The JOBS Act and the Costs of Going Public

Susan Chaplinsky[a], Kathleen Weiss Hanley[b], and S. Katie Moon[c]

August 14, 2014

Abstract

We examine the effects of Title I of the Jumpstart Our Business Startups Act (JOBS) for a sample of 213 EGC IPOs issued between April 5, 2012 and April 30, 2014. We show no reduction in the direct costs of issuance, accounting, legal, or underwriting fees, for EGC IPOs. Further, the indirect cost of issuance, underpricing, is significantly higher for EGCs than other IPOs. More importantly, greater underpricing is present only for larger firms that were not previously eligible for scaled disclosure under Regulation S-K. EGCs that are more definitive about their intentions to use the provisions of the Act have lower underpricing than those that are ambiguous. Finally, we find no increase in IPO volume after the Act. Overall, we find little evidence that the Act has initially been effective in achieving its main objectives and conclude that there are significant consequences to extending scaled disclosure to larger issuers.

JEL classification: G24

Acknowledgments: We thank Scott Bauguess, Alex Butler, Rachita Gullapali, Jonathan Jona, Jay Ritter and the seminar participants at the SEC, the University of Melbourne Business School, and the University of New South Wales Business School for helpful comments. Alexandra Phillips and Ravali Paidipati provided valuable research assistance.

Author contact information:

a. Susan Chaplinsky (corresponding), Darden Graduate School of Business, University of Virginia, Charlottesville, VA 22906, Tel: (434) 924–4810, email: ChaplinskyS@virginia.edu
b. Kathleen Weiss Hanley, R.H. Smith College of Business University of Maryland, College Park, Maryland, email: khanley@rhsmith.umd.edu
c. S. Katie Moon, Marshall School of Business, University of Southern California, email: SeoyeonKatie.Moon@marshall.usc.edu

The JOBS Act and the Costs of Going Public

1. Introduction

In April 2012, the Jumpstart Our Business Startups (JOBS) Act was signed into law with the intent to reduce the regulatory burden of small firms and facilitate capital raising in the private and public markets. Title I of the law addresses the initial public offering (IPO) process and attempts to reverse a decade's long decline in the number of IPOs, especially smaller IPOs in the United States (Gao, Ritter, and Zhu, 2013).[1] The IPO Task Force Report, which served as a blueprint for the law, viewed reversing the decline in IPOs as critical to job creation and the reputation of U.S. capital markets. The report states "This dearth of emerging growth IPOs and the diversion of global capital away from the U.S. markets – once the international destination of choice – have stagnated American job growth and threaten to undermine U.S. economic primacy for decades to come."[2] The report and many market commentators attributed the decline in IPOs to the cumulative effects of a "regulatory cascade" that followed the Dot.com collapse in 2000 and to changing market practices that eroded investor interest and the market environment for small firms. These effects are believed to have increased the costs of going public without increasing commensurately the benefits of being a public company. As articulated in Keating (2012), "SOX (Sarbanes Oxley) and other regulations have imposed unacceptably high compliance costs on emerging growth companies seeking to go the IPO route in terms of both dollars spent and time wasted."[3]

One of the central purposes of the JOBS Act is to lower the direct costs of firms seeking to go public by reducing the mandated disclosure and compliance obligations during both the IPO process and

[1] The JOBS Act contained several sections: Title I concerned the IPO process and a new category of issuer called emerging growth companies, Title II increased the number of shareholders from 500 to 2,000 before public reporting requirements became effective, and Title III authorized "crowd funding." Our paper concerns the provisions of Title I of the JOBS Act.

[2] "Rebuilding the IPO On-Ramp, Putting Emerging Companies and the Job Market Back on the Road to Growth," IPO Task Force Report, October 20, 2011.

[3] The JOBS Act: Shifting into High Gear and Accelerating Up the IPO On-Ramp, Keating Investments, white paper, May 2012, p. 8.

the first five years of being a public company. Title I of the law permits "emerging growth companies" (EGCs), generally firms with less than $1 billion in revenues in their most recently completed fiscal year, to scale the onset of public reporting and compliance obligations ("public on-ramp provisions"). Among other provisions, EGCs can choose to confidentially file their registration statement with the U.S. Securities and Exchange Commission (SEC), scale back financial and executive compensation disclosure in their IPO and subsequent public filings, and delay the onset of Sarbanes-Oxley (SOX) and Dodd-Frank governance requirements until the fifth anniversary of going public.

The JOBS Act (hereafter "the Act"), at the time of its enactment, was hailed as the most significant relaxation of IPO and public reporting requirements in recent memory.[4] Supporters of the law, such as venture capitalists, financial sponsors, and members of the financial services industry, believed it would reduce burdensome regulation and modernize security regulations that were put into effect nearly 100 years ago. Critics, on the other hand, charged that it turns back years of security legislation designed to protect investor interests. The *New York Times*, for example, editorialized that it was "a terrible package of bills that would undo essential investor protections, reduce market transparency and distort the efficient allocation of capital."[5]

In this paper, we examine the extent to which Title 1 of the JOBS Act has shifted the balance between mandated disclosure and investor protection. By reducing disclosure, the Act has the potential to affect both the direct and indirect costs of going public. The initial costs of regulatory compliance of going public are believed to be substantial. Indeed, the IPO Task Force report estimates $2.5 million in costs alone for the IPO process and another $1.5 million in annual ongoing compliance costs of staying public.[6] EGCs taking advantage of the Act's provisions can potentially reduce the direct costs of preparing to go public (e.g., underwriter, legal, and accounting fees), and delay the incurrence of the costs associated with meeting SOX and Dodd-Frank governance requirements. As a result, EGCs can devote a

[4] "Congress passes the JOBS Act," Schiff Hardin, nationallawreview.com, March 31, 2012.
[5] "They Have Very Short Memories," *New York Times* editorial, March 10, 2012
[6] See Appendix C of IPO Task Force Report for the results of a survey of CEOs. The estimates for both initial and ongoing compliance costs include SOX, legal and accounting costs.

greater share of the IPO proceeds to growing their businesses, providing for more employment and stimulating economic growth.

On the other hand, because the Act reduces the extent of mandated disclosure, it could increase the indirect costs of issuance by increasing a firm's cost of capital. A large body of literature has shown that disclosure benefits firms when the information disclosed promotes transparency and reduces investors' information asymmetry (e.g., Leuz and Verrecchia, 2000; Bushee and Leuz, 2005; Greenstone, Oyer, and Vissing–Jorgenson, 2006; Shroff, et. al, 2013; Clinton, et al., 2014). If the greater level of disclosure required in the pre-Act regulatory environment aids transparency, then the reductions in disclosure proposed under the Act could translate into higher costs of capital (as measured by underpricing) for EGC IPOs. Consequently, for the Act to achieve its intended purposes, the reduction in issuers' direct costs must not be offset by increased costs of capital due to reduced transparency.

The Act provides a natural setting in which to examine the costs and benefits of reduced disclosure for several reasons. First, the JOBS Act created an exogenous shock in regulation that reversed the trend over many years towards increased disclosure and compliance. Second, it did not involve a lengthy legislative and implementation process. The Act (H.R. 3606) was introduced in Congress on December 8, 2011, and was signed into law five months later by President Barack Obama on April 5, 2012. Upon signing, the Act became effective immediately; thereafter all EGCs conducting IPOs could take advantage of the provisions for reduced disclosure. In contrast to other regulations such as SOX and Dodd-Frank, the effective date of the JOBS Act was well demarcated without further rulemaking required by the SEC for the provisions affecting EGCs. As a consequence, issuers upon passage of the Act could avail themselves of the opportunity to reduce disclosure.

Our analysis focuses on provisions of the Act that permit EGCs to reduce their disclosure in comparison to the regulatory environment that prevailed before the Act was passed. We identify 213 EGC IPOs that went public between April 5, 2012 and April 30, 2014. We examine their draft registration statements (DRSs) and registration statements (S-1s) to determine the frequency with which they chose to file confidentially and take advantage of the other public on-ramp provisions.

We find that EGCs most frequently choose to reduce the disclosure of executive compensation (92%), and least frequently to adopt private company compliance dates for new or revised accounting rules (12%). Also, 40% and 36%, respectively, of EGCs unequivocally state their intention to delay compliance with SOX and Dodd-Frank advisory votes for as long as they remain EGCs. Within the overall results, however, some important trends are apparent. In the first six months following passage of the Act for example, 10% of issuers choose to confidentially file their IPOs, and this increases to 92% in the last seven months of our sample period. Only 3% of EGCs disclose two years of financials in the first six months and this percentage increases to 51% in the last seven months of the sample. This suggests that as time has elapsed since the Act's passage, EGCs are more willing to avail themselves of the opportunity to reduce disclosure.

In order to assess the effect of the Act on the costs of going public, we compare the direct costs and indirect costs of EGC IPOs to two control groups of IPOs with revenues less than $1 billion that are issued from January 1, 2010 to April 30, 2014 and from January 1, 2003 to April 30, 2014. We use three different empirical methodologies to examine the effects on costs: 1) OLS regressions, 2) propensity score matched differences, and 3) difference-in-differences regressions. Regardless of the control group or the methodology used, we do not find that EGC IPOs experience a reduction in the direct or indirect costs of issue. The most direct measures of information production costs, accounting, legal, and underwriting fees, are either insignificantly different or are significantly higher compared to the control groups. In all cases, we find that the indirect costs (underpricing) of EGC IPOs are significantly higher compared to the control groups. We confirm the increase in indirect costs by examining bid-ask spreads and aftermarket volatility and find, for 30, 60, 90, and 120 day intervals post-issue, a significant increase in these for EGCs in the IPO aftermarket.

At its core, the Act extends many of the reduced disclosure requirements currently available to smaller reporting companies (SRCs) under Regulation S-K to a broader set of issuers. Prior to the Act, these provisions applied to only approximately 11% of all issuers compared to 87% of issuers after the Act. One of the central questions regarding the efficacy of the Act is whether the extension of reduced

reporting requirements to a larger proportion of IPOs is beneficial? We expect little effect on costs for issuers currently eligible for reduced reporting. If disclosure for larger companies is meaningful to investors, we expect that the Act should negatively affect the cost of capital for non-SRCs, (i.e., issuers with more than $75 million in proceeds) that are newly eligible for its provisions. Consistent with this expectation, we find increased underpricing for the sample of non-SRC EGCs but not for SRC EGCs. This result suggests that extending reduced disclosure to a broader set of issuers is costly as investors require a higher rate of return to compensate for the loss of transparency.

We next classify EGCs by the intensity with which they take advantage of the reduced disclosure exemptions, and examine the effect on the direct and indirect costs of going public. Somewhat surprisingly, EGCs that avail themselves of a greater number of exemptions experience lower underpricing compared to other EGCs. In contrast, the highest underpricing occurs for EGCs that are not definitive in their choices with respect to the new exemptions (i.e., have not decided their intentions). Thus, it appears that the market penalizes issuers for greater uncertainty about their disclosure choices with higher underpricing at the time of the IPO.

Finally, we examine whether the Act has had an influence on the total volume of IPOs or EGC IPOs. Examining the time series of quarterly and monthly IPO volume, we find no evidence that the number of IPOs has increased significantly following passage of the Act. Our regressions control for macroeconomic and market conditions, but even in the absence of these controls, we find little evidence to suggest an increase in post-Act IPO issue volume.

There is an emerging literature on the effect of the JOBS Act. Two contemporaneous papers examine the indirect costs of going public. Barth, Landmans, and Taylor (2014) find results similar to ours for underpricing and aftermarket volatility. Gupta and Israelsen (2014) also document higher underpricing and greater informed trading for EGCs and attribute their findings, to some extent, to increased risks disclosed in the prospectus. Dambra, Field and Gustafson (2014) examine the de-burdening and de-risking provisions of the Act and focus on those firms that would most benefit from these provisions. Consistent with a proprietary cost argument, they find a significant increase in issue

volume for biotech and pharmaceutical IPOs and a significant, but smaller increase, in issue volume for non-biotech and pharmaceutical IPOs. Our paper contributes to this literature by examining both the direct and indirect costs of going public, and by isolating the effects of scaled disclosure only on newly eligible firms. If a central purpose of the Act is to reduce the costs of going public and increase IPO volume, our evidence suggests that in its initial phase, it has not been effective in that regard.

The paper is organized as follows. In Section 2, we describe the background and motivations for the JOBS Act. In Section 3, we discuss the related literature and develop hypotheses for how the Act could affect the direct and indirect costs of issue. In Section 4, we describe the sample criteria and provide summary statistics. In Section 5, we examine the effect of the Act on the direct and indirect costs of issuance by comparing EGC IPOs to the control samples of IPOs. In Section 6, we examine the adoption of JOBS Act provisions by EGCs and the effect of issuers' decisions to utilize the reduced reporting provisions on the costs of issuance. In Section 7, we examine the issue of whether the JOBS Act has been successful in increasing IPO volume. We conclude in Section 8.

2. Background on the JOBS Act

The JOBS Act has its origins in several studies conducted by the U.S. Treasury and the SEC on the capital raising environment for small firms and IPOs. The most important of these was the IPO Task Force Report issued in October 2011.[7] The report documented a significant decline in IPOs, especially small IPOs (those with proceeds less than $50 million), and estimated the associated job losses to the U.S. economy as a result of fewer companies going public. The report did not cite one specific reason for the decline but attributed it to the cumulative effects over more than a decade of increasingly costly and complex regulation and to a deteriorating market and informational environment for small firms. Precipitating events of the "regulatory cascade" cited by the report include the introduction of electronic trading in 1996, decimalization in 2001, passage of the SOX in 2002, the Global Analyst Settlement of

[7] The other study that contributed to the JOBS Act was the, "Final Report of the Advisory Committee on Smaller Public Companies," U.S. Securities and Exchange Commission, 2006.

2003, and passage of the Dodd-Frank Act in 2010. The report made a number of specific recommendations to decrease the initial and ongoing costs of being public; most notably scaled disclosure, and many of its recommendations were enacted directly into the JOBS Act.[8]

The JOBS Act is not the first instance of reduced regulatory requirements for smaller issuers. Beginning with the Securities Act of 1933, small issuers raising capital below a certain threshold ($100,000 in 1933 and later raised to $5 million in the late 1980s) were exempted from registration requirements. In 1992, the Commission adopted Regulation S-B that provided scaled disclosure for issuers whose public float was no more than $25 million. More recently, in February 2008, the SEC expanded scaled disclosure by increasing the public float cutoff to $75 million for a new category of issuers called "smaller reporting companies" (SRCs).

One of the central purposes of the Act is to extend the current system of scaled reporting requirements for smaller reporting companies to a broader set of firms called "emerging growth companies" or EGCs. An issuer qualifies as an EGC if it has less than $1 billion in revenues in its most recent fiscal year end statements and otherwise does not qualify as a well-known seasoned issuer (WKSI).[9] The status as an EGC lasts until the fifth anniversary of going public or revenues exceed $1 billion.

Exhibit 1 shows the scaled disclosure provisions in Title 1 of the Act that we examine in this paper.[10] The exhibit compares the new provisions for EGCs under the JOBS Act to current reporting

[8] These recommendations include 1) provide an "on-ramp" for emerging growth companies using existing principles of scaled regulation, 2) improve the availability and flow of information before and after an IPO, 3) lower the capital gains tax rate for investors who purchase shares in an IPO and hold these shares for a minimum of two years and 4) educate issuers about how to succeed in the new capital markets environment.

[9] The SEC defines "well-known seasoned issuers (WKSIs)," also known as large accelerated filers have at least $700 million in common equity held by non-affiliates, and have issued more than $1 billion in nonconvertible debt or equity in the past three years.

