The JOBS Act and the Costs of Going Public

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

Abstract

We examine the effects of Title I of the Jumpstart Our Business Startups Act for a sample of 312 emerging growth companies (EGCs) that filed for an initial public offering (IPO) from April 5, 2012 through April 30, 2015. We find no reduction in the direct costs of issuance, accounting, legal, or underwriting fees, for EGC IPOs. Underpricing, an indirect cost of issuance that increases an issuer's cost of capital, is significantly higher for EGCs compared to other IPOs. More importantly, greater underpricing is present only for larger firms that are newly eligible for scaled disclosure under the Act. Overall, we find little evidence that the Act in its first three years has reduced the measurable costs of going public. Although there are benefits of the Act that issuers appear to value, they should be balanced against the higher costs of capital that can occur after its enactment.

JEL classification: G24

Acknowledgments: Accepted by Douglas Skinner. We thank two anonymous referees, Leah Baer, Scott Bauguess, Phil Berger, Alex Butler, Laura Field, Rachita Gullapali, Shan He, Jonathan Jona, Jay Ritter and the seminar and conference participants at Columbia University, Lehigh University, Northeastern University, the Securities and Exchange Commission, the University of Melbourne, the University of Nebraska–Lincoln, the University of New South Wales, the 2015 Colorado Summer Accounting Conference, and the 2015 Entrepreneurial Finance and Innovation Conference for helpful comments. Alexandra Phillips and Ravali Paidipati provided valuable research assistance. An Online Appendix to this paper can be downloaded at http://research.chicagobooth.edu/arc/journal-of-accounting-research/online-supplements.

Author contact information:

a. Susan Chaplinsky (corresponding), Darden Graduate School of Business, University of Virginia, Charlottesville, VA 22906, Tel: (434) 924–4810, e-mail: ChaplinskyS@virginia.edu
b. Kathleen Weiss Hanley, College of Business and Economics, Lehigh University, Bethlehem, PA 18015, Tel: (610) 758-3432, e-mail: kwh315@lehigh.edu
c. S. Katie Moon, Leeds School of Business, University of Colorado, Boulder, CO 80302, Tel: (303) 492-5056, e-mail: katie.moon@colorado.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 goal of reducing the regulatory burden of small firms seeking to raise capital in the United States. Title I of the law addresses the initial public offering (IPO) process and attempts to reverse a decade-long decline in the number of IPOs, especially smaller IPOs, in the United States (Gao, Ritter, and Zhu, 2013).[1] As described in the IPO Task Force Report, an influential study that served as a blueprint for the Act, "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."

Although several reasons have been advanced to explain the decline in small IPOs (e.g., Gao et al., 2013, and Weild and Kim, 2010), the IPO Task Force Report attributed the decline in IPOs primarily to the cumulative effects of a "regulatory cascade" that followed the tech bubble collapse in 2000, and to changing market practices that eroded investor interest and the trading environment for small firms. These effects are believed to have increased the costs of going public without commensurately increasing the benefits of being a public company. As articulated by Keating (2012), "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."

The JOBS Act (the Act) seeks to remedy these burdens by reducing the required disclosure and compliance obligations during the IPO process and the first five years of being a public company. Its passage was viewed by supporters and critics alike as the most significant relaxation of IPO and public reporting requirements in recent memory.[2] Title I of the Act permits "emerging growth companies"

[1] In addition to Title I, the JOBS Act contains several other sections that, for example, increase the number of shareholders from 500 to 2,000 before public reporting requirements become effective and that authorizes "crowd funding."

[2] See "Congress passes the JOBS Act," Schiff Hardin, nationallawreview.com, March 31, 2012. Supporters of the law believed it would reduce burdensome regulation and modernize security regulations. Critics, such as the *New*

(EGCs) —generally, firms with less than $1 billion in revenues in their most recently completed fiscal year—to phase in the public reporting and compliance obligations ("public on-ramp provisions"). Among the provisions directly related to the costs of preparing for an IPO, EGCs can choose to solicit pre-filing interest from investors about an offer (test-the-waters), confidentially file their registration statement with the U.S. Securities and Exchange Commission (SEC), and scale back financial and executive compensation disclosure in their IPO filing. In addition, after the IPO, EGCs can continue to report reduced executive compensation disclosure, and delay the onset of Sarbanes-Oxley (SOX) and the Dodd-Frank Act governance requirements until the fifth anniversary of going public. Thus, the Act intends to reduce the costs of preparing registration materials and of meeting the ongoing compliance requirements of being a public company.

