure and organizations. In **Handbook of Organizations**, March J. G. (ed). Routledge: Chicago; 142-193.

Stuart, T. E., Hoang, H., & Hybels, R. C. 1999. Interorganizational endorsements and the performance of entrepreneurial ventures. ***Administrative Science Quarterly***, 44: 315–349.

Stuart, T. E., & Sorenson, O. 2003. Liquidity events and the geographic distribution of entrepreneurial activity. ***Administrative Science Quarterly***, 48: 175-201.

Tsang, E. W., & Blevins, D. P. 2015. A critique of the information asymmetry argument in the management and entrepreneurship underpricing literature. ***Strategic Organization,*** 13(3): 247-258.

Welbourne, T. M., & Andrews, A. O. 1996. Predicting the performance of initial public offerings: Should human resource management be in the equation? ***Academy of Management Journal,*** 39: 891-919.

Welch, I. 1989. Seasoned offerings, imitation costs, and the underpricing of initial public offerings. ***Journal of Finance***, 44: 421-449.

Wernerfelt, B. 1984. A resource-based view of the firm. ***Strategic Management Journal***, 5: 171-180.

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

TABLE 1
COMPARISON OF JOBS ACT IPOS VERSUS OTHER IPOS [a]

		IPO Proceeds ($mil)	Underpricing %	Lead Underwriter Reputation [b]	Venture Capital Backing
I	JOBS Act IPOs (EGCs) (04/2012-06/2015)	128.0 (274)	0.20 (290)	8.09 (290)	0.65 (273)
II	All IPOs (01/2001-06/2015)	228.3 (1522)	0.10 (1522)	7.94 (1522)	0.34 (1522)
III	Post-JOBS Act IPOs (04/2012-06/2015)	291.0 (367)	0.10 (520)	8.14 (518)	0.23 (367)

[a] IPO counts appear in parentheses

[b] The Carter–Manaster (1990) values range from 0 (low) to 9 (high)

Table 2: Pre-JOBS Act vs. Post-JOBS Act

Timing	Provisions	Pre-JOBS Act	Post-JOBS Act
Before Public Registration	Confidential Submissions	• Confidential filings were not allowed	• EGCs are permitted to submit a draft IPO registration statement before filing publicly. The submission must be made public at least 21 days before the road show.
Before IPO Debut	Pre-Filing Communication	• Both written and oral communications regarding the offering before official registration statement was largely prohibited	• Written and oral communications to accredited investors to "test-the-waters" is permitted
	Post-Filing Communication	• Written communication beyond the prospectus during the offering was generally prohibited	• Written communications to “test-the-waters" is permitted with accredited investors
	Analyst Communication	• Communication prohibited, with a 40-day quiet period before any research analyst’s report could be published	• Research analysts that are affiliated with the underwriter(s) can attend EGCs pitch meetings, and interact with investors before the IPO. • No formal quiet period
	Financial Information	• Three years of audited financial statements • Five years of selected financial data	• Two years of audited financial statements • Two years of selected financial data
	Executive Compensation	• Compensation Discussion Required • Disclosure mandatory for CEO, CFO, and three next highest paid officers • All compensation tables were required • Benefits upon termination was reported • Internal pay comparisons were expected	• No Compensation Discussion is required • Only the CEO and next two highest paid officers are required • Only two tables are required • No quantification of benefits upon termination are required • No pay comparisons are required
After IPO Debut	Accounting Standards	• Had to meet new and/or revised accounting standards as introduced by GAAP (General Accepted Accounting Principles)	• Not required to comply with any new revised financial accounting standards until such standards are required for private companies
	Auditor Report	• Auditor must attest the effectiveness of internal controls by the second annual report after the IPO	• Transition period of five years to meet auditor's attestation on internal controls