[10] We do not examine the JOBS Act provisions that allow for "testing the waters" or for the early publication or distribution of a research report by a broker or dealer ahead of previous maintained gun jumping restrictions under Section 5 of the Securities Act (see Dambra, Field and Gustafson (2014) for an examination of these provisions). In addition, EGCs are exempt from any future mandatory audit firm rotation requirement by the Public Company Accounting Oversight Board (PCAOB) and any rules requiring that auditors supplement their audit reports with additional information. Very few companies mention this provision in their prospectus and thus, we exclude it from our analysis.

requirements for regular filers that are not SRCs and SRCs. For the provisions that apply at the time of the IPO, an EGC can choose to file its registration statement confidentially, which allows an issuer to obtain comments from the SEC before making it public. If, after completing the registration process an EGC decides to go public, its registration materials must be made public no later than 21 days before the onset of the roadshow. Thus, an EGC that withdraws from an IPO need not disclose any of its information publicly.

In addition, EGCs are allowed to provide two rather than three years of audited financial statements in the prospectus. Executive compensation disclosure is also reduced. Under the new rules, EGCs may disclose only three rather than five named officers for two years compared to three for non-EGCs in both the registration statement and in periodic reports and omit the discussion and analysis of compensation.

Exhibit 1: Disclosure Requirements for EGCs

JOBS Act provisions applicable to IPO registration process		
Requirements for Regular Registrants	**Scaled Requirements Available to EGCs**	**SRC Eligibility**
Issuers must publicly disclose their registration statements at the time of filing with the SEC.	Issuers can confidentially file a draft registration statement with the SEC, which remains private unless the issuer chooses to go forward with the IPO. All information must be made public 21 days prior to the onset of the roadshow.	New provision under the JOBS Act.
Three years of audited financial statements must be disclosed in IPO registration statements.	Two years of audited financial statements are permitted to be disclosed in IPO registration statements.	Available to SRCs under Regulation S-K.
Full compensation discussion and analysis (CD&A) is required. Tabular executive compensation disclosure is required for 5 named executive officers (i.e., CEO, CFO, and the 3 highest-paid executive officers) for 3 years of compensation data in IPO registration statement (and subsequent annual reports).	No CD&A is required. Tabular executive compensation disclosure is reduced to 3 named executive officers (i.e., CEO and 2 other highest-paid executives) for fewer than three years of compensation data in IPO registration statement (and subsequent annual reports).	Available to SRCs under Regulation S-K.
JOBS Act provisions applicable Post-IPO		
Sarbanes-Oxley Section 404(b) requirement mandating	Sarbanes-Oxley Section 404(b) compliance is delayed until firm	SEC postponed reporting until June 2010. Dodd-Frank permanently

management assessment and *external auditor attestation* of internal control over financial reporting, beginning with second 10-K following IPO.	ceases to be an EGC. Only management assessment of internal control over financial reporting is required until one fiscal year following cessation of EGC status.	exempted SRCs from reporting.
Dodd-Frank requires firms to hold separate non-binding advisory votes to approve: (1) named executive officer compensation (Say-on-Pay), (2) the frequency of Say-on-Pay votes (Say-on-Frequency), and (3) golden parachute arrangements for the company's named executive officers in connection with merger/acquisition and other similar transactions (Say-on-Golden Parachutes). The Dodd-Frank Act also requires public companies to disclose the relationship between executive compensation and financial performance of the issuer; and the of ratio annual total compensation of the CEO and the median of the annual total compensation of all employees of the company.	Exempt from Dodd-Frank Say-on-Pay, Say-on-Frequency and Say-on-Golden Parachutes votes; exempt from disclosure of relationship between executive compensation and financial performance of the issuer; exempt from disclosure of ratio annual total compensation of the CEO and the median of the annual total compensation of all employees of the company.	SRCs were exempted from Say-On-Pay until the first annual or other meeting of shareholders at which directors will be elected and for which the rules of the Commission require executive compensation disclosure occurring on or after January 21, 2013.
Must adopt public company effective dates for new or revised accounting standards	Can choose to adopt private company effective dates for new or revised accounting standards	New provision under the JOBS Act.

For the post-IPO provisions that apply to periodic reports, EGCs are exempt from auditor attestation of internal controls under SOX Section 404(b) and Say-on-Pay voting obligations mandated under the Dodd-Frank Act, for as long as they maintain EGC status. In instances where the PCAOB establishes new auditing requirements or revises existing ones, the Act allows EGCs to delay compliance until the rules become effective for private companies, which is typically a later date than for public companies.

As can be seen in Exhibit 1, SRCs are already eligible for many of the exemptions extended to EGCs but there are two provisions that are new to SRCs. First, SRCs gain the ability to confidentially file a registration statement and adopt private company effective dates for new accounting standards. Second, the time period for compliance with Say-On-Pay is extended from January 2013 for as long as the SRC qualifies for EGC status. Consequently, SRCs are expected to be less affected by the provisions of the Act compared to non-SRCs.

In sum, Title I of the Act principally attempts to redress the increased "regulatory burden" stemming from the potentially more costly and complex reporting requirements by extending the benefits of scaled disclosure currently enjoyed by SRCs to larger IPO issuers.

3. Related Literature and Hypotheses

3.1 Related Literature

The extent to which mandatory disclosure benefits investors has been long debated, suggesting that the reduction in disclosure requirements proposed under the JOBS Act likewise will be seen as controversial. Proponents of increased disclosure argue that the benefits to investors outweigh the cost to issuers because it decreases information acquisition costs, which, in turn, increases the flow of information to all investors. However, if the disclosure of this information reveals valuable strategic or proprietary information to rivals (Bhattacharya and Ritter, 1983; Darrough and Stoughton, 1990; Bhattacharya and Chiesa, 1995), then issuers may prefer to withhold it. The cost of withholding information, however, can create information asymmetries between issuers and investors that affect security prices (Myers and Majluf, 1984). Mandated disclosure rules attempt to balance the competing objectives of capital formation and investor protection.

Studies of prior SEC initiatives to allow for scaled disclosure generally find that negative price effects are associated with a decrease in information. Two prominent examples of scaled disclosure are shelf registration and Rule 144A. As originally conceived in 1982, shelf registration ("Rule 415 Experiment") permits larger, more established issuers to avoid registering each offering at the time of issue by allowing a "shelf" registration that covers potential future offers. Denis (1991) examines the introduction of shelf registration and shows that its use is limited for equity issues, a comparatively high asymmetric information security compared to debt. In explaining the reluctance of equity issuers to use

shelf registration, he finds that shelf issues have significantly more negative announcement date price reactions compared to non-shelf issues.[11]

Rule 144A allows firms to bypass registration altogether and raise capital by selling securities to Qualified Institutional Buyers (QIBs).[12] Most studies find that 144A issues are priced at a small discount to public issues or other benchmarks (Fenn, 2000; Livingston and Zhu, 2002; Chaplinsky and Ramchand, 2004; Tang, 2007, and Zhang, 2010). These studies, however, typically do not distinguish whether this discount is a result of less mandated disclosure or the lower liquidity of 144A issues. An exception is Tang (2007), who controls for liquidity, and finds that the information obtained from mandated disclosure is of sufficient value that institutional buyers discount offerings to account for its absence.

More generally the literature finds there are benefits in terms of lower costs of capital or higher equity values to greater disclosure of information (see Verrecchia, 2001, Dye, 2001, and Healy and Palepu, 2001 for a review of the literature). Studies that examine the effects of greater disclosure include, among others, the imposition of mandated disclosure for OTCBB companies (Leuz and Bushee, 2005), the effects of the 1964 Securities Act Amendments (Greenstone, Oyer, and Vissing–Jorgensen, 2006), and the effects of the 2005 Securities Offering Reform on the issue costs of seasoned equity offerings (Clinton, White and Woidtke, 2014; Shroff, Sun, White and Zhang, 2013). An important exception, however, are the studies that investigate whether the equity values of U.S. firms increase after SOX. Coates and Srinivasan (2014) and Leuz (2007) characterize the evidence on this issue as "mixed," largely due to imprecise dating of the law's effectiveness, compounding financial and political events, and the lack of a control group of public firms unaffected by the law.

[11] Denis (1991) examines the early years of shelf registration. Subsequently, the SEC amended the shelf registration process in 1992 and 2005 to allow a single prospectus to be filed by issuers covering multiple securities (unallocated shelf registrations) and a broader set of firms to qualify for shelf registration. Bethel and Krigman (2005) and Autore, Kumar, and Shome (2008) examine the effects of these amendments and find the price declines are limited to high asymmetric information firms and first time offerings that register common equity on unallocated shelves.

[12] The disclosure requirements for a 144A offer differ in several ways from a public issuance – the offering memorandum is not subject to SEC review, financials do not have to conform to U.S. Generally Accepted Accounting Principles (GAAP), and non-registrant issuers (i.e., typically foreign issuers and private companies) do not become subject to ongoing Exchange Act requirements following the offering.

A less extensive literature examines the potential reasons for the decline in IPOs. Existing studies, however, generally discount the regulatory burden explanation as the main reason for the decline in IPOs. These researchers do not dispute that the regulatory burdens, especially for small firms, increased in the immediate aftermath of SOX, but question its role on the decision to go public. They note that the rise in costs following SOX prompted the SEC to delay the compliance of small firms and to completely exempt them from SOX Section 404(b) in the Dodd-Frank Act of 2010. Coates and Srivansan (2014) argue, citing evidence in Gao, et. al. (2013), that even after these regulations were put in place, IPOs by small firms did not increase as might be expected if regulatory burdens were the main reason for the decline in IPOs.

The "regulatory cascade" referred to in the Task Force report also includes other regulations that are believed to have deteriorated the market ecosystem for small firms. Weild and Kim (2010) argue that investor interest in small firms has eroded from changes in market structure (e.g., growth in institutional ownership, advent of online trading), and in particular, the enactment of decimalization in 2001, which negatively impacted the liquidity of small cap stocks. Keating (2012) suggests that the Global Settlement reduced the value of research coverage to investment banks, which has resulted in a greater number of small firms without research coverage (a finding disputed for IPOs by Gao, et. al. (2013)). In the absence of research coverage, Keating (2012) argues that small firms trade at lower values and less information is available to promote trading volume and investor interest. Lacking a supportive market ecosystem, small firms fail to achieve some of the benefits associated with public listing, which undermines their incentives to go public.

As an alternative to regulatory reasons for the decline in IPOs, Gao, et al. (2013) develop an "economies of scope" explanation which argues that competitive reasons motivate startup firms to sell to industry incumbents to gain scale quickly rather than opt for an IPO. Gao, et. al (2013) and Ritter, Signori, and Vismara (2013) find that over time an increasing proportion of small firm IPOs are unprofitable, which hampers their ability to sustain public listing. Davidoff and Rose (2014) examine the lifecycle of IPO firms, and find that a substantial number of small firm IPOs are "unsuitable" to withstand

the rigors of the public market. If high regulatory burdens are not the main reason for the decline in IPOs, then attempts to redress it under the Act should not, in principle, result in large increases in IPO issue volume.

3.2 Hypotheses

The role of information on IPO pricing is well-known in the literature (Ritter and Welch, 2002). In the absence of publicly traded stock and a history of public filings, firms making a first public equity issuance are subject to a high degree of asymmetric information between the issuer and investors. If asymmetric information is high and information is costly to obtain, investors will require a discount or underpricing to compensate for the costs of information acquisition (Benveniste and Spindt, 1989; Sherman and Titman, 2002).

Disclosure, by increasing transparency, has been empirically shown to affect the pricing of IPOs. For example, Leone, Rock, and Willenborg (2007), Ljungqvist and Wilhelm (2003) and Hanley and Hoberg (2010) find that firms that are more (less) specific or informative in their disclosure have lower (higher) underpricing. Guo, Lev, and Zhou (2004) focus on product-related disclosures in the prospectuses of firms in the biotechnology industry and document a negative relation between the extent of disclosure and bid‐ask spreads.

Thus, the enactment of the JOBS Act provides a natural experiment in which to examine the effects of reduced disclosure on the pricing of IPOs. If, as the Act intends, the costs of producing the disclosure outweigh its usefulness to investors, then we expect that the direct costs of going public (e.g., accounting, legal and underwriting fees) should decrease without a corresponding increase in the indirect costs of underpricing. On the other hand, Coates (2011) and Ritter (2012, 2013) caution that even if the Act contributes to lower investor protection in a small number of instances, it could result in investors demanding higher expected returns *for all firms*. These ideas are formalized in the following hypotheses.

H1: If offering intermediaries such as underwriters, lawyers and accountants need to expend less effort on due diligence and on the preparation of offering documents because of reduced disclosure requirements, we expect that EGCs will have lower direct costs associated with the offering compared to non-EGC IPOs.

H2: To the extent that reduced mandated disclosure contributes to less transparency or greater ex ante uncertainty about the value of an issuer's shares, we expect underpricing to be higher for EGC IPOs compared to non-ECG IPOs.

H3: For the subset of EGCs that are smaller reporting companies (SRCs) that already qualify for many of the reduced disclosure exemptions prior to the Act under Regulation S-K, we expect less of an effect on direct or indirect costs compared to non-SRC EGCs.

H4: EGCs that opt for less transparency in disclosure by using more of the Title 1 provisions should have higher underpricing than EGCs that adopt fewer provisions.

H5: If the Act is successful in reducing regulatory costs and mitigating other reasons for the decline in IPOs, controlling for market conditions, IPO volume should increase after the passage of the Act.

4. Data and Summary Statistics

We identify an initial list of all U.S. IPOs issued between January 1, 2003 and April 30, 2014 from the *Thomson Reuters Security Data Corporation (SDC) New Issues* database. From the initial list of U.S. IPOs, we make use of both SDC information and a PERL script to read the first 1,000 words of each S-1 to eliminate cross listings of foreign firms, closed-end funds, Real Estate Investment Trusts (REITs), limited partnership interests, right issues, unit issues, blank check offerings, and IPOs whose offering techniques are best efforts or self-underwritten. We restrict the sample to offerings of common shares, and class A or B ordinary shares. We also require our sample of IPOs to be listed on an exchange. We remove any firm that was previously traded on the OTCBB or the OTC QB or that filed a 10-K prior to the IPO. We exclude IPOs with offer prices less than $2, missing file dates or first day closing prices, and issues that have more than 18 months between the initial file and offer date.

We merge the above sample with the Center for Research in Security Prices (CRSP) and Compustat databases to obtain pricing and financial information. For IPOs whose prices are not available from CRSP, we hand collect data from Yahoo Finance. We collect information on balance sheet and income statement variables in the year prior to the IPO from Compustat and when unavailable in Compustat, we hand collect the data from IPO prospectuses. These exclusions yield a total of 1,114 IPOs (Appendix A).

We define an EGC IPO as an issuer that self-identifies as such in their offering document.[13] Accordingly, we search the registration statements (S-1s) from the SEC's EDGAR website for the keywords, "emerging growth company" using a PERL script and identify 326 U.S. EGCs using this procedure. By applying the same exclusion rules for IPOs above, the EGC sample is reduced to 213 firms.

We define a Control IPO as any non-EGC IPO that has less than or equal to $1 billion in revenue adjusted for 2012 purchasing power dollars using the Consumers Price Index (CPI).[14] This cut-off ensures that the issuer's CPI-adjusted revenues meet the Act's threshold in 2012, the year the Act passed.[15]

As depicted in Figure 1, we utilize two sample periods to ascertain the effects of the Act. Our first sample period ("post-crisis sample") includes Control IPOs that are issued from January 1, 2010 – April 30, 2014, a time period that accounts for all regulations inclusive of the anticipated final passage of Dodd-Frank (July 21, 2010). The post-crisis sample includes 161 Control IPOs.