Both the disclosure and compliance provisions of the Act potentially reduce the scope and credibility of information disclosed to investors both at the time of the IPO and for as long as the firm remains an EGC.[3] In this study, we investigate the potential effects of reduced disclosure under the Act on the direct and indirect costs of going public. If the Act is successful in reducing the costs of preparing to go public, it should result in lower direct costs of issue, such as accounting, legal and underwriting fees. Information at the time of the IPO, however, is believed to be particularly valuable to investors in reducing information asymmetry (Benveniste and Spindt, 1989; Sherman and Titman, 2002; Leone, Rock, and Willenborg, 2007; and Hanley and Hoberg, 2010). If, at the same time, reduced disclosure at the time of the IPO and thereafter, results in a loss of transparency for investors, the Act could be associated with an unintended increase in indirect costs and the firm's cost of capital as measured by the underpricing of the firm's shares on the first trading day.

York Times, charged that it would turn back years of security legislation designed to protect investor interests, describing it as "a terrible package of bills that would undo essential investor protections, reduce market transparency and distort the efficient allocation of capital.'' ("They Have Very Short Memories," *New York Times* editorial, March 10, 2012.)

[3] Henceforth, we refer to both types of provisions, disclosure and compliance, collectively as "reduced (or scaled) disclosure." For the compliance provisions, the delay in SOX governance requirements reduces the external vetting of the firm's financial reporting procedures, which may, in turn, reduce investors' confidence in the firm's financial disclosures. Also, the "say on pay" requirement is intended to encourage both shareholders and boards of directors to become better informed and more involved in evaluating the firm's executive compensation practices.

Our work is related to an extensive literature on the effects of disclosure on capital costs. Studies of regulations that enhance disclosure generally find benefits in terms of lower costs of capital or higher equity values when disclosure results in a greater transparency of information (see Verrecchia, 2001; Dye, 2001; and Healy and Palepu, 2001, for a review of the literature). Consistent with this, Bushee and Leuz (2005) and Greenstone, Oyer, and Vissing–Jorgensen (2006) find positive stock returns are associated with the imposition of required financial disclosure on Over-The-Counter (OTC) traded companies. More recently, the Securities Offering Reform of 2005 afforded well-known seasoned issuers greater latitude in communicating with investors in advance of an offer.[4] Shroff, Sun, White, and Zhang (2013), and Clinton, White and Woidtke (2014) document a significant increase in pre-offering disclosures after the reform and a corresponding decline in the cost of capital as well as other capital formation benefits for issuers providing greater pre-offering communications. On the flipside, studies of other SEC initiatives that allow for reduced disclosure, such as shelf registration (Denis, 1991) and Rule 144A (Fenn, 2000; and Chaplinsky and Ramchand, 2004), generally find that negative price effects are associated with a decrease in mandated disclosure, particularly in the initial phases of rule adoption.[5]

In order to determine the effects of the Act on the costs of going public, we examine the registration statements of IPOs that file after the Act became effective (April 5, 2012) through April 30, 2015, to find issuers that self-identify as EGCs and the frequency with which they take advantage of the Act's provisions. Through this process and after applying a number of filters common to the literature, we identify 312 EGC IPOs. Our control sample includes 757 IPOs issued between January 1, 2003, and April 4, 2012, that would have qualified for EGC status had the Act been in effect at that time.

[4] A well-known seasoned issuer or WKSI is a firm that has an outstanding minimum $700 million in worldwide market value of voting and non-voting equity held by non-affiliates or has issued in the last three years at least $1 billion aggregate amount of non-convertible securities other than common equity, in primary offerings for cash, not exchange.

[5] Subsequent studies looking at a longer period after implementation of the rule, however, show some attenuation of the negative price effects found in the initial phases of the rule change (Bethel and Krigman, 2010; Autore, Kumar, and Shome, 2008; and Livingston and Zhu, 2002).

Our empirical analysis presupposes that all issuers will not be equally affected by the Act. Before the Act, scaled disclosure requirements were available only to smaller reporting companies (SRCs). Prior to 2008, issuers could qualify as an SRC if the IPO issuer had public float less than $25 million (Regulation S-B) and less than $75 million after 2008 (Regulation S-K). After the Act, with few exceptions, scaled disclosure is extended to any issuer that meets the $1 billion revenue cutoff. We estimate that the percentage of issuers that are eligible for scaled disclosure increases from approximately 11% of issuers before the Act to 87% of issuers after the Act, effectively granting reduced reporting requirements to the vast majority of all IPO issuers.[6] Consequently, we expect that the impact of the Act will principally be concentrated in firms newly eligible for scaled disclosure, non-SRC EGCs.