Not surprisingly, IPO issue volume is somewhat muted in the immediate aftermath of the crisis (2010 - 2011) compared to the pre-crisis years. As the post-crisis sample begins in close proximity to the financial crisis, the types of firms accessing the IPO market in the early phases of recovery likely differ from those accessing the market later in the recovery. Therefore, our second sample period ("full sample") includes Control IPOs that are issued from January 1, 2003 – April 30, 2014, which allows for

[13] Although the Act was passed on April 5, 2012, its provisions were made retroactive to December 8, 2011. We exclude from the EGC sample firms eligible to be considered an EGC but that went public between December 8, 2011 and April 4, 2012, as they could not have benefited from the provisions affecting the IPO process. There are 25 firms in this category that are considered EGCs for the purposes of periodic filings only and we include these firms in the control samples discussed later.

[14] Selecting the control IPOs using CPI adjusted revenues versus nominal dollar revenues excludes only 12 firms from the control group.

[15] The Act distinguishes between EGCs and WKSIs, which are not eligible for regulatory relief under the JOBS Act. At the time of the IPO, we generally have access to only one or two years of financial data prior to the IPO, such that it is not possible to check whether firms issued more than $1 billion in non-convertible debt or equity in the past three years. Instead, we check the issuer's total debt on the balance sheet in the year prior to the IPO to see if it exceeds $1 billion and using proceeds as a proxy for public float, if it exceeds $700 million. Only 3.4% of the control IPOs meet these criteria and we rely on the $1 billion revenue requirement as the primary means to identify control IPOs.

examination of the types of IPOs issued under a broader range of market conditions.[16] We choose 2003 as the beginning date for this sample because by 2003 issuers were subject to the anticipated compliance costs associated with SOX (enacted July 30, 2002). The full sample period includes 758 Control IPOs.

Table 1 shows the yearly frequency between Control IPOs and EGC IPOs. Two important patterns emerge from this table. First, over the full sample period, 87% of all IPOs, on average, could have qualified as EGCs suggesting that the Act extends regulatory relief to the vast majority of IPO issuers. Second, because of the high revenue cutoff for EGC status, virtually all issuers of IPOs since the passage of the Act have chosen to identify as EGCs. Of the firms eligible to take advantage of ECG status, all but three choose to do so.

Table 2 reports descriptive statistics for firm and issue characteristics for EGC IPOs in comparison to the two Control IPO samples. Several findings are confirmed using either control sample periods (for the variable definitions see Appendix B). First, with respect to firm characteristics, EGC IPOs are, on average, significantly more likely to be smaller (*Revenue_CPI*), unprofitable *(Unprofitable*), younger (*Age*), and VC-backed (*VC*) firms.[17] Second, based on issue characteristics, EGC IPOs do not differ significantly in nominal or CPI-adjusted proceeds or take longer to complete (*Days in Registration*) compared to Control IPOs (and this results holds even within the subset of issuers using confidential filing). One of the direct costs of issuance, *Gross Spread*, is not significantly different between the groups. Consistent with earlier findings in Chen and Ritter (2000), 80.0% of EGC IPOs and 78.3% of Control IPOs in the full sample and a similarly high percentage of Control IPOs in the post-crisis sample report a gross spread exactly equal to 7%. If reduced transparency prompts underwriters to conduct more due diligence, it is plausible that only underwriting and management fees will be affected by the Act. When we break *Gross Spread* into its respective components, however, we do not find any significant

[16] Bayless and Chaplinsky (1996), Lowry (2003) and Helwege and Liang (2004) examine whether the characteristics of equity issuers change in relation to market conditions.

[17] We collect data on the age of the EGC IPOs from their S-1s, and obtain information on firm age for control IPOs from Jay Ritter's IPO data web site. We thank Jay Ritter for kindly providing us founding year data.

differences between underwriting and managing fees for Control IPOs and EGCs. Finally, EGC IPOs have significantly greater underpricing (*Initial Return*), on average, compared to Control IPOs.

Some differences emerge between EGCs and Control IPOs depending on the sample period examined. First, the percentage of IPOs that qualify as smaller reporting companies, *SRC,* is lower for Control IPOs that go public during the full sample period but not for Control IPOs that go public during the post-crisis period. This could be due to the adoption of Regulation S-K in 2008 that set a higher threshold ($75 million versus $25 million in proceeds) for companies to qualify as SRCs. Second, direct costs associated with accounting and legal fees, *Accounting & Legal Fees,* is significantly higher for EGCs compared to Control IPOs using the full sample, but not for the post-crisis sample.

The market conditions in the period when EGCs are issued are generally strong compared to the post-crisis and full sample periods. The average NASDAQ return in the 90 days prior to the offering, ($NASDAQ_{-90}$) is similar for EGCs and Control IPOs in the post-crisis period but higher relative to Control IPOs in the full sample period. The average initial returns of prior IPOs ($Avg\ IR_{\_90}$) is significantly higher for the EGC sample compared to either Control IPO samples.

Last, we include default spreads which have been used extensively in the macroeconomic literature to predict changing business cycle conditions. We use the *BB/B spread* to capture both the time series of credit availability throughout the sample and the extent of recovery in market conditions after the crisis ends. Consistent with our expectations, the BB/B spread is greater for Control IPOs during the post-crisis period compared to the EGC sample period. The average BB/B spread is not significantly different between EGC IPOs and Control IPOs over the full sample.

Overall, these results indicate that market conditions vary depending on the sample period examined. One takeaway from these findings is that market conditions could influence the type of company that chooses to (or can) go public. For example, if post-crisis period investors are less receptive to riskier issues, only more financially secure firms may be able to go public.

Some support for this idea is shown in Figure 2 which splits the sample of EGC and Control IPOs by profitability. At the height of the financial crisis in 2008, 100% of IPO issuers (albeit a small number)

are profitable and there is a marked decline in the profitability of IPO issuers as market conditions improve to the point where 82% of issuers are unprofitable in the fourth quarter of 2013. Only examining Control IPOs in the post-crisis period could bias us toward finding differences between the EGC and Control IPOs that do not stem from the provisions of the JOBS Act. Therefore, Control IPOs issued during the full sample period serve as an important check to see whether the results hold for IPOs issued under a broader range of market conditions and types of firms going public.[18]

5. Empirical Analysis of IPO Fees and Pricing

In this section, we examine Hypotheses 1, 2, and 3 to determine whether the Act has affected the costs of going public. In order to do so, we examine whether EGCs have higher or lower direct costs (accounting, legal, and underwriting fees) and indirect costs (underpricing or initial returns) than other IPOs. Ideally, we would like to compare firms after the passage of the Act that choose to be EGCs with those that were eligible but do not choose EGC status. Unfortunately, the high frequency of EGC adoption among eligible firms presents a problem reminiscent to that encountered in prior studies of SOX; it becomes difficult to identify a control group of public firms that are unaffected by the Act. Therefore, we use three different methodological approaches to attempt to overcome this problem and to control for factors other than the passage of the JOBS Act that could affect our dependent variables: 1) OLS regressions using control samples of non-EGC IPOs as defined above, 2) propensity score matching, and 3) difference-in-differences regressions between EGCs and IPOs that do not qualify for EGC status because their revenues exceed $1 billion.[19]

[18] To examine whether IPOs originate from different industries after the Act, in unreported results we examine the industry distribution of EGC and control IPOs based on Fama French 17 industry classifications. With few exceptions, the industry distributions between the groups are similar. The one notable difference is the higher frequency of IPOs in the consumer industry, which includes drugs and biotech. For EGC IPOs 24.8% occur in this industry compared to 10.5% in the control groups (p-value = 0.01). Dambra, et. al (2014) explore at greater length issues related to the increase in biotech and pharmaceutical issuers after the Act.

[19] We also attempted a threshold analysis to determine whether costs differed between EGCs and non-EGCs that were just over the threshold of $1 billion in revenue. Unfortunately, there are only a handful of non-EGCs that have revenue above the EGC revenue threshold and below $1.5 billion.

5.1 OLS Regressions

In Table 3 in models (1)-(3) for both sample periods, we present regressions testing Hypothesis 1 that predicts that if the Act is successful in reducing the costs of going public, EGCs should have lower direct costs compared to Control IPOs. The dependent variables for direct issue costs are all scaled by proceeds (excluding the overallotment option). *Accounting & Legal Fees* should be directly related to the costs of producing the information necessary for the registration process, whereas *Gross Spread* includes compensation to underwriters for the costs of performing due diligence, marketing the issue, and assuming the price risk associated with guaranteeing proceeds. *Total Direct Cost* is the sum of the individual direct cost components.

The main focus of our analysis is the coefficient of *EGC,* a dummy equal to 1 for an EGC IPO issuer, and 0 for a Control IPO. If the Act is successful in reducing the direct costs of going public, the coefficients on *EGC* should be significantly negative. The other independent variables control for factors shown to be important in prior studies that examine the costs and pricing of IPOs, such as proceeds raised, the age and profitability of the firm. To reduce the effects of the high degree of correlation among proceeds, firm age, profitability, VC backing, and underwriter market share in the regressions, we use the natural log of residual proceeds, *Ln(Residual Proceeds*) to control for size related differences.[20] *Days in Registration* captures how long the issuer is in registration and direct costs are generally positively correlated with it (Hanley and Hoberg, 2010). We also include *UW Mkt Share,* as discussed in Megginson and Weiss (1990), to control for the reputation of the underwriters handling the IPO.

The IPO market is subject to a high degree of cyclicality which can affect the pricing and terms of new issues. Normally such variation is controlled by year (or period) fixed effects but since virtually all IPO issuers adopt EGC status after 2012, the dummies for 2012 and 2013 become indistinguishable from the EGC dummy. In order to capture the variation in equity market conditions, therefore, we include the

[20] *Ln(Res. Proceeds)* is the residual proceeds from a regression with *Proceeds* as the dependent variable and *VC* and *UW Mkt Share* as independent variables. Once VC and underwriter reputation are controlled, the correlations with age and profitability are substantially reduced. For the same reason as noted above, we do not include a VC dummy in the regressions as it is highly negatively correlated with the profitability and age of the issuer.

return on the NASDAQ index 90 days prior to the offer date, *NASDAQ*$_{-90}$, and the total number of IPOs issued 90 days prior to the offer date, *#IPOs*$_{-90}$. For the full sample, we also include a dummy variable, *Crisis*, which takes on a value of one in the years 2008 and 2009.[21] All of the regressions include industry fixed effects using the Fama-French 17 industry classifications and robust standard errors that are adjusted for industry clustering.[22]

Focusing first on model (1) in Table 3 for both the post-crisis and full sample, the coefficient of EGC for *Accounting & Legal Fees* is positive and significant at the 1% level using either sample period.[23] In model (2), consistent with the univariate results, the coefficient of EGC for *Gross Spread* is insignificant in both samples.[24] In model (3), the coefficient of EGC for *Total Direct Costs*, the sum of *Accounting & Legal Fees* and *Gross Spread*, is also significant at the 1% level for both sample periods. With respect to the control variables, we find that *Total Direct Costs* are significantly negatively related to *ln(Res. Proceeds)*, consistent with fixed costs of issuance, and significantly positively related to the *Days in Registration*, which bolsters confidence that we are capturing expenses related to the offering. Overall, the regression results show little evidence to suggest that the Act has reduced the direct costs of going public.

In some cases, we find that direct costs increase and one potential reason for this is that the Act does not alter the liability of issuers, underwriters, and accounting firms under Section 11 of the Securities Act of 1933 which states that a registration statement should not contain "an untrue statement of a material fact or omit to state a material fact required...to make the statements therein not misleading." Hanley and Hoberg (2012) show that greater disclosure can offset the risks of potential litigation due to material omissions in the prospectus. If reduced disclosure increases the liability exposure of the issuers

[21] In the post crisis sample, #IPOs$_{-90}$ is correlated with the EGC dummy, since virtually all IPOs are made by EGCs. This induces collinearity with the EGC dummy and therefore, we do not include it in the post-crisis sample.
[22] Our results are robust industry classifications defined using Fama French 10 categories or Fama French 50 categories with biotech firms treated as a separate industry.
[23] The findings are similar if accounting and legal fees are examined separately.
[24] Since gross spreads are often 7% (Chen and Ritter, 2000), we confirm the OLS regressions using a logit specification in which the dependent variable takes a value of 1 if the spread is equal to 7%, 0 otherwise.

or intermediaries, the direct costs of going public may increase rather than decrease to compensate for increased litigation risk.

In models (4) and (5) of Table 3, we examine indirect costs and test Hypothesis 2 which predicts that investors will require a higher initial return (underpricing) for EGC IPOs in order to compensate them for the loss in transparency after the Act. The dependent variables for Indirect Costs are *Initial Return* and *Total Cost*, which is the sum of *Initial Return* and *Total Direct Costs*. We include *Offer Price Revision* to account for prior research by Hanley (1994) showing that upwardly revised IPOs have a higher degree of underpricing on average.

In model (4) for both control samples, the coefficients of EGC for *Initial Return* are significantly positive and the magnitude is economically significant. Based on the coefficients of EGC, underpricing is estimated to be 7.0% (post-crisis sample) higher and 8.0% (full sample) higher on average for EGCs than Control IPOs consistent with the prediction of Hypothesis 2. For the other control variables, *Initial Returns* are significantly positively related to *ln(Res. Proceeds), Offer Price Revision, UW Mkt Share,* and $NASDAQ_{-90}$ and significantly negatively related to *Days in Registration.* In model (5) for *Total Costs* we find similar positive and significant results for both control samples. Because *Total Costs* accounts for the effects of indirect and direct costs, these results show that the proposed alleviation of regulatory burdens under the Act is more than offset by higher indirect costs.

In Table 4, we break the IPO sample into SRC and non-SRC issuers to test the specific predictions of Hypothesis 3 that since SRCs previously qualify for much of the relief in the Act under Regulation S-K, the effect on direct and indirect costs of these issuers should be less than those of larger issuers. The results for *Total Direct Costs* in models (1) and (2) are consistent with the overall sample results in Table 3 and show that both non-SRCs and SRCs have positive and significant (with one exception) coefficients on the EGC dummy. In models (3) and (4), the results for indirect costs are more indicative of the effects of the Act on transparency. Non-SRC IPOs, or those issuers that are newly eligible for a reduction in mandated disclosure, have significantly greater underpricing compared to SRC issuers that do not have higher underpricing. These findings are consistent with investors requiring a

higher rate of return to compensate for the increased risk and information production costs associated with reduced transparency. The evidence presented here suggests that there are limits to the benefits of scaling disclosure, particularly as it applies to larger issuers.

5.2 Propensity Score Analysis

One concern that arises in the previous tests is that the type of firm that chooses to go public after the Act may be systematically different from control firms in ways that are not captured by a revenue cutoff. As a result, our Control IPOs may be too broad as a comparison group for EGC IPOs. We address this in Table 5 by using a propensity score matching model to determine the importance of characteristics of issuers that choose to be an EGC. We use firm specific variables as well as underwriter reputation in the logit regression to estimate the propensity score model. As shown in Panel A of Table 5, the likelihood of being an EGC IPO increases significantly for smaller offers, if a firm is younger and unprofitable, and has a lower ranked underwriter.

Using the propensity score, we search within the respective samples of non-EGC IPOs for the nearest five neighbors within the same Fama French Industry 17 classifications and SRC status, and match as closely as possible on market conditions using $NASDAQ_{-90}$ and $\#IPOs_{-90}$.[25] Following this procedure, we identify a control sample of IPOs that is matched to the EGC IPOs based on firm specific characteristics, SRC status, industry, and market conditions.