We compare the differences in issue costs of EGCs to a control sample of pre-Act IPOs sorted by SRC status. We use several empirical methods to address issues of endogeneity that may arise from the Act potentially changing the type of firm that goes public. To begin, we propensity-score match the control and EGC samples to assure that the observable characteristics of the control IPOs are representative of the post-Act EGC IPOs.[7] Using this sample, we conduct OLS and difference-in-differences regressions to examine the differential effects of the Act on non-SRC and SRC EGCs.

Our analyses reveal no evidence that the Act has reduced the direct costs of going public. Indirect costs, however, are significantly higher for non-SRC EGCs after the Act. We estimate that these issuers experience an 11 percentage point (or 76%) increase in underpricing compared to similar firms that went public before the Act. By contrast, initial returns for SRCs do not differ before and after the Act. Further, using a regression discontinuity design confined only to the post-Act sample of EGCs, we find a marked increase in initial returns for firms that are just above the $75 million SRC threshold compared to firms

[6] SEC Chairman Mary L. Schapiro raised concerns about the revenue threshold, stating it "is so broad that it would eliminate important protections for investors in even very large companies. ("JOBS Act Could Remove Important Protections for Investor, SEC Chair Schapiro Warns," *Washington Post*, David Hilzenrath, March 14, 2012.)

[7] A limitation of our approach is that we match on observable and easily measurable characteristics of firms. We acknowledge that it is possible that post-Act firms differ on unobservable or more difficult to quantify characteristics such as the type of R&D projects, trademarks, licenses, etc., that may affect our findings.

below the threshold. We find, therefore, that the Act is associated with increased costs of capital for firms that are newly eligible for scaled disclosure.

Although the Act allows broad-scale regulatory relief, issuers have the flexibility to choose among the disclosure exemptions. We find that, over time, EGCs increasingly take more exemptions and disclose less information. The increase in the average number of exemptions is associated with higher residual underpricing (after controlling for firm and market characteristics) from the initial implementation of the Act to the last quarter of our sample. Thus three years into the Act, we find a greater willingness on the part of issuers to utilize the disclosure exemptions, but no attenuation of underpricing.

Because the Act allows EGCs some discretion in optimizing their level of disclosure, we next analyze the determinants of their exemption decisions. Issuers are less likely to disclose more information if they are smaller, younger, unprofitable, and have higher R&D expenses. The results for high R&D expenses are primarily driven by the IPOs of biotech and pharmaceutical firms, which make up a significant portion of the EGC sample. Consistent with Dambra, Field, and Gustafson (2015), these results suggest that firms with greater proprietary costs of information appear to highly value the provisions of the Act and face a difficult trade-off between protecting strategic information and higher costs of capital.

Despite the potential for greater underpricing for EGCs, most issuers eligible for EGC status adopt it, and therefore, they must believe that the expected benefits of the Act exceed its costs. We discuss four potential benefits of the Act that may counterbalance the increase in underpricing, and, where possible, attempt to quantify them.

First, by its very nature, the Act gives issuers flexibility to determine their optimal level of disclosure by providing a menu of exemptions as opposed to a uniform disclosure standard. This allows issuers to "right-size" their disclosures and more effectively evaluate the costs and benefits of disclosing potentially strategic information.

Second, the Act's provisions give firms the ability to test-the-waters and confidentially file a registration statement, which could reduce the potential for a withdrawn offering, saving time and money. Confidential filing also lowers the costs of disclosing proprietary information to competitors (Bhattacharya and Ritter, 1983; Bhattacharya and Chiesa, 1995; and Maksimovic and Pichler, 2001), which is likely to be particularly valuable to firms with proprietary technology, such as biotech and pharmaceutical firms (Guo, Lev, and Zhou, 2004; and Dambra et al., 2015).

Third, the ability to delay compliance with SOX 404(b) and the Dodd-Frank Act requirements could provide cost savings to issuers. We estimate the potential cost savings from noncompliance with SOX 404(b) using an approach similar to Badertscher, Jorgensen, Katz, and Kinney (2014). While our estimate of these savings is not large enough to offset the average increase in the dollar amount of money left on the table, the savings still offer issuers some monetary relief relative to the pre-Act regulatory regime.

Fourth, prior to the Act, issuers could only raise a maximum of $75 million in proceeds and still qualify for reduced disclosure under Regulation S-K. Our regression discontinuity design results suggest that this threshold was binding before the Act, but not after. Comparing SRCs near the threshold before the Act with a matched sample after the Act, we estimate that these smaller issuers might be able to raise as much as 25% more in proceeds after the Act and still qualify for reduced disclosure.

Our findings inform the debate about the costs and benefits of disclosure regulation, particularly for IPOs. Heretofore, the SEC has refrained from extending reduced disclosure requirements to IPOs because of the relative scarcity of information about new issuers. Our results suggest that the reduction in information under the Act is linked to substantial increases in the cost of capital for non-SRC EGCs that are newly eligible for regulatory relief. Relative to the pre-Act period, we estimate that the increase in underpricing translates into an approximately 3% loss of post-IPO market value for the average non-SRC issuer. Despite the higher cost of underpricing, the near universal adoption of EGC status by eligible issuers suggests that EGCs appear to value the opportunity to optimize their disclosures, and disclose less

information to protect their competitive position. Therefore, our work can inform issuers and regulators of the expected costs of reducing disclosure following the enactment of the JOBS Act.

We also contribute to a growing literature on the effects of the JOBS Act. Similar to our study, Barth, Landsman, and Taylor (2016) and Agarwal, Gupta and Israelsen (2016) find that the reduction in mandated disclosure under the Act increases information uncertainty and leads to higher underpricing for EGCs. These studies, however, do not examine direct issue costs nor isolate the effects of the Act on those firms that are newly eligible for regulatory relief. Barth, et al. (2016) report additional evidence of increases in post-IPO volatility and bid-ask spreads that are consistent with greater information uncertainty after the Act. Agarwal, et al. (2016) analyze the mix of information that issuers disclose and show that the higher underpricing of EGCs is associated with more textual discussion of risk factors and not the disclosure of less accounting information. Several studies investigate broader implications of the Act. Dambra, Field, Gustafson and Pisciotta (2016) examine the relaxation of pre-IPO analyst communication and find following the Act that affiliated analysts' earnings per share forecasts have become significantly less accurate and more optimistic. Finally, Gipper (2016) studies the effect of the 2006 mandate on Compensation Discussion and Analysis (CD&A) disclosure on manager compensation and uses the partial rollback of CD&A under the JOBS Act to confirm his conclusion that increased disclosure increases compensation.

The remainder of the paper is as follows. Section 2 describes the motivations for the JOBS Act and presents our hypotheses. Section 3 describes the sample and provides summary statistics. Section 4 presents our main empirical findings. Section 5 examines the determinants of disclosure choice. Section 6 examines other benefits of the Act, and we conclude in section 7.

2. Background on the JOBS Act and Hypotheses

The enactment of the JOBS Act provides a unique setting in which to examine the effects of reduced disclosure on the pricing of IPOs. The Act created an unexpected shock in regulation that

continued a recent trend toward reduced disclosure and compliance.[8] 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. 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. Upon signing, the Act became effective immediately; thereafter all EGCs conducting IPOs could take advantage of the provisions for reduced disclosure.

Title I of the Act principally attempts to redress the increased "regulatory cascade" by extending the benefits of scaled disclosure currently enjoyed by SRCs to "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 is not a well-known seasoned issuer. EGC status lasts until the fifth anniversary of going public or until revenues exceed $1 billion.

Appendix A details the scaled-disclosure provisions in Title I of the Act that we examine. For our purposes, there are three regulatory regimes to distinguish: (1) the current reporting requirements for regular filers (large firms with revenues exceeding $1 billion) (2) the new provisions extended to EGCs under the JOBS Act, and (3) the new provisions extended to SRCs. The distinction between the regulatory treatment of SRC and non-SRC IPOs is key to our empirical methodology.[9]

In comparison to a regular filer, at the time of the IPO, an EGC can choose to test-the-waters and file its registration statement confidentially. Testing-the-waters permits an issuer to gauge the interest in a potential offer with accredited investors ahead of filing, eliminating the "quiet period" restrictions on communications before an offering. Confidential filing allows an issuer to obtain comments from the SEC before making its registration statement public. If, after completing the registration process an EGC

[8] The JOBS Act is not the first instance of reduced disclosure 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 SEC adopted Regulation S-B, which 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."