In Panel B of Table 5, we examine the average treatment effects (ATT) between EGCs and the matched control samples of IPOs. For the overall sample (All), we find that all measures of direct and indirect costs are significantly higher for EGCs compared to Control IPOs in both sample periods. When we examine SRCs and non-SRCs separately to test Hypothesis 3, we find that non-SRC EGCs have significantly higher *Accounting & Legal Fees*, *Gross Spread*, and *Total Direct Costs* but only in the post crisis period. Non-SRC EGCs have significantly higher *Initial Returns* and *Total Costs* compared to their closest peers in either sample period. Thus, consistent with Hypothesis 3, the major effects of the Act,

[25] Our results are robust to matching using a smaller or largest number of nearest neighbors.

particularly with respect to underpricing, appear to be concentrated among larger EGCs that are newly eligible for scaled disclosure. Consistent with the earlier regression analysis in Tables 3 and 4, the propensity score model analysis does not indicate that after the Act, EGC IPOs experience lower direct or indirect costs compared to a well-defined control group.

5.3 Difference-in-Differences Analysis

In this section, we use a difference-in-differences (DD) approach to control for structural changes in the costs of going public that are unrelated to the passage of the Act, for example, changes in accounting or legal practices that would affect all issuers. To determine whether this is the case, we examine differences in the costs of going public, before and after the Act, between IPOs that could qualify (Affected) and those could not qualify (Unaffected) as an EGC. The *Affected* group includes all IPOs that meet the qualifications for EGC status (less than or equal to $1 billion in CPI-adjusted revenue). The *Unaffected* group includes all IPOs that have revenues above $1 billion and thus, would not be eligible for the Act. Using both the post-crisis and full sample periods, 86% and 87%, respectively, of all IPOs are in the *Affected* group based on the revenue cut-off and the remaining 14% and 13% of IPOs are in the *Unaffected* group.

We implement the DD model using a regression framework that includes a post-JOBS Act dummy (*Post*), an affected group dummy (*Affected*), and *Affected* interacted with *Post* (*Affected*×*Post*) as independent variables. The key variable of interest is the interaction term, *Affected*×*Post*, which tests whether differences in the dependent variable between the affected and unaffected groups have changed since the passage of the Act. We also include the same controls as in the previous regressions but do not report their coefficients in order to focus on the main findings of interest.

Table 6 presents the regression results for both the direct and indirect costs of going public. In the post-crisis sample, the coefficient on *Affected*×*Post* is directionally positive (though often insignificant) indicating that direct and indirect costs of going public do not decrease after the Act for the affected group. In the full sample, *Total Direct Costs*, *Initial Return*, and *Total Costs* are significantly

positive, while in the post-crisis sample the same variables remain significantly positive with the exception of *Initial Return*. In both samples, the estimated coefficients of *Initial Return* for the interaction term are of similar magnitude and imply that the Act increases an IPO's indirect cost of going public by roughly 6%, an economically meaningful amount.

The attenuated significance in the DD analysis for the post-crisis sample period is likely due to low power to detect differences because of the relatively small number of observations in the *Unaffected* group. In the post crisis sample, the *Affected*×*Post* interaction term for the *Unaffected* group compares only 24 observations before the Act to 36 observations after the Act. By contrast, the interaction term for the *Affected* group compares 158 observations before the Act to 212 observations after the Act. Despite this low power, we find no evidence in the DD analysis that the direct and indirect costs have been reduced for the affected group IPOs after the Act.

5.4 Aftermarket Trading Measures

In this section, we examine whether aftermarket trading costs increase for EGCs after the JOBS Act. Prior literature suggests that information asymmetry can result in trading frictions that increase the bid-ask spread and reduce the liquidity of shares (Copeland and Galai, 1983; Kyle, 1985; Glosten and Milgrom, 1985). Amihud and Mendelson (1986) show that this illiquidity is priced, thereby increasing a firm's cost of capital. In these studies, the bid-ask spread serves as the primary method by which market makers protect themselves against adverse selection, which makes it a frequently used proxy for information asymmetry. EGCs also appear to be cognizant that their choices could affect aftermarket trading and warn investors in their offering documents that reduced disclosure under the Act could adversely affect the aftermarket liquidity and volatility of their shares.[26]

[26] For example, "We cannot predict if investors will find our common stock less attractive as a result of our taking advantage of these exemptions. If some investors find our common stock less attractive as a result of our choices, there may be a less active trading market for our common stock and our stock price may be more volatile." Continental Building Products, Inc., Final IPO Prospectus, SEC File No. 333-193078, February 6, 2014, p. 33.

We use two different aftermarket performance variables (*Bid-Ask Spread* and *Return Volatility*) to help discern the effect of the Act on the cost of capital. The aftermarket performance variables provide supporting evidence for our earlier tests on indirect costs. Based on our earlier hypotheses, we would expect that if asymmetric information increases as a result of the Act's potential to reduce transparency, *Bid-Ask Spread* and *Return Volatility* would be higher for EGC IPOs compared to the control IPOs.

In Table 7, the dependent variables in the regressions, *Bid-Ask Spread* and *Return Volatility*, are computed for 30, 60, 90, 120 days after the IPO offer date. We begin 30 days after the offer to be consistent with the findings in Ellis, Michaely and O'Hara (2000), which finds that the stabilization activities of the lead IPO underwriter affect trading volume for 30 days post-issuance. For all offers, we have complete data through 60 days post-offer (June 30, 2014), but for longer intervals post-issue we lose some observations.

The variables and the specifications used in Table 7 differ from our earlier analysis because the variables are constructed from post-IPO trading characteristics. In these specifications, we include the same independent variables that were used in the Table 3 regressions of direct costs and also include the *Initial Return*. In addition, we include, respectively, the mean market bid-ask spread and the mean market return volatility as control variables. Both are measured over the same time period as the dependent variable and are computed from data for all publicly traded stocks. Control variables are not shown for brevity.

In Table 7, we find for both control samples that the coefficients of the EGC dummy for *Bid-Ask Spread* and *Return Volatility* are positive and significant for all but one of the post-issue intervals. The higher *Bid-Ask Spread* for EGC IPOs is consistent with increased costs of information asymmetry. In addition, aftermarket return volatility is also higher lending credence to issuer's warnings to investors in

their S-1s. These results provide additional support, along with our earlier results for underpricing, that EGC IPOs incur higher costs of capital as captured by these aftermarket trading costs.[27]

6. Analysis of EGC Disclosure Choices

In this section, we focus on Hypothesis 4 which predicts that the more an EGC adopts the provisions of Title 1 the greater will be the underpricing. We analyze the frequency of adoption of JOBS Act provisions and how these choices affect the direct and indirect costs of issuance within the EGC sample.

6.1 Adoption of JOBS Act Provisions

In order to obtain information on which provisions EGCs choose to take advantage of in the Act, we manually inspect the Draft Registration Statements (DRSs) and S-1 registration statements from the SEC's EDGAR filing site for each of the 213 EGC IPOs. All confidentially submitted registration statements are made public on the EDGAR site no later than 21 days before a road show or anticipated date of effectiveness of the registration statement. We use the DRSs to identify EGCs that use the confidential submission procedure and the dates of the submissions.[28]

We read the relevant portions of the S-1 for all EGCs to identify their choices with respect to the public on-ramp provisions. From the S-1s we record whether EGCs choose to: (1) report two (versus three) years of audited financials, (2) reduce executive compensation disclosure, (3) delay implementation of SOX Section 404(b), (4) exempt themselves from the requirements of Dodd-Frank advisory votes, and (5) exempt themselves from implementing new or revised accounting standards until such time as they apply to private companies (see Exhibit 1 for a summary of the provisions). Items (1) and (2) are directly

[27] Although we report only two measures of aftermarket performance, we examine other proxies for asymmetric information, including average trading volume, average share turnover, percentage of positive trading volume days, and the Amihud-Mendelson measure of illiquidity. We find that the coefficients of the EGC dummy for these aftermarket measures are not significant.

[28] Although the DRSs for all confidentially submitted registration statements after October 15, 2012 are available from EDGAR, some filings submitted from April 5, 2012 to October 14, 2012 are not available as a DRS. During this period, the SEC received the confidential submissions using a secure email system. 25 EGCs in our sample submit their registration statements confidentially using the email system, and we identify them and collect their initial submission dates by manually reading the correspondence between the firm and the SEC on EDGAR.

observable in the registration statements, and in most cases the classification of these items is straightforward.[29]

Items (3)-(5) are post-IPO reporting requirements. Because firms must disclose their intentions with respect to accounting rules in their first public statements, virtually all EGCs disclose their intentions with respect to item (5) in their S-1s. With respect to items (3) and (4), most frequently, EGCs state they "may take advantage of" or "have not yet decided" to take advantage of these exemptions, but in other cases a clear intention is stated to take advantage of the exemptions or eschew them. Examples of several disclosures are shown below.

> As an emerging growth company, we *may take advantage of certain exemptions* from various public reporting requirements, including the requirement that our internal control over financial reporting be audited by our independent registered public accounting firm pursuant to Section 404 of the Sarbanes-Oxley Act of 2002, certain requirements related to the disclosure of executive compensation in this prospectus and in our periodic reports and proxy statements, and the requirement that we hold a nonbinding advisory vote on executive compensation and any golden parachute payments. We *may take advantage of these exemptions* until we are no longer an emerging growth company. FireEye, Registration Nos. 333-190338 and 333-191275, September 19, 2013

> We *intend to take advantage* of certain exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies including, but not limited to, not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, and exemptions from the requirements of holding a non-binding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved. Tetralogic Pharmaceuticals, Registration No. 333-191811, December 11, 2013

Depending on the wording of the S-1, we code their choices as "Yes" (intend to take advantage), "No" (do not intend to take advantage) or "May" (no decision about their intention).

[29] For example, we count the number of named executive officers (NEOs) in the S-1s, and from the summary table of executive compensation, the number of executive officers and years of compensation data reported on the table. If the S-1 reports five or more NEOs, and the summary table reports compensation for five or fewer executive officers and fewer than three years of compensation data (i.e., salary, bonus), we code executive compensation as 1 (0 otherwise) to indicate that the firm is taking advantage of reduced compensation disclosure. When this rule proves insufficient to classify the firm's decision, we read other parts of the prospectus to reach a determination. We also collect information on whether an EGC has chosen to be exempt from any future mandatory audit firm rotation requirement by PCAOB and any rules requiring that auditors supplement their audit reports with additional information. Very few companies mention this provision and thus, we exclude it from our analysis.

Table 8 shows the frequency of EGCs' adoption of confidential filing and other disclosure provisions. The extent to which issuers take advantage of the specific provisions differs widely across EGCs. For the full sample of EGCs, 77.5% choose to confidentially file their registration statements, 36.2% choose to report two years of audited financials, 91.5% of EGCs choose to reduce their disclosure of executive compensation, and only 12.2% choose to delay compliance with the public company adoption dates for new or revised accounting rules.

With respect to the prospective governance provisions and compliance provisions, although EGCs most frequently are ambiguous ("may") about their intention to comply with SOX Section 404(b) or the Dodd-Frank advisory votes, 39.9% and 35.2% of EGCs, respectively, state an unequivocal intention to delay compliance with SOX Section 404(b) and Dodd-Frank advisory votes for as long as they remain EGCs. Our results differ from Barth, et. al. (2014) who rely on Ernst and Young's classification of each of the exemptions. They report 100% of EGCs choose to delay SOX Section 404(b) audits of internal controls (they do not examine Dodd Frank voting provisions). We conjecture that the difference is due to the categorization of the ambiguous "may" intention as a definitive "yes." In addition, we document that a small number of EGCs (12) indicate that they will *not* delay the onset of either SOX 404(b) or Dodd Frank advisory votes.

Two other questions naturally arise with respect to the reduced disclosure provisions – is there a trend in their usage over time and are the choices related? With respect to the first question, we break out the frequency of exemption choices over six (or seven) month intervals during the post-JOBS Act period in the bottom portion of Table 8. Of note is the marked increase in the use of certain exemptions as time passes after the Act. For example, in the first six months following passage of the Act, 10% of issuers chose to confidentially file, and this increases to 92.5% in the last seven months of our sample period. More issuers also intend to avail themselves of the delay in SOX 404(b) and Say-On-Pay in the later periods. This suggests that as issuers gained more experience with the Act, they became more willing to avail themselves of its provisions.

With respect to the second question, we report the correlations among the six exemption choices in Table 9. All exemption choices are coded as yes, may or no with the exception of confidential filing which is coded as yes or no. The results in Table 9 reveal, for the most part, a high degree of heterogeneity in the choice of exemptions (i.e., little clustering) as indicated by the relatively low correlations. An important exception, however, is the high correlation (0.87) between the delay in SOX 404(b) Auditor Attestation and the Dodd-Frank "Say on Pay" votes. In this case, EGCs make the same choice (yes, no, or may) in all but 16 out of 213 cases.

6.2 Effect on JOBS Act Provisions on Direct and Indirect Costs

In Tables 8 and 9, we document a distinct upward trend in the adoption of reduced disclosure provisions over the sample period as well as heterogeneity in the choices made. In Table 10, we estimate a regression model where the dependent variable, *Number of Choices,* is defined as the total number of exemption choices each EGC makes for the three possible decisions: yes, no, or may. For each of the six exemptions we calculate the total number of yes, no, and may decisions that an EGC states in its S-1. We include similar control variables to those used in the previous regressions. As expressed in Hypothesis 4, firms that adopt more provisions in total (i.e., have a greater number of yes's) are more likely to have reduced transparency. Therefore, we expect underpricing to be positively related to the number of the provisions adopted. In contrast, an issuer with a high number of no's has chosen to opt out of many of the provisions of the Act and thus, these issuers should have greater transparency and by extension, lower underpricing.

In models (1) – (3), the coefficients of *Number of Choices* are insignificant for *Total Direct Costs* regardless of an EGC's choices indicating that an EGC's exemption choices have no discernible effect on fees. For indirect costs, contrary to our expectations in Hypothesis 4, the coefficients of *Number of Choices* in model (4) for *Initial Return* and model (7) for *Total Costs* are significantly more negative the

more issuers choose to avail themselves of the Act's exemptions (yes).[30] Similarly, the more that an EGC definitively states an intention *not* to avail itself of the provisions for reduced disclosure (no), the lower the *Initial Return* (model (6)) but not *Total Costs* (model (9)). By comparison, the more an EGC is ambiguous about whether it will use exemptions (may), the greater is the underpricing in model (5) and *Total Costs* in model (8). These results imply that the market penalizes issuers with greater underpricing when they do not definitively disclose whether or not they will use the provisions of the JOBS Act.

In Table 11, we further examine whether any of the specific exemption choices lead to higher costs. To do so, we code each exemption as 1 if the issuer either takes advantage of or intends to take advantage of the exemption (yes), and 0 if the issuer either will not or may not take advantage of the exemption (no, may). We combine the choice of delay on SOX 404(b) and Dodd-Frank "Say on Pay" into one category because earlier results showed these two choices are highly correlated. We show that the primary determinant of lower underpricing among EGCs is the choice to delay compliance with SOX 404(b) and Dodd-Frank Say on Pay votes. In the regressions of *Initial Return*, the coefficient of EGC for firms taking advantage of these provisions is significantly negative. Thus, the market appears to value the choice to take advantage of these provisions positively, perhaps reflecting the view that proceeds are better spent on uses other than compliance. Firms that choose not to comply with new public accounting standards also have lower underpricing. However, only 26 of the 213 EGCs choose this provision, and therefore, the effect is not widespread among EGCs. With respect to the direct costs of going public, we find no evidence that a specific exemption has any significant effect on *Total Direct Costs* or its individual components.[31]

[30] This is not to say that EGCs with a higher number of yes's have lower underpricing compared to the control samples. In separate tests (not shown), underpricing is increasing in the number of yes's even when including the control sample (number of yes=0). It is important to note however, that there are many SRCs in the control sample that may have chosen some of these exemptions before the Act was in place. However, it is difficult to manually collect these choices for the full sample of control firms.