[9] SRC status is determined by a firm's public float, which for IPO issuers is calculated as shares sold in the offer plus shares held by non-affiliates times the offer price. Since we cannot observe shares held by non-affiliates, we classify firms' SRC status using $75 million in proceeds (excluding the overallotment option) as the threshold.

decides to go through with the IPO, 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 the IPO prospectus, EGCs are allowed to provide two, rather than three years, of audited financial statements, reduce their executive compensation disclosure to three, rather than five named officers, and omit the discussion and analysis of compensation (and continue this more limited disclosure in periodic reports that follow until EGC status ends).

For the post-IPO provisions, EGCs must begin to comply with the auditor attestation provisions of SOX 404(b) five years after going public compared to two years before the Act. EGCs are exempt from Dodd-Frank Say on Pay and Pay Ratio disclosure requirements, and the advisory votes on golden parachutes for as long as they remain EGCs. In instances where the Public Company Auditing Oversight Board establishes new auditing requirements or revises existing ones, the Act allows EGCs to delay compliance until the rule changes become effective for private companies, which is typically a later date than for public companies.

Under Regulation S-K, SRCs already qualify for reduced financial reporting and executive compensation disclosure, and delayed compliance with SOX 404(b) and Dodd-Frank corporate governance requirements. Under the Act, SRCs gain the ability to test-the-waters, confidentially file a registration statement, and adopt private company effective dates for new accounting standards. In addition, the temporary relief for Dodd-Frank Say on Pay compliance and other governance rules set to expire in January 2013 was made permanent for as long as the SRC qualifies for EGC status.

2.1 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 regulatory filings, firms making their first public equity offer are subject to a high degree of asymmetric information between issuers and investors. If

information is costly to obtain, investors may require a discount or underpricing as compensation for information production (Sherman and Titman, 2002).[10]

Title I of the Act is intended to reduce the regulatory burdens of going public and therefore, lower the direct costs of going public, such as fees to intermediaries. If, however, the reduction in direct offering costs reduces investor confidence in the content or reliability of information, issuers may face higher indirect costs of issuance. In addition to reduced transparency, higher indirect costs could also arise if the Act reduces the ability of financial regulators to detect fraud or prosecute fraudulent activity. Coates (2011) notes "While [the proposals] have been characterized as promoting jobs and economic growth by reducing regulatory burdens and costs, it is better to understand them as changing … the balance that existing securities laws and regulations have struck between the transaction costs of raising capital, on the one hand, and the combined costs of fraud risk and asymmetric and unverifiable information, on the other hand. Importantly, fraud and asymmetric information not only have effects on fraud victims, but also on the cost of capital itself."

If the Act achieves its intended goal of reducing the regulatory burden and the costs of going public, we hypothesize it will have the following potential effects on non-SRC EGCs and the direct and indirect costs of issue:

> **H1:** Because SRCs were exempt from some of the more burdensome reporting requirements prior to the Act, we expect that the benefits and costs of reduced disclosure should accrue primarily to the non-SRC EGCs.
>
> **H2:** If offering intermediaries such as underwriters, lawyers, and accountants expend less effort and resources on due diligence and on the preparation of offering documents because of reduced disclosure requirements, we expect non-SRC EGCs will have lower direct costs associated with the offering compared to other IPO firms.
>
> **H3:** 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 non-SRC EGCs compared to other IPO firms.

[10] Asymmetric information is not the only explanation for underpricing. For example, agency problems between issuers and underwriters can also increase the amount of underpricing (Ritter, 2011). If these problems are severe, increased disclosure may be insufficient to reduce initial returns because the equilibrium level of underpricing is determined by other considerations.

3. Data and Summary Statistics

We identify an initial list of all U.S. IPOs issued between January 1, 2003, and April 30, 2015, 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 that reads the first 1,000 words of each S-1 to eliminate American Depository Receipts (ADRs), foreign issuers, 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 that are listed on an exchange with offer prices greater than $2. We remove any firm that was previously traded on the OTCBB or the OTCQB, or that filed a 10-K prior to the IPO. Finally, we exclude any issuer that is in registration with the SEC for more than 550 days and/or that has missing file dates or first-day closing prices.

To obtain the sample of EGC IPOs, we verify that the issuer self-identifies as an "emerging growth company" in its offering documents. Only five firms eligible for EGC status do not elect it. The near-universal adoption of EGC status after the Act suggests that issuers value some of its provisions. We also require that the first registration statement is filed after the passage of the Act to ensure that the issuer could benefit from all of the Title I provisions.[11] The final EGC sample consists of 312 firms.

We construct a sample of 757 control firms that go public before the Act. Before the Act, the sample of control IPOs includes issuers that went public between January 1, 2003, and April 4, 2012, and have revenue less than or equal to $1 billion adjusted for 2012 purchasing power dollars using the Consumers Price Index (CPI).[12] Control IPOs also include 25 firms that went public before the Act was

[11] This requirement excludes 28 firms from the sample that filed their initial registration before the Act was passed on April 5, 2012 but went public after the Act was passed. In addition, we exclude the five firms that did not elect EGC status.

[12] Selecting the control IPOs using CPI-adjusted revenues versus nominal dollar revenues excludes only 12 firms from the control sample. We also eliminate any control IPO that could be a well-known seasoned issuer and not qualify as an EGC (i.e., issuers with $700 million or more in proceeds as a proxy for the public float threshold or with more than $1 billion in total debt in the year prior to the IPO). Only 3.7% of the control IPOs meet either of these criteria.

passed but whose EGC status was made retroactive.[13] See Appendix B for a complete description of the sample selection process.

We obtain information on prices from the Center for Research in Security Prices (CRSP) and hand collect missing first-day closing prices from Yahoo! Finance. We collect information on balance sheet and income statement variables in the fiscal year prior to the IPO from Compustat, and if unavailable, we hand collect the data from IPO prospectuses. We collect data on the age of EGC firms from their S-1s, and obtain information on firm age for the control firms from Jay Ritter's IPO data website.

Table 1 shows the annual frequency of issuance for EGC IPOs and control IPOs. We begin our sample in 2003 because by then issuers were subject to the anticipated compliance costs associated with SOX (enacted July 30, 2002).[14] Because of the high revenue cutoff, 87% of all IPOs, on average, could have qualified as EGCs had the Act been in place throughout our sample period.

To illustrate more clearly the variation in IPO volume, Figure 1 presents the quarterly time series over the sample period. The figure confirms the high frequency of potential EGCs throughout the sample.

Table 2 reports descriptive statistics on the characteristics of EGC IPOs and control IPOs. (See Appendix C for the variable definitions.) With respect to firm or issue characteristics, EGC IPOs are, on average, significantly smaller (*Revenue_CPI*), more unprofitable *(Unprofitable*), younger (*Age*), more R&D intensive (*R&D/Assets*), more likely to be VC-backed firms (*VC*), and involve significantly smaller proceeds (*Proceeds_CPI*) compared to the control IPOs. In addition, the market conditions in the period when EGCs are issued are generally favorable. The median of $NASDAQ_{-90}$, the average buy and hold return of all NASDAQ-traded stocks during the 90 days prior to the offer date, is significantly higher for

[13] When the Act was passed on April 5, 2012, its provisions were made retroactive to firms that went public after December 8, 2011. Although firms that went public before passage were not eligible for scaled disclosure in the prospectus, these firms could elect exemptions related to ongoing compliance. Our results are not sensitive to the inclusion of these firms in the sample.

[14] Our results are robust to using a "post-crisis sample" of 158 control IPOs and 312 EGC IPOs that are issued from January 1, 2010, to April 30, 2015, a time period that accounts for all regulations inclusive of the anticipated final passage of Dodd-Frank (July 21, 2010).

EGC IPOs compared to the control IPOs. Consistent with this, the average and median values of $\#IPOs_{-90}$ are also significantly higher for EGCs compared to the control IPOs.

Table 2 also presents univariate tests of the direct and indirect costs of issue for the entire sample of EGC and control IPOs. The variables for direct costs, in percentage, are scaled by offer proceeds (exclusive of the overallotment option),[15] and include *Accounting & Legal Fees*, *Gross Spread*, and *Total Direct Costs*, equal to the sum of *Accounting & Legal Fees* and *Gross Spread.* The results show that EGCs have significantly higher *Accounting & Legal Fees* and *Total Direct Costs* than the control IPOs. *Gross Spread* is not significantly different between the groups, mainly due to the clustering of this variable around 7% (Chen and Ritter, 2000).

Indirect costs, in percentage, are measured by *Initial Return*, the closing price on the first trading day divided by the offer price minus 1, and *Total Costs*, the sum of *Initial Return* and *Total Direct Costs*. EGC IPOs have significantly higher average, but not median, *Initial Return* and *Total Costs* compared to the control IPOs. Hence, for the overall sample, the initial evidence in Table 2 does not suggest that the Act has reduced the costs of issuance.