[31] We also examined whether firm characteristics such as revenue, underwriter market share, VC backing, age and profitability predict the number of yes, no or may's but did not find that these characteristics can distinguish the choices an EGC makes.

7. Effect on IPO Volume

The intent of Title 1 of the JOBS Act is to increase the number of smaller company IPOs by reducing the regulatory burden associated with going public. In this section, we examine Hypothesis 5 to test whether IPO volume has increased after the JOBS Act. In prior sections, however, we do not find evidence that the direct costs of issuance are reduced and indirect costs appear to have increased after the Act. Therefore, it is an open question as to whether the new regulatory requirements are perceived to be of sufficient benefit to attract more issuers to the public market.

In Table 12, we report time series regressions that examine whether IPO issue volume has increased after the Act. We report the results for the full sample only because the results for the post-crisis sample are substantively equivalent. Our dependent variables are *# Total IPOs*, the total number of IPOs and *# EGC Eligible IPOs*, the number of EGC eligible IPOs. Following Lowry (2003), we deflate each of these by the number of listed stocks at the end of the prior quarter.[32] We include a post-JOBS Act dummy variable, *Post-Act*, that takes a value of 1 if an IPO is made after April 5, 2012 and 0 otherwise, to capture the effect of the Act. The independent variables include two macroeconomic variables frequently used to capture business cycle conditions, *GDP Growth* and *BB/B Spread*$_{-Q1,}$ and several market related variables, *NASDAQ*$_{-Q1}$, and *Avg. IR*$_{-Q1}$. Each of these variables is lagged as of the prior quarter.

To better assess the influence of the macro and market variables, in model (1) for both the total number of IPOs and the number of EGCs eligible IPOs, we first estimate the predictive regressions of IPO volume without any control variables. In these regressions, the coefficients of the *Post-Act* dummy are insignificant for both the *#Total IPOs* and *#EGC Eligible IPOs*. As we add additional control variables, the coefficient of *Post-Act* remains insignificant. When all the control variables are included, *BB/B spread* is the only significant variable explaining IPO issue volume. Thus, we do not find evidence that the Act has generally had a significant effect in increasing the total number of IPOs or EGC IPOs.

[32] We also conduct the analysis using monthly IPO volume and following Gao, et. al (2013) use 2009 real GDP as the deflator for the dependent variable and the results are similar.

Our conclusions on the change in overall volume after the Act differ from those in Dambra, et.al (2014). In order to determine whether our results are robust to examining volume on an industry level, we employ a methodology similar to Dambra, et. al. (2014) in which the dependent variable is quarterly industry volume scaled by the number of firms in the industry. The specification includes time clustered standard errors, industry fixed effects and we set the Post-Act dummy to 1 from the third quarter of 2012 onward. We also include the same control variables (e.g., 12-month industry returns, GDP growth and industry market to book ratios for Fama French 50 industries). Even so, we still do not find significance for the Post-Act dummy by itself or after controlling for other market, macroeconomic, or industry factors and thus, we reach a different conclusion with respect to the Act's overall role in increasing IPO volume.[33] Our finding that total IPO volume has not increased after the Act is consistent with earlier noted studies that discount the regulatory burden explanation as the main reason for the decline in IPOs.

8. Conclusions

We examine the effects of Title I of the Jumpstart Our Business Startups Act (JOBS) on the direct and indirect costs of going public for a sample period that covers the first two years of the Act's effectiveness. A central purpose of the law is to reduce the initial and ongoing direct costs of being a public company. The Act allows emerging growth companies (EGCs), firms with generally less than $1 billion in revenues, to file confidentially, scale back their required disclosures in the IPO registration statements and to forgo compliance with SOX 404(b) and Dodd-Frank executive compensation provisions for as long as they remain EGCs. For a sample of 213 EGC IPOs that occur from April 5, 2012 to April 30, 2014, we find that virtually all firms eligible to avail themselves of EGC status choose to do so. Further, as issuers have grown more accustomed to the public on-ramp provisions of the Act,

[33] Table 6 of Dambra, et.al (2014) does not examine overall IPO volume as we do here. Instead, they examine the industry-quarter volume of IPOs and split their sample into biotech/pharma IPOs and all IPOs excluding biotech/pharma IPOs and find a significant increase in both, with a larger effect in the biotech/pharma sample. Our samples differ in time period (our pre-JOBS Act sample begins in 2003 rather than 2001) and construction, for example, we include some financial firms that are not REITs or closed-end funds and we have more EGC IPOs. However, our findings are robust to excluding all financials.

they make increasingly greater use of these provisions to reduce disclosure and delay compliance obligations.

We find no evidence, however, that their status as EGCs reduces the direct costs of issue, such as accounting, legal, or underwriting fees. Consistent with lower mandated disclosure reducing transparency and thus, increasing information asymmetry, we find that indirect costs, as measured by underpricing, are higher than both control samples using several methodological approaches. We confirm our results using other measures of information asymmetry such as bid-ask spreads and aftermarket volatility which are higher for EGCs.

We find no evidence that smaller reporting companies that are entitled to many of the provisions of Title I under Regulation S-K experience any change in their cost of capital after the Act. The increase in underpricing we document is limited to larger issuers that are newly eligible for reduced disclosure and delayed compliance. Overall, our results are consistent with a large body of literature that shows that investors value transparency and, in its absence, issuers are penalized by lower prices for their securities.

Within the sample of EGC IPOs, we find that firms that make a definitive choice about their use of the JOBS Act's exemptions have significantly lower underpricing compared to EGCs that remain undecided. Further, underpricing is significantly lower for EGCs that affirmatively choose to delay SOX 404(b) auditor attestation and Dodd-Frank Say-on-Pay votes at the time of the IPO. Within the sample of EGCs, it appears that issuers benefit by giving investors more assurance that the proceeds will be used to fund growth rather than compliance obligations.

Finally, we do not find evidence that the total number of IPOs and EGC eligible IPOs increase after the Act. The lack of increase in overall IPO volume is consistent with our findings that the benefits of the JOBS Act are outweighed by higher costs of capital.

Given the limited time since passage of the Act, some caveats are in order with respect to our findings. We note that the NASDAQ market has cumulatively increased 33% from passage through April 2014 and acknowledge the difficulty of fully accounting for the effects of strong market conditions in the post-Act period. It is generally known that strong market conditions often lead to lower quality issuers

being able to go public (e.g., the dot com bubble). Consistent with this, 67% of EGC IPOs are both unprofitable at the time of issue and substantially younger than IPOs in the control samples, and high underpricing would not be unusual for these firms. Yet for the Act to achieve its ultimate purpose of spurring employment and economic growth, IPO issuers must survive the rigors of the public market.

Second, from the perspective of other regulations reducing disclosure, there was a relatively slow uptake and negative price effects to early adopters of shelf registration and Rule 144A. Over time as investors grew more comfortable evaluating these methods of raising capital, a greater number of issuers utilized them and the negative price effects experienced by early adopters diminished. By the same token, as issuers learn more about the costs of the Act they may choose to voluntarily disclose more information. As the JOBS Act is only a little over two years old, it will take a broader range of market conditions and a wider lens to understand the full effects of the Act on the capital raising prospects of small firms.

References

Amihud, Y., and H. Mendelson, 1986, Asset Pricing and the Bid-Ask Spread, *Journal of Financial Economics* 17, 223-249.

Autore, D., R. Kumar, and D. Shome, 2008, The Revival of Shelf Registered Corporate Equity Offerings, *Journal of Corporate Finance* 14, 32 – 50.

Bayless, M., and S. Chaplinsky, 1996, Is There a Window of Opportunity for Seasoned Equity Issuance?, *Journal of Finance* 51, 253-278.

Barth, M., W. Landsman, and D. Taylor, 2014, The JOBS Act and Information Uncertainty in IPO Firms, Stanford University, Graduate School of Business working paper, July.

Benveniste, L., and P. Spindt, 1989, How Investment Bankers Determine the Offer Price and Allocation of New Issues, *Journal of Financial Economics* 24, 343–362.

Bhattacharya, S., and G. Chiesa, 1995, Proprietary Information, Financial Intermediation, and Research Incentives. *Journal of Financial Intermediation* 4, 328–357.

Bhattacharya, S., and J. Ritter, 1983. Innovation and Communication: Signaling with Partial Disclosure. *Review of Economic Studies* 50, 331–346.

Bethel, J., and L. Krigman, 2005, Unallocated Shelf Registration: Why Doesn't Everyone Use It?, Babson College, working paper.

Bushee, B., and C. Leuz, 2005, Economic Consequences of SEC Disclosure Regulation: Evidence From the OTC Bulletin Board, *Journal or Accounting and Economics* 30, 233-264.

Chaplinsky, S., and L. Ramchand, 2004, The Impact of SEC Rule 144A and Corporate Debt Issuances by International Firms, *Journal of Business* 77, 1073 – 1098.

Chen, H.C., and J. R. Ritter, 2000, The Seven Percent Solution, *Journal of Finance* 55, 1105-1131.

Clinton, S., J. T. White, and T. Woidtke, 2014, Differences in the Information Environment Prior to Seasoned Equity Offerings under Relaxed Disclosure Regulation. DERA Working Paper 2013-05. Available at SSRN: http://ssrn.com/abstract=1973819

Copeland, T., and D. Galai, 1983, Information Effects on the Bid-Ask Spread, *Journal of Finance* 38, 1457-1469.

Coates, J., 2011, U.S. Senate Testimony, Subcommittee on Securities, Insurance, and Investment of the Committee on Banking, Housing, and Urban Affairs, December 14.

Coates, J., and S. Srinivasan, 2014, SOX after Ten Years: A Multidisciplinary Review, Harvard Business School, working paper, forthcoming *Accounting Horizons*.

Dambra, M., L. Field, and M. Gustafson, 2014, The JOBS Act and IPO Volume: Evidence that Disclosure Costs Affect the IPO Decision, forthcoming *Journal of Financial Economics*.

Darrough, M. N., and N. M. Stoughton, 1990, Financial Disclosure Policy in an Entry Game. *Journal of Accounting and Economics* 12, 219–243.

Davidoff Solomon, S., and P. Rose, 2014, The Disappearing Small IPO and the Lifecycle of the Small Firm, University of California – Berkeley, working paper, July.

Denis, D., 1991, Shelf Registration and the Market for Seasoned Equity Offerings, *Journal of Business* 64, 189 – 212.

Dye, R. A., 2001, An Evaluation of "Essays on Disclosure" and the Disclosure Literature in Accounting. *Journal of Accounting and Economics* 32, 181–235

Ellis, K., R. Michaely, and M. O'Hara, 2000, When the Underwriter is the Market Maker: An Examination of Trading in the IPO Aftermarket, *Journal of Finance* 65, 1039-1074.

Fenn, G., 2000, Speed of Issuance and the Adequacy of Disclosure in the 144A High-Yield Debt Market, *Journal of Financial Economics* 56, 383 – 405.

Gao, X., J. R. Ritter, and Z. Zhu, 2013, Where have all the IPOs Gone?, *Journal of Financial and Quantitative Analysis* 48, 1663-1692.

Guo, R. J., B. Lev, and N. Zhou, 2004, Competitive Costs of Disclosure by Biotech IPOs,, *Journal of Accounting Research* 42, 319–64.

Glosten, L., and P. Milgrom, 1985, Bid, Ask, and Transaction Prices in a Specialist Market with Heterogeneously Informed Traders, *Journal of Financial Economics* 14, 71-100.

Greenstone, M., P. Oyer, and A. Vissing–Jorgenson, 2006, Mandated Disclosure, Stock Returns, and the 1964 Securities Acts Amendments, *Quarterly Journal of Economics* 121, 399-446.

Gupta, S., and R. D. Israelsen, 2014, Indirect Costs of the JOBS Act: Disclosures, Information Asymmetry, and Post-IPO Liquidity, Indiana University working paper.

Hanley, K.W., 1993, The Underpricing of Initial Public Offerings and the Partial Adjustment Phenomenon, *Journal of Financial Economics* 34, 231-250.

Hanley, K.W., and G. Hoberg, 2010, The Information Content of IPO Prospectuses, *Review of Financial Studies* 23, 2821-2864.

Hanley, K.W. and G. Hoberg, 2012, Strategic Disclosure and the Underpricing of Initial Public Offerings, 2012, *Journal of Financial Economics* 103, 235-254.

Healy, P. M., and K. G. Palepu, 2001, Information Asymmetry, Corporate Disclosure, and the Capital Markets: A Review of the Empirical Disclosure Literature. *Journal of Accounting and Economics* 31, 405–440.

Helwege, J,. and N. Liang, 2004, Initial Public Offerings in Hot and Cold Markets, *Journal of Financial and Quantitative Analysis* 39, 514-569.

Keating, T., 2012, The Jobs Act: Shifting into Gear and Accelerating Up the IPO On-Ramp, Keating Investments White Paper, May.

Kyle, A., 1985, Continuous Auctions and Insider Trade, *Econometrica* 53, 1315-1335.

Leone, A. J., S. Rock, and M. Willenborg, 2007, Underpricing of Initial Public Offerings, *Journal of Accounting Research* 45, 111–153.

Leuz, C., 2007, Was the Sarbanes-Oxley Act of 2002 Really this Costly? A Discussion of Evidence from Event returns and Going Private Decisions, *Journal of Accounting and Economics* 44, 146 – 165.

Leuz, C., and R. Verrecchia, 2000, The Economic Consequences of Increased Disclosure, *Journal of Accounting Researc*h 38, 91 – 124.

Livingston, M., and L. Zhou, 2002, The Impact of Rule 144A Debt Offerings Upon Bond Yields and Underwriter Fees, *Financial Management* 31, 5-27.

Ljungqvist, A., and W. Wilhelm, 2003, IPO Pricing in the Dot-com Bubble, *Journal of Finance* 58, 723–752.

Lowry, M., 2003, Why Does IPO Volume Fluctuate So Much?, *Journal of Financial Economics* 65, 3-40.

Megginson, W., and K. Weiss, 1991, Venture Capitalist Certification in Initial Public Offerings. *Journal of Finance* 46, 879‑903.

Myers, S., and N. Majluf, 1984, Corporate Financing and Investment Decisions when Firms have Information that Investors do not have, *Journal of Financial Economics* 13, 187 – 221.

Ritter, J., 2012, U.S. Senate Testimony, Senate Committee on Banking, Housing, and Urban Affairs, March 6, 2012.

Ritter, J., 2013, Re-energizing the IPO Market in *Restructuring to Speed Economic Recovery*, edited by M. Bailey, R. Herring and Y. Seki, Brookings Press.

Ritter, J., and I. Welch, 2002, A Review of IPO Activity, Pricing and Allocations, *Journal of Finance* 67, 1795-1828.

Ritter, J., A. Signori, and S. Vismara, 2013, Economies of Scope and IPO Activity in Europe, in *Handbook of IPO Research*, edited by M. Levin and S. Vismara, Edward Elgar Publishing, 11-34.

Sherman, A., and S. Titman, 2002, Building the IPO Order Book: Underpricing and Participation Limits with Costly Information, *Journal of Financial Economics* 65, 3–29.

Shroff, N., A. Sun, H. White, and W. Zhang, 2013, Voluntary Disclosure and Information Asymmetry: Evidence from the 2005 Securities Offering Reform, *Journal of Accounting Research*, forthcoming.

Tang, V., 2007, Economic Consequences of Mandatory Disclosure Regulation: Evidence from Rule 144A Equity Private Placements, Georgetown University, McDonough School of Business, working paper.

Verrecchia, R. E. 2001, Essays on Disclosure. *Journal of Accounting and Economics* 32, 97–180.

Weild, D., and E. Kim, 2010, Market Structure is Causing the IPO Crisis – and More, Grant Thornton Capital Markets Series White Paper, June.

Zhang, Z., 2010, The Evolving Borrowing Costs of Rule 144A Market: A Cross-Country Analysis, University of Regina, Paul J. Hill School of Business, working paper.

Appendix A: Selection Criteria for IPO Sample

Request	Exclusion Description	IPOs	Excluded	EGCs
	SDC Request			
1	SDC: US Common Stock, Issue Date: 01/01/2003 to 4/30/2014 (Calendar)			
2	IPO: Select All IPOs	2549		
3	Closed End Fund Investment Type : NOT A,Z	2365	184	
4	Foreign Issue Flag (e.g., Yankee): Exclude All Foreign Issue Flag	1964	401	
5	REIT Type : NOT EQ, HY, MO, UN	1815	149	
6	REIT Segment : NOT AP, CA, FR, DV, GO, HC, IN, HO, MG, MH, MG, OF, OC, PR, RM, SS, SC, TN, UN	1815		
7	Rights Issue: Exclude All Rights Issues	1812	3	
8	Unit Issues: Unit Issue: Exclude All Unit Issues: Unit Issues	1811	1	
9	Limited Partnership: Exclude All Limited Partnerships	1778	33	
	Exclusion with SDC Flags and Manual Verification			
10	Merge with our EGC list	1778		351
11	Drop closed-end funds	1481	297	332
12	Drop best-efforts offers	1394	87	305
13	Drop self-underwritten offers	1349	45	288
14	Keep only NASDAQ, NYSE, AMEX, and OTC IPOs	1337	12	288
15	Drop if OTC IPOs with offer price < $2	1335	2	288
16	Keep only (Class A & B) Common/Ordinary Shares	1238	97	260
17	Drop manually verified non-IPO: OTC and foreign exchange cross-listings Drop manually verified closed-end funds, REIT, Unit Issues, Limited Partnership, blank checks, best-efforts offers	1147	91	246
18	Drop if the difference between the file date and the offer date > 18 month	1120	27	239
19	Drop if the first-day close price is missing	1114	6	238
Final Sample		1114		238

Appendix B: Variable Descriptions

Status	
EGC IPOs	Issuers with IPOs between April 5, 2012 and April 30, 2014 that self-identify as EGCs in their S-1 filings
Control IPOs	Issuers with less than $1 billion in revenue based on 2012 purchasing power dollars in their most recent fiscal year end statement from January 1, 2003 to April 30, 2014
SRCs	Issuers qualifying for a smaller reporting company status after 2008 (with less than $75 million in proceeds) or for a small business issuer status before 2008 (less than $25 million in proceeds)
Firm Characteristics	
Data for revenue, total assets, long-term debt and net income available for the year prior to the IPO are from Compustat. If data are not available prior to the IPO, we hand collect the data from the IPO prospectuses.	
Revenue ($MM)	Revenues for the year prior to the IPO
Revenue_CPI ($MM)	Revenues for the year prior to the IPO adjusted for inflation in 2012 purchasing power dollars using the Consumer Price Index
Total Assets ($MM)	Total assets prior to the IPO
Long-Term Debt ($MM)	Total long-term prior to the IPO
Unprofitable	One if the issuer has negative net income for the year prior to the IPO, and zero otherwise
Age (Years)	Difference in years between the earlier of the firm's founding date or date of incorporation and the offer date (from Jay Ritter's website)
Issue Characteristics	
Proceeds ($MM)	Total dollar gross proceeds in millions
Proceeds_CPI ($MM)	Total dollar gross proceeds adjusted for inflation in 2012 purchasing power dollars using the Consumer Price Index
Ln(Res. Proceeds)	Residual from a regression of the natural log of total dollar gross proceeds on VC dummy and UW Mkt Share
Days in Registration	Number of days between the earlier filing date of a draft registration statement or S-1 and the offer date
Accounting & Legal Fees	Accounting and legal fees as percent of proceeds
Gross Spread	Total underwriting fees as percent of proceeds
Total Fees	Sum of accounting fees, legal fees, and gross spread as percent of proceeds
Total Costs	Sum of accounting fees, legal fees, gross spread, and the dollar amount of initial return as percent of proceeds
VC	One if the issue is backed by venture capitalists, and zero otherwise
UW Mkt Share	Underwriter market share of total IPO volume in the year prior to the offer year based on the average volume of each underwriter managing the issue
Initial Pricing and Aftermarket Variables	
Offer Price Revision	Percentage change in price from the midpoint of the file range to the offer price
Upwardly Revised	One if the offer price is upwardly revised from the midpoint of the file range, and zero otherwise
Initial Return (Underpricing)	Closing price on the first trading day divided by the offer price minus 1
Bid-Ask Spread$_{+dd}$	Average bid-ask spread during the *dd* days after the IPO; the bid-ask spread is the difference between the ask and the bid prices divided by the midpoint between the ask and the bid prices (in percent)
Return Volatility$_{+dd}$	Annualized stock return volatility during the *dd* days after the IPO; return volatility is the standard deviation of log returns times the square root of *dd*
Market Variables	
NASDAQ$_{-90}$	Average NASDAQ return during the 90 days prior to the offer date
Avg IR$_{-90}$	Average underpricing during the 90 days prior to the offer date
#IPOs$_{-90}$	Total number of IPOs during the 90 days prior to the offer date
BB/B spread	Difference in yields in percentage between BB and B rated corporate debt and the 10 year U.S. Treasuries in the month prior to the offer date (from Datastream)
Mkt Bid-Ask Spread$_{+dd}$	Average BA spread of all common stocks (share code=11) in the CRSP database during the *dd* days after the IPO
Mkt Return Volatility	Average return volatility of all common stocks in the CRSP database during the *dd* days after the IPO

Figure 1: Time Series of EGC and Control IPOs

The figure displays the number of all IPOs, EGC IPOs and control IPOs made over January 1, 2003 – April 30, 2014. The full sample of IPOs (January 1, 2003 – April 30, 2014) is gathered from SDC and excludes REITs, closed-end funds, limited partner interests, unit offers, blank check companies, best efforts, and self-underwritten offers. The sample is further restricted to IPOs with offer prices greater than $2 per share. Control IPOs are issuers with less than $1 billion in revenue in their most recent fiscal year end statement. EGC IPOs are issuers that self-identify as EGCs in their S-1 filings between April 5, 2012 and April 30, 2014.

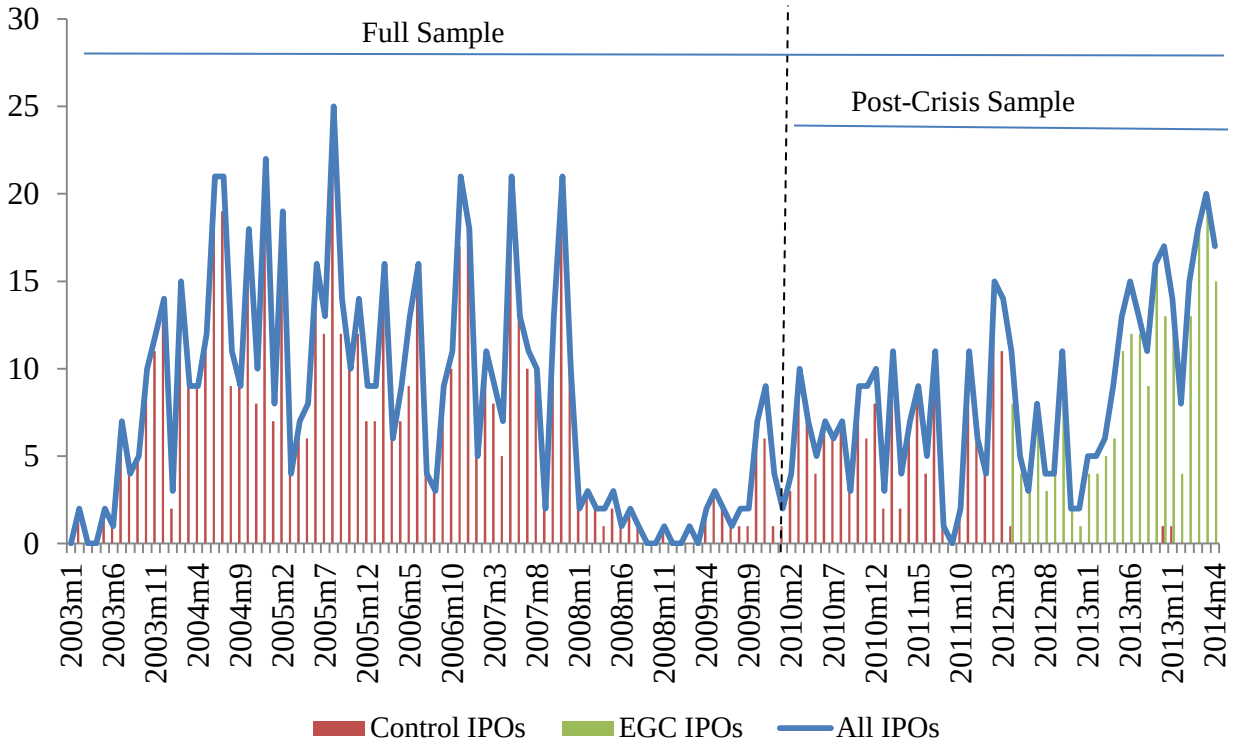

Figure 2: Time Series of IPO Issuer Profitability

The figure displays the percent of IPOs with revenues less than $1 billion that are profitable and unprofitable by quarter over the full sample period from January 1, 2003 to April 30, 2014. Profitability is defined as positive net income in the year prior to going public.

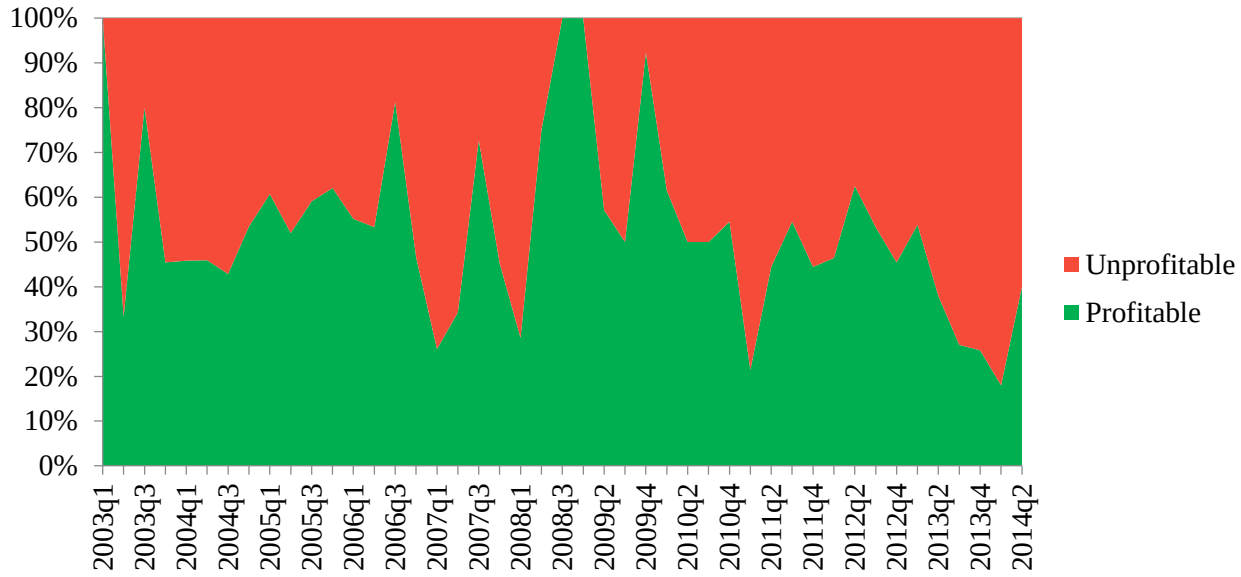

Table 1: Sample of IPOs

This table reports the number of total IPOs for Control IPOs, and EGC IPOs made over January 1, 2003 – April 30, 2014. The full sample of IPOs is gathered from SDC and excludes REITs, closed-end funds, limited partner interests, unit offers, blank check companies, best efforts, and self-underwritten offers. The sample is further restricted to IPOs with offer prices greater than $2 per share. Control IPOs are issuers with less than $1 billion in revenue based on 2012 purchasing power dollars in their most recent fiscal year end statement. In parentheses are the number of EGCs that made their IPOs between December 8, 2011 and April 4, 2012 before the Act became effective. EGC IPOs are issuers that self-identify as EGCs in their S-1 filings between April 5, 2012 and April 30, 2014.

Year	All IPOs	IPOs with revenues <$1 billion	Percent of IPOs qualifying as EGCs	Control IPOs	EGC IPOs
2003	57	53	93%	53	
2004	160	139	87%	139	
2005	147	126	86%	126	
2006	135	120	89%	120	
2007	133	122	92%	122	
2008	17	15	88%	15	
2009	32	22	69%	22	
2010	79	69	87%	69	
2011	70	61	87%	61 (2)	
2012	83	70	84%	29 (23)	41
2013	132	110	83%	2	108
April 30, 2014	69	64	93%	0	64
Total	**1,114**	**971**	**87%**	**758**	**213**

Table 2: Characteristics for EGC and Control IPOs

This table compares characteristics of EGC IPOs to Control IPOs in the post-crisis sample (January 1, 2010-April 30, 2014) and the full sample (January 1, 2003-April 30, 2014) periods. Firm characteristics are reported for the year prior to the IPO. All variables are defined in Appendix B. ***, **, * indicate that the means and medians are significantly different at the 1%, 5%, and 10% level, respectively between the EGC and Control IPOs.

	EGC IPOs (N=213)		Control IPOs Post-Crisis (N=161)		Control IPOs Full Sample (N=758)	
Firm Characteristics	Mean	Median	Mean	Median	Mean	Median
Revenue ($MM)	135.7	73.8	173.1*	91.2	150.0	78.3
Revenue_CPI ($MM)	133.9	72.7	177.9**	96.0**	169.3**	87.5
Total Asset ($MM)	337.1	68.0	359.9	97.7*	318.06	88.8*
Long-Term Debt ($MM)	93.2	1.9	94.4	4.5	116.6	6.2**
Unprofitable	65.7%	100.0%	52.8%**	100.0%	47.4%***	0.0%
Age (Years)	10.9	9.0	15.2***	10.0	17.3***	9.0
SRC	38.0%		32.9%		13.2%***	
VC	62.0%		48.4%**		49.2%***	
Issue Characteristics						
Proceeds ($MM)	135.4	90.0	147.6	100.1	135.4	88.5
Proceeds_CPI ($MM)	133.4	88.7	151.9	105.3	174.8	100.1
Days in Registration	145.1	111.0	153.7	119.0	135.5	107.0
Accounting & Legal Fees	3.0%	2.4%	2.6%	2.3%	2.4%***	1.9%***
Gross Spread	6.9%	7.0%	6.9%	7.0%	6.9%	7.0%
Total Fees	9.9%	9.4%	9.5%	9.3%	9.3%***	8.9%***
Offer Price Revision	-1.7%	0.0%	-2.5%	0.0%	-1.6%	0.0%
Upwardly Revised	23.0%		21.7%		20.7%	
Initial Return	22.3%	13.1%	14.7%**	9.6%	13.4%***	8.4%*
UW Mkt Share	7.1%	6.5%	8.5%**	8.0%	5.2%***	4.4%**
Market Conditions						
$NASDAQ_{-90}$	5.5%	6.3%	5.8%	5.8%	4.4%*	4.2%***
Avg IR_{-90}	17.9%	17.1%	11.5%***	9.5%***	12.0%***	11.3%***
BB/B Spread	3.3%	3.2%	4.2%***	4.3%***	3.3%	3.0%***

Table 3: Direct and Indirect Costs of IPO Issuance

The table reports OLS regressions comparing the direct costs of EGC IPOs and Control IPOs for the post-crisis sample (January 1, 2010-April 30, 2014) in Panel A and the full sample (January 1, 2003-April 30, 2014) in Panel B. The dependent variables for Direct Costs are: (a) *Accounting & Legal Fees*; (b) *Gross Spread*; and (c) *Total Direct Costs,* the sum of the dollar amount of Accounting Fees, Legal Fees and Gross Spread as a percent of proceeds. The dependent variables for Indirect Costs are *Initial Return*, the first day initial return; and *Total Costs*, the sum of *Initial Return* and *Total Direct Costs*. EGC=1 if an IPO is made by an EGC, and EGC=0 if an IPO is made by a Control IPO with revenues less than $1 billion based on 2012 purchasing power dollars. The regressions include industry fixed effects using *Fama French 17* industry classifications. t-statistics are in parentheses below each coefficient and all standard errors are adjusted for clustering within industry. The other independent variables are defined in Appendix B. ***, **, * indicate significance at the 1%, 5%, and 10%, respectively.