4. Empirical Analysis of IPO Fees and Pricing

In this section, we describe our empirical approach in more detail and test our hypotheses. Similar to the problem faced by researchers studying the effects of SOX on firm value (Coates and Srinivasan, 2014), the high frequency of EGC adoption among eligible firms makes it challenging to identify a benchmark sample of public firms that are unaffected by the passage of the Act. Iliev (2010) circumvents this issue by exploiting the fact that firms with public float below $75 million were not initially required to comply with Section 404(b). Because SRCs are already eligible for many of the Act's provisions under Regulation S-K, we make use of a similar distinction and compare SRCs to non-SRCs, with the expectation that most of the effects of the Act will be observed in this latter group. The SEC's decision to

[15] Similar results throughout the paper are obtained if we include the overallotment shares reported in SDC but as noted in Ellis, Michaely, and O'Hara (2000) these data are frequently inaccurately reported.

reduce disclosure for SRCs was made under the belief that the costs of requiring more disclosure outweighed the potential benefits for firms of this size. The controversial aspect of the JOBS Act was the categorical extension of this reduced level of reporting to a much larger universe of firms.

The comparison of SRCs to non-SRCs raises the issue of how the Act may have affected the types of firms that go public. To address this issue, we employ several methodologies that control for endogeneity to examine whether SRCs and non-SRCs experience differential effects of the Act. These include: 1) propensity-score matched OLS regressions, 2) propensity-score matched difference-in-differences regressions, and 3) regression discontinuity design.

To ensure that our control sample of pre-Act IPOs is representative of the post-Act sample of EGC IPOs, we propensity-score match the control and EGC IPOs. We match EGC IPOs to their nearest neighbor in the sample of control IPOs based on their propensity scores within the same *Fama-French 17* industry classifications without replacement.[16]

Panel A of Table 3 shows the difference in means between the matching variables used to control for factors found to be important in prior studies examining the costs and pricing of IPOs. These variables include characteristics related to firm size (*Ln(Revenue) and Ln(Proceeds*)), profitability (*Unprofitable*), growth prospects (*Sales Growth),* age of the firm (*Ln(Age)*), leverage (*Book Leverage*), asset intensity (*PPE/Assets*), R&D intensity (*R&D/Assets*), underwriter market share (*UW Market Share*), equity market conditions ($NASDAQ_{-90}$), and industry valuation (*Industry P/E Ratio*). The definitions of the matching variables are given in Appendix C. A total of 303 EGC IPOs are matched to 303 control IPOs.[17]

[16] We propensity-score match using *Fama-French 17* rather than *Fama-French 50* industry classifications, because for the latter many industries have insufficient numbers of control IPOs to match to EGC IPOs on all criteria. In instances where there remain insufficient numbers of control IPOs, we group related industries into one group and match within that group. In addition, we also tried two other industry classifications: matching using *Fama-French 10* industry classifications, and using three industry groups: biotech and pharmaceutical firms, high-tech firms, and all other firms. The latter addresses the concern that *Fama-French* classifies biotech firms in the "consumer" industry and software and healthcare firms in the "other" industry. Our results are robust to these alternatives as well as to matching with replacement.

[17] Nine EGC IPOs have missing *Sales Growth* and are not included. Our results are robust to including all EGCs but not matching on this variable.

After the matching procedure, there are no significant differences in the matching variables and observable characteristics between the two groups. Hence, propensity-score matching alleviates some of the concern that our control sample of pre-Act IPOs is not representative of post-Act EGC IPOs.

4.1 OLS Regressions: SRC versus Non-SRC Status

In Panel B of Table 3, we test the predictions of Hypotheses 1 that the effects of the Act should be more pronounced for non-SRC EGCs. In this analysis, we break the 606 propensity-score matched observations into groups of non-SRC (430) and SRC IPOs (176). The dependent variables in Panel B in models (1) and (2) are *Total Direct Costs*, and in models (3) and (4) are *Initial Return*. The main focus of our analysis is the coefficient of *EGC,* a dummy equal to one for an EGC IPO (non-SRC or SRC), and zero for a control IPO.