	Panel A: Post-Crisis Sample					Panel B: Full Sample				
	Acc. & Legal Fees (1)	Gross Spread (2)	Total Direct Costs (3)	Initial Return (4)	Total Costs (5)	Acc. & Legal Fees (1)	Gross Spread (2)	Total Direct Costs (3)	Initial Return (4)	Total Costs (5)
	All	All	All	All	All	All	All	All	All	All
EGC	0.003***	-0.019	0.003***	0.070***	0.068***	0.007***	0.021	0.008***	0.080***	0.082***
	(4.93)	(-0.28)	(3.15)	(4.62)	(4.32)	(7.09)	(0.45)	(5.88)	(4.05)	(4.10)
Ln(Res. Proceeds)	-0.018***	-0.334***	-0.022***	0.038**	0.019	-0.015***	-0.324***	-0.019***	0.033**	0.016
	(-7.76)	(-6.49)	(-8.43)	(2.36)	(1.51)	(-8.39)	(-8.96)	(-9.34)	(2.43)	(1.30)
Offer Price Revision				0.729***	0.697***				0.646***	0.614***
				(13.70)	(11.10)				(13.41)	(11.64)
Unprofitable	0.002	0.005	0.002	-0.023	-0.026	0.004***	0.030	0.005***	-0.007	-0.003
	(1.34)	(0.07)	(1.13)	(-1.30)	(-1.38)	(4.20)	(0.89)	(5.25)	(-0.74)	(-0.37)
Ln(Age)	-0.001	0.049	-0.001	-0.009	-0.020	-0.001	-0.015	-0.001	-0.009	-0.015
	(-0.54)	(0.79)	(-0.35)	(-0.66)	(-1.49)	(-1.23)	(-0.65)	(-1.14)	(-0.95)	(-1.40)
UW Mkt Share	-0.146***	-3.204***	-0.180***	0.565***	0.442**	-0.119***	-2.963***	-0.149***	0.515**	0.418*
	(-6.10)	(-5.26)	(-7.50)	(3.84)	(2.64)	(-4.48)	(-7.26)	(-5.66)	(2.85)	(2.08)
Days in Registration	0.000***	-0.000	0.000***	-0.000*	-0.000	0.000***	-0.000	0.000***	-0.000**	-0.000
	(4.91)	(-1.66)	(4.43)	(-2.07)	(-1.68)	(5.90)	(-1.26)	(5.23)	(-2.29)	(-1.49)
$NASDAQ_{-90}$	-0.004	-0.298	-0.007	0.488***	0.529***	-0.019***	0.200	-0.016**	0.272***	0.279***
	(-0.31)	(-0.88)	(-0.45)	(4.38)	(4.54)	(-3.21)	(1.56)	(-2.47)	(4.06)	(3.44)
$\#IPOs_{-90}$						-0.000***	-0.000	-0.000***	0.000*	0.000
						(-5.06)	(-0.55)	(-5.38)	(1.84)	(1.21)
Crisis						0.007***	0.050	0.007***	0.011	0.022**
						(5.87)	(1.06)	(4.81)	(1.41)	(2.72)
Constant	0.030***	7.024***	0.101***	0.468***	0.592***	0.023***	7.181***	0.095***	0.193***	0.311***
	(4.94)	(45.42)	(15.47)	(11.25)	(13.71)	(12.81)	(96.41)	(48.96)	(3.36)	(5.10)
Industry FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Observations	348	374	348	373	347	926	967	922	965	916
Adjusted R^2	0.334	0.222	0.415	0.275	0.291	0.347	0.231	0.414	0.273	0.260

Table 4: Direct and Indirect Costs of IPO Issuance by SRC Status

The table reports OLS regressions comparing the direct costs of EGC IPOs and Control IPOs for the post-crisis sample (January 1, 2010-April 30, 2014) in Panel A and the full sample (January 1, 2003-April 30, 2014) in Panel B by SRC status. The dependent variables are: (a) *Accounting & Legal Fees*; (b) *Gross Spread*; and (c) *Total Direct Costs*, the sum of the dollar amount of Accounting Fees, Legal Fees and Gross Spread as a percent of proceeds. All IPOs are split by Non-SRC and SRC status. An issuer qualifies for a SRC status, if it has less than $75 million in proceeds after 2008 or less than $25 million in proceeds before 2008. EGC=1 if an IPO is made by an EGC, and EGC=0 if an IPO is made by a control IPO with revenue less than $1 billion based on 2012 purchasing power dollars in its nearest fiscal year end statement prior to the IPO. The regressions include industry fixed effects using *Fama French 17* industry classifications. t-statistics are in parentheses below each coefficient and all standard errors are adjusted for clustering within industry. The other independent variables are defined in Appendix B. ***, **, *indicate significance at the 1%, 5%, and 10%, respectively.

	Panel A: Post-Crisis Sample				Panel B: Full Sample			
	Total Direct Costs (1)	Total Direct Costs (2)	Initial Return (3)	Initial Return (4)	Total Direct Costs (1)	Total Direct Costs (2)	Initial Return (3)	Initial Return (4)
	Non-SRC	SRC	Non-SRC	SRC	Non-SRC	SRC	Non-SRC	SRC
EGC	0.002	0.006*	0.093***	-0.009	0.005***	0.010***	0.125***	-0.001
	(1.72)	(2.22)	(4.69)	(-0.39)	(5.48)	(4.66)	(3.90)	(-0.03)
Ln(Res. Proceeds)	-0.018***	-0.022***	0.008	0.025**	-0.015***	-0.021***	0.032**	0.033**
	(-13.48)	(-4.39)	(0.42)	(3.12)	(-13.17)	(-3.24)	(2.26)	(2.97)
Offer Price Revision			0.765***	0.394*			0.657***	0.435**
			(9.67)	(2.09)			(16.10)	(2.77)
Unprofitable	0.002	0.002	0.002	-0.039*	0.003***	0.017***	-0.002	-0.028***
	(0.93)	(1.09)	(0.08)	(-2.26)	(3.08)	(4.77)	(-0.20)	(-4.52)
Ln(Age)	-0.001	-0.004	-0.009	-0.026	-0.001*	-0.001	-0.007	-0.015
	(-0.48)	(-0.44)	(-0.73)	(-1.32)	(-1.97)	(-0.29)	(-0.70)	(-0.64)
UW Mkt Share	-0.153***	-0.122***	0.150	0.232	-0.130***	-0.121***	0.450*	0.274
	(-7.23)	(-5.48)	(0.50)	(1.48)	(-5.80)	(-4.77)	(1.79)	(1.41)
Days in Registration	0.000**	0.000***	-0.000***	0.000	0.000***	0.000**	-0.000**	0.000
	(2.36)	(5.11)	(-3.13)	(0.66)	(3.71)	(3.06)	(-2.66)	(0.94)
$NASDAQ_{-90}$	-0.004	0.016	0.530**	0.115	-0.004	-0.030	0.304***	0.190
	(-0.35)	(0.30)	(2.20)	(0.43)	(-1.24)	(-0.65)	(4.02)	(0.93)
$\#IPOs_{-90}$					-0.000***	-0.000	0.001*	-0.001
					(-4.62)	(-0.50)	(1.94)	(-0.81)
Crisis					0.005***	0.030***	0.021**	-0.067*
					(6.74)	(5.72)	(2.60)	(-2.19)
Constant	0.101***	0.096***	0.513***	0.336***	0.100***	0.028	0.178**	0.231
	(29.92)	(5.80)	(12.07)	(7.55)	(39.99)	(1.59)	(2.65)	(1.15)
Industry FE	Y	Y	Y	Y	Y	Y	Y	Y
Observations	221	127	239	134	748	174	786	179
Adjusted R^2	0.462	0.155	0.269	0.134	0.464	0.255	0.287	0.104

Table 5: Propensity Score Based Differences between EGC and All IPOs

This table reports the propensity score based differences in direct and indirect costs measured by the (a) *Accounting & Legal Fees*; (b) *Gross Spread*; (c) *Total Direct Costs*, the sum of the dollar amount of Accounting Fees, Legal Fees and Gross Spread as a percent of proceeds, (d) *Initial return*, the first day initial return; and (e) *Total Cost*, the sum of *Total Fees* and *Initial Return* between EGC and matched non-EGC IPOs for the post crisis sample (January 1, 2010-April 30, 2014) and the full sample (January 1, 2003-April 30, 2014). Panel A presents logit regressions of EGC IPO propensity based on only firm specific characteristics. Column (2) and (4) display the marginal effect estimates of the logit regressions in Column (1) and (3), respectively. Panel B presents the Average Treatment Effects on Treated (ATT) between EGC IPOs and a control sample of IPOs based on the propensity scores estimated in Panel A for the nearest five neighbors within the same *Fama French 17* industry classifications and SRC status, and matching as close as possible to $NASDAQ_{-90}$ and $\#IPOs_{-90}$. t-statistics are in parentheses below each coefficient and standard errors in logit regressions are adjusted for clustering within industry. The independent variables are defined in Appendix B. ***, **, * indicate that p-values are significant at the 1%, 5%, and 10%, respectively.

Panel A: EGC IPO Propensity

	Post-Crisis Sample		**Full Sample**	
Variables	EGC IPO Logit (1)	EGC IPO Marginal Effect (2)	EGC IPO Logit (3)	EGC IPO Marginal Effect (4)
Ln(Res. Proceeds)	-0.282*	-0.062*	-0.233**	-0.034***
	(-1.69)	(-1.77)	(-2.56)	(-2.73)
Unprofitable	0.493***	0.108***	0.657***	0.095***
	(3.08)	(2.87)	(3.62)	(3.12)
Ln(Age)	-0.561***	-0.123***	-0.495***	-0.071***
	(-6.04)	(-6.53)	(-5.35)	(-6.43)
UW Mkt Share	-5.557*	-1.221*	5.331	0.767*
	(-1.76)	(-1.86)	(1.59)	(1.73)
Constant	1.516***		-0.948**	
	(3.47)		(-2.58)	
Estimation Method	Logit	Marginal Effects of Logit	Logit	Marginal Effects of Logit
Observations	433	433	1,114	1,114
Pseudo R-squared	0.0931		0.0695	

Panel B: Average Treatment Effects on Treated (ATT)

	Post-Crisis Sample			**Full Sample**		
Variables	All	Non-SRC	SRC	All	Non-SRC	SRC
Acc. & Legal Fees	0.010***	0.010***	0.006	0.005**	0.001	-0.002
Gross Spread	0.006***	0.007***	-0.003	0.002**	0.001	-0.002
Total Direct Costs	0.015***	0.017***	0.003	0.006**	0.001	-0.003
Initial Return	0.091**	0.172***	-0.064	0.109***	0.182***	0.019
Total Costs	0.092**	0.167***	-0.063	0.108***	0.172***	0.012

Table 6: Difference-in-Differences Analysis of Direct and Indirect Costs

This table reports the difference-in-differences regressions for IPOs in the post-crisis sample (January 1, 2010-April 30, 2014) in Panel A and the full sample of IPOs (January 1, 2003-April 30, 2014) in Panel B. For these tests, we consider all IPOs in our sample period; 434 IPOs in the post-crisis sample and 1,114 IPOs in the full sample. *Affected* is equal to one if an IPO would qualified as an EGC based on the revenue cut-off, and zero otherwise. *Post* is equal to one if the offer date is after the JOBS Act (April 5, 2012) and zero otherwise. The dependent variables are (1) *Accounting & Legal Fees*; (2) *Gross Spread*; (3) *Total Direct Costs*, (4) *Initial return* and (5) *Total Costs*. The regressions include the same set of controls as in Table 3 and defined in Appendix B, but the coefficients for these controls are not reported to conserve space. The regressions include industry fixed effects using *Fama French 17* industry classifications. t-statistics are in parentheses below each coefficient and all standard errors are adjusted for clustering within industry. ***, **, * indicate significance at the 1%, 5%, and 10%, respectively.

Panel A: Post-Crisis Sample

	Acc. & Legal Fees	Gross Spread	Total Direct Costs	Initial Return	Total Costs
	(1)	(2)	(3)	(4)	(5)
Affected×Post	0.0042	0.0016	0.0064**	0.0639	0.0825*
	(1.59)	(0.85)	(2.41)	(1.37)	(1.95)
Affected	-0.0092**	0.0067***	-0.0029	0.0557**	0.0265
	(-2.33)	(4.68)	(-0.99)	(2.23)	(0.95)
Post	-0.00089	-0.0017	-0.0032	0.00366	-0.0175
	(-0.28)	(-1.01)	(-1.13)	(0.07)	(-0.38)
Observations	394	430	394	429	393
Adj. R-squared	0.365	0.570	0.541	0.266	0.289

Panel B: Full Sample

	Acc. & Legal Fees	Gross Spread	Total Direct Costs	Initial Return	Total Costs
	(1)	(2)	(3)	(4)	(5)
Affected×Post	0.0022	0.0037*	0.0064*	0.0622*	0.0557*
	(1.05)	(2.11)	(1.95)	(2.00)	(1.86)
Affected	-0.0056***	0.0048***	-0.00058	0.0651***	0.0662***
	(-3.39)	(3.34)	(-0.43)	(3.44)	(3.30)
Post	0.0051*	-0.0034*	0.0012	0.0182	0.0263
	(1.91)	(-2.01)	(0.31)	(0.52)	(0.76)
Observations	1,051	1,107	1,047	1,105	1,041
Adj. R-squared	0.360	0.467	0.490	0.274	0.271

Table 7: Aftermarket Trading Measures

The table reports the OLS regressions comparing the aftermarket effects for EGC IPOs and Control IPOs in the post-crisis sample (January 1, 2010-April 30, 2014) in Panel A and full sample (January 1, 2003-April 30, 2014) in Panel B. The dependent variables are: *Bid-Ask Spread*, the average of bid-ask spread in percentage of the midpoint between the ask and the bid prices during 30, 60, 90, and 120 days after the offering, and *Return Volatility*, the average annualized stock return volatility, calculated as the standard deviation of log returns times the square root of the respective post-issue number of days for 30, 60, 90, and 120 days after the offering. The independent variables are: EGC=1 if an IPO is made by an EGC, and EGC=0 if an IPO is made by a control IPO with revenue less than $1 billion based on 2012 purchasing power dollars in its nearest fiscal year end statement prior to the IPO. The regressions include the same firm control variables as were used in the regressions of direct costs in Table 3 plus *Initial Return* and the mean market bid-ask spread and mean market return volatility (defined in Appendix B) for all listed firms. We report only the coefficients of the EGC dummy to focus on the main variables of interest. The regressions include industry fixed effects using *Fama French 17* industry classifications. t-statistics are in parentheses below each coefficient and all standard errors are adjusted for clustering within industry. ***, **, * indicate significance at the 1%, 5%, and 10%, respectively.

Panel A: Post-Crisis Sample

		Bid-Ask Spread		
Days after offer	30	60	90	120
EGC	0.129**	0.195**	0.199**	0.182***
	(2.39)	(2.65)	(2.70)	(3.11)
Observations	371	371	356	337
Adj. R-squared	0.488	0.533	0.529	0.487
		Return Volatility		
Days after offer	30	60	90	120
EGC	0.033***	0.051***	0.66**	0.063***
	(4.90)	(3.33)	(2.75)	(4.05)
Observations	371	371	356	337
Adj. R-squared	0.285	0.302	0.528	0.336

Panel B: Full Sample

		Bid-Ask Spread		
Days after offer	30	60	90	120
EGC	0.065*	0.114**	0.108**	0.102*
	(2.11)	(2.42)	(2.25)	(2.01)
Observations	968	968	953	934
Adj. R-squared	0.465	0.491	0.505	0.487
		Return Volatility		
Days after offer	30	60	90	120
EGC	0.025**	0.044**	0.27	0.047**
	(2.31)	(2.27)	(1.35)	(2.41)
Observations	968	968	953	934
Adj. R-squared	0.237	0.283	0.379	0.303

Table 8: Frequency of Use of Confidential Filing and Public On-Ramp Provisions

This table reports the frequency with which EGCs use confidential filing and their intentions to use the reduced disclosure and compliance provisions of the JOBS Act. The information is gathered from the S-1 filings of 213 IPOs made by EGCs during April 5, 2012 through April 30, 2014. "Yes" indicates that the EGC took advantage or intends to take advantage of the provision. "No" indicates that the EGC did not take advantage or does not intend to take advantage of the provision. "May" indicates that EGCs either did not disclose their intentions with respect to the provision or stated that they may take advantage.

	Confidential Filing				Two Years Audited Financials				Reduced Executive Compensation Disclosure			
	May	No	Yes	% Yes	May	No	Yes	% Yes	May	No	Yes	% Yes
Apr 12 - Apr 14		48	165	77.5%	10	126	77	36.2%	10	8	195	91.5%
Apr 12 - Sep 12		27	3	10.0%	2	27	1	3.3%	2	4	24	80.0%
Oct 12 - Mar 13		8	16	66.7%	0	19	5	20.8%	1	2	21	87.5%
Apr 13 - Sep 13		6	60	90.9%	4	38	24	36.4%	4	2	60	90.9%
Oct 13 – Apr 14		7	86	92.5%	4	42	47	50.5%	3	0	90	96.8%

	Delay SOX 404(b) Auditor Attestation				Delay Dodd-Frank "Say on Pay" Votes				Delay Adoption of New or Revised Public Accounting Standards			
	May	No	Yes	% Yes	May	No	Yes	% Yes	May	No	Yes	% Yes
Apr 12 - Apr 14	116	12	85	39.9%	126	12	75	35.2%	4	183	26	12.2%
Apr 12 - Sep 12	21	1	8	26.7%	22	1	7	23.3%	2	25	3	10.0%
Oct 12 - Mar 13	12	2	10	41.7%	12	1	11	45.8%	0	19	5	20.8%
Apr 13 - Sep 13	32	5	29	43.9%	36	6	24	36.4%	2	56	8	12.1%
Oct 13 – Apr 14	51	4	38	40.9%	56	4	33	35.5%	0	83	10	10.8%

Table 9: Correlation of Exemption Choices

Pearson correlations of exemption choices for all 213 EGCs from April 5, 2012 to April 30, 2014. Confidential filing is coded as yes or no and all other choices are coded as yes, no, or may. "Yes" indicates that the EGC took advantage or intends to take advantage of reduced disclosure. "No" indicates that the EGC did not take advantage or does not intend to take advantage of reduced disclosure. "May" indicates that EGCs did not disclose their intentions with respect to the provision.

Exemption	Confidential Filing	Delay SOX 404(b) Auditor Attestation	Reduced Executive Compensation Disclosure	Delay Adoption Accounting Standards	Delay Dodd-Frank "Say on Pay" Votes	Two Years Audited Financials
Confidential Filing	1					
Delay SOX 404(b) Auditor Attestation	0.1288	1				
Reduced Executive Compensation Disclosure	0.2099	0.1183	1			
Delay Adoption Accounting Standards	0.0012	0.1631	0.1106	1		
Delay Dodd-Frank "Say on Pay" Votes	0.1008	0.8710	0.0812	0.1533	1	
Two Years Audited Financials	0.2871	0.0822	0.1435	0.0260	0.0683	1

Table 10: Effect of Exemption Usage on Costs of Issue

OLS regressions of the number of each type of exemption choice on the costs of going public for the sample of EGCs. The dependent variables are *Total Direct Costs*, the sum of accounting, legal and underwriting costs, *Initial Return*, the initial return, and *Total Costs*, the sum of direct and indirect costs. *Number of Choices* is the total number of choices for each of the six exemptions: Yes, No or May. "Yes" indicates that the EGC took advantage or intends to take advantage of the provision. "No" indicates that the EGC did not take advantage or does not intend to take advantage of the provision. "May" indicates that EGCs did not disclose their intentions with respect to the provision. For example, the column with the Choice indicated by "Yes" has as the independent variable the number of yes's that an EGC chooses for the six exemptions. The other independent variables are defined in Appendix B. The regressions include industry fixed effects using *Fama French 17* industry classifications. t-statistics are in parentheses below each coefficient and all standard errors are adjusted for clustering within industry. ***, **, * indicate significance at the 1%, 5%, and 10%, respectively.

	Total Direct Costs (1)	Total Direct Costs (2)	Total Direct Costs (3)	Initial Return (4)	Initial Return (5)	Initial Return (6)	Total Costs (7)	Total Costs (8)	Total Costs (9)
Choice	Yes	May	No	Yes	May	No	Yes	May	No
Number of Choices	0.000	0.001	-0.001	-0.014*	0.037***	-0.017*	-0.012**	0.031***	-0.014
	(0.02)	(0.75)	(-1.57)	(-2.05)	(4.61)	(-1.95)	(-2.99)	(5.47)	(-1.25)
SRC	0.006**	0.006***	0.006***	-0.143*	-0.146*	-0.142*	-0.097**	-0.099**	-0.097**
	(3.10)	(3.42)	(3.17)	(-1.80)	(-2.04)	(-1.84)	(-2.21)	(-2.67)	(-2.34)
Offer Price Revision				0.765***	0.750***	0.802***	0.773***	0.762***	0.803***
				(3.88)	(3.69)	(4.05)	(4.03)	(3.98)	(4.09)
Ln(Residual) Proceeds	-0.022***	-0.022***	-0.022***	0.006	0.014	0.007	-0.012	-0.005	-0.014
	(-5.68)	(-5.77)	(-5.56)	(0.49)	(0.99)	(0.58)	(-0.81)	(-0.31)	(-1.05)
Unprofitable	0.001	0.001	0.000	0.043	0.044	0.036	0.034	0.034	0.028
	(0.23)	(0.27)	(0.14)	(1.19)	(1.19)	(1.14)	(0.95)	(0.93)	(0.84)
Ln(Age)	-0.002	-0.002	-0.002	-0.024	-0.022	-0.018	-0.025*	-0.024*	-0.022
	(-0.48)	(-0.47)	(-0.46)	(-1.42)	(-1.46)	(-1.04)	(-1.99)	(-1.97)	(-1.79)
UW Mkt Share	-0.158***	-0.158***	-0.157***	0.314	0.349	0.352	0.292	0.311	0.316
	(-4.19)	(-4.22)	(-4.40)	(0.69)	(0.82)	(0.73)	(0.86)	(0.95)	(0.92)
Constant	0.093***	0.091***	0.096***	0.167**	0.057	0.161**	0.237***	0.147***	0.236***
	(8.83)	(14.33)	(12.45)	(2.21)	(1.17)	(2.53)	(4.66)	(3.15)	(6.88)
Industry FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Observations	201	201	201	213	213	213	201	201	201
Adjusted R-squared	0.370	0.371	0.372	0.251	0.261	0.250	0.260	0.268	0.259

Table 11: Effect of Exemption Choices on Indirect and Direct Costs

OLS regressions of the effect of individual exemption choices on the costs of going public for the sample of EGCs. Each exemption is coded as 1 if the issuer either takes advantage of or intends to take advantage of the exemption (yes), 0 if the issuer says it either will not or may not take advantage of the exemption (no, may). *Confidential* is a dummy variable is equal to 1 if the issuer elects to confidentially file. *Sox/Say on Pay* is equal to 1 if the issuer says yes to delay both the SOX 404B Auditor Attestation and the Dodd-Frank "Say on Pay" Vote. *Executive Compensation* is a dummy variable equal to 1 if the issuer reports reduced executive compensation disclosure. *Accounting Standards* is a dummy variable equal to 1 if the issuer delays adoption of new PCAOB accounting standards. *Financials* is a dummy variable equal to 1 if the issuer reports two years of audited financial statements. The other independent variables are defined in Appendix B. The regressions include industry fixed effects using *Fama French 17* industry classifications. t-statistics are in parentheses below each coefficient and all standard errors are adjusted for clustering within industry. ***, **, * indicate significance at the 1%, 5%, and 10%, respectively.

	Total Direct Costs (1)	Total Direct Costs (2)	Total Direct Costs (3)	Total Direct Costs (4)	Total Direct Costs (5)	Initial Return (6)	Initial Return (7)	Initial Return (8)	Initial Return (9)	Initial Return (10)
Confidential	-0.001					0.056				
	(-0.55)					(1.40)				
SOX/Say on Pay		-0.001					-0.082***			
		(-0.17)					(-4.48)			
Exec. Compensation			0.003					0.063		
			(0.66)					(0.90)		
Accting Standards				-0.001					-0.064*	
				(-0.29)					(-2.12)	
Financials					-0.001					0.024
					(-0.28)					(0.73)
SRC	0.005**	0.005**	0.005**	0.005**	0.005**	-0.139	-0.146*	-0.142	-0.142	-0.142*
	(2.61)	(2.75)	(2.48)	(2.65)	(2.46)	(-1.68)	(-2.06)	(-1.79)	(-1.71)	(-1.83)
Offer Price Revision	-0.011***	-0.011***	-0.010***	-0.011***	-0.011***	0.815***	0.742***	0.796***	0.787***	0.798***
	(-3.26)	(-4.07)	(-3.88)	(-3.58)	(-3.88)	(4.05)	(3.73)	(4.16)	(4.17)	(4.00)
Ln(Res Proceeds)	-0.021***	-0.021***	-0.022***	-0.021***	-0.021***	-0.000	0.008	-0.000	0.001	0.005
	(-5.06)	(-5.61)	(-5.46)	(-5.32)	(-5.22)	(-0.04)	(0.64)	(-0.01)	(0.10)	(0.40)
Unprofitable	0.001	0.001	0.001	0.001	0.001	0.027	0.042	0.034	0.033	0.036
	(0.42)	(0.32)	(0.22)	(0.28)	(0.33)	(1.05)	(1.15)	(1.03)	(0.84)	(1.02)
Ln(Age)	-0.002	-0.002	-0.002	-0.002	-0.002	-0.021	-0.031*	-0.025	-0.024	-0.022
	(-0.58)	(-0.54)	(-0.64)	(-0.58)	(-0.59)	(-1.21)	(-1.91)	(-1.52)	(-1.60)	(-1.38)
UW Mkt Share	-0.156***	-0.157***	-0.158***	-0.157***	-0.159***	0.274	0.338	0.297	0.294	0.370
	(-4.03)	(-4.21)	(-4.46)	(-4.26)	(-3.74)	(0.58)	(0.80)	(0.63)	(0.61)	(0.74)
Constant	0.101***	0.101***	0.098***	0.100***	0.100***	0.427***	0.143**	0.079	0.142*	0.472***
	(7.54)	(6.54)	(6.66)	(7.13)	(7.33)	(5.02)	(2.48)	(0.62)	(2.13)	(6.53)
Industry FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Observations	201	201	201	201	201	213	213	213	213	213
Adjusted R^2	0.369	0.369	0.370	0.369	0.369	0.253	0.263	0.251	0.252	0.249

Table 12: Time-Series Analysis of IPO Volume

This table reports results for IPO volume prediction regressions, where the dependent variable is the quarterly total number of IPOs (# *Total IPOs*) in Panel A and the quarterly total number of IPOs that are eligible to be qualified as an EGC (# *EGC Eligible IPOs*) based on the $1 billion revenue cut-off in Panel B, divided by the number of public firms (in thousands) from the CRSP database (share code=11) at the end of prior quarter during January 1, 2003 – April 30, 2014. The mean values of # Total IPOs and # EGC Eligible IPOs are 3.65 and 3.18, respectively. The independent variables are: Post-Act=1 if the quarter is after April 2012 and Post-Act=0 otherwise. $NASDAQ_{-Q1}$ is the average NASDAQ return during the prior quarter (closing price on the last day of the prior quarter divided by the first day of prior quarter minus 1). $Avg\ IR_{-Q1}$ is the average underpricing (each offer's closing price on the first trading day divided by the offer price minus 1) during the prior quarter. *GDP Growth* is the log of the annual U.S. GDP in the prior quarter divided by the value two quarters prior. $BB/B\ Spread_{-Q1}$ is the average difference in yields (in percentage) between BB and B rated corporate debt and the 10 year U.S. Treasuries in the prior quarter. t-statistics are in parentheses below each coefficient. ***, **, * indicate significance at the 1%, 5%, and 10%, respectively.

Panel A: # Total IPOs

	(1)	(2)	(3)	(4)	(5)
Post-Act	0.928	0.801	0.0999	0.235	0.230
	(1.12)	(1.00)	(0.11)	(0.27)	(0.32)
$NASDAQ_{-Q1}$		4.563	2.259	-2.613	-2.027
		(1.34)	(0.65)	(-0.71)	(-0.70)
Avg IR_{-Q1}			8.740	6.764	4.524
			(1.52)	(1.22)	(1.05)
GDP growth				153.0***	-4.698
				(3.65)	(-0.07)
$BB/B\ Spread_{-Q1}$					-0.622***
					(-3.03)
Observations	45	45	45	45	45
Adj. R^2	0.003	0.017	0.047	0.195	0.346

Panel B: # ECG Eligible IPOs

	(1)	(2)	(3)	(4)	(5)
Post-Act	0.745	0.649	-0.0359	0.0870	0.0827
	(0.96)	(0.86)	(-0.04)	(0.11)	(0.12)
$NASDAQ_{-Q1}$		3.433	1.181	-3.261	-2.736
		(1.11)	(0.38)	(-1.02)	(-1.11)
Avg IR_{-Q1}			8.542	6.741	4.736
			(1.68)	(1.39)	(1.27)
GDP growth				139.5***	-1.654
				(3.83)	(-0.03)
$BB/B\ Spread_{-Q1}$					-0.557***
					(-3.04)
Observations	45	45	45	45	45
Adj. R^2	-0.002	0.001	0.043	0.202	0.356