The independent variables in the regressions include several of the previously defined matching variables, such as *Unprofitable, Ln(Age)*, *UW Market Share*, and $NASDAQ_{-90}$. The regressions, however, necessitate changes in the form of several variables. In particular, there is a high degree of correlation among the variables for proceeds, VC backing, and underwriter market share. Therefore, to mitigate issues of collinearity and control for size-related differences, we use the residual of the natural log of proceeds, *Residual Ln(Proceeds)*, which is measured as the residual from a regression with *Ln(Proceeds)* as the dependent variable, and *VC* and *UW Market Share* as independent variables.[18] In the regressions, we use a dummy variable for R&D intensity, *R&D > 0*, which is equal to one if the firm has positive R&D expenditures (missing values are set to zero). Additionally, because direct costs have been shown to be generally positively correlated with the time spent in registration (Hanley and Hoberg, 2010), we also include *Ln*(*Days in Registration)*.[19]

[18] The residual proceeds regression is available in the online appendix Table OA.1.

[19] We do not include a VC dummy in the regressions as it is highly correlated with the profitability, R&D intensity, and the age of the issuer. The regression results in Table 3 are robust to the inclusion of other size-related control variables, such as *Ln(Revenue)* or *Ln(Assets)*. Entered alone, these have significant correlations with VC, profitability, R&D intensity, and age. The residual of *Ln(Revenue)* or *Ln(Assets)* from a regression with *VC, UW Market Share*, and *Ln(Age)* produce qualitatively similar results to those shown in Table 3.

In the regressions examining *Initial Return*, prior work by Hanley (1993) finds a positive relation between the offer price revision and underpricing. To allow for an asymmetric effect of the offer price revision on initial returns, we follow Hanley and Hoberg (2010) and include *Offer Price Revision+* and *Offer Price Revision−*, in percentage, which, respectively, equals the offer price revision when it is positive or negative, and is zero otherwise.[20]

The IPO market is subject to a high degree of cyclicality that can affect the pricing and terms of new issues. Normally such variation is controlled by time fixed effects, but since virtually all IPO issuers adopt EGC status after 2012, the EGC dummy becomes subsumed by the time dummies for 2012, 2013, and 2014. Therefore, in addition to the aforementioned $NASDAQ_{-90,}$ we include $Ln(\#IPOs_{-90})$ and *Crisis*, to control for the variation in equity market conditions. All of the regressions include industry fixed effects using *Fama-French 50* industry classifications, with biotech firms treated as a separate industry following Dambra et al. (2015), and robust standard errors that are adjusted for industry and year-quarter clustering.[21]

In model (1), the coefficient of EGC for *Total Direct Costs* is significant for non-SRCs compared to model (2), where the coefficient of EGC for SRCs is insignificant. In model (3), the coefficient of EGC for *Initial Return* for non-SRCs is significantly positive compared to model (4), where the coefficient of EGC for SRCs is insignificant.[22] The insignificant results for SRCs could suggest that the disclosure regime for small companies is appropriate for firms of that size. By contrast, the significant results for

[20] Lowry and Schwert (2002) include both the offer price revision and a variable equal to the offer price revision if it is positive, and zero otherwise. Because there is a high correlation between these two variables (0.77), we decompose the price revision into its positive and negative components as in Hanley and Hoberg (2010).

[21] We follow Dambra et al. (2015), who state that they use "50 industry designations which comprise the *Fama-French 49* industries, excluding biotech firms with GICS code 352010, plus a separate designation for the biotech industry. Biotech consists of firms with GICS code 352010, while Pharma consists of firms in *Fama-French 49* industry number 13 (pharmaceutical products), excluding firms with GICS code 352010. Our results are not sensitive to several other industry classifications. These include the use of *Fama-French 10* or *Fama-French 17* industry classifications. In addition, for robustness we do not separate the biotech and pharmaceutical firms into separate industries but instead create two variables for these firms based on median market capitalization and include them in regressions along with *Fama-French 48* industries excluding biotech and pharmaceutical firms. Our results are robust to these alternative industry classifications.

[22] Our approach focuses on the change in underpricing of SRCs and non-SRCs to isolate the effects of the Act. On a univariate basis, the average underpricing of SRCs before the Act is 7.0% and after the Act is 6.8% compared to respectively, 14.4% and 30.4% for non-SRCs.

direct costs and underpricing for non-SRCs support Hypothesis 1 that the effects of the Act accrue primarily to non-SRCs that are newly eligible for reduced disclosure.[23]

4.2 Difference-in-Differences Analysis

In this section, we examine Hypothesis 2, which states if that the Act is successful in reducing the costs of going public, it should decrease the direct costs of issue for non-SRC IPOs. At the same time, under Hypothesis 3, the reduction in disclosure could have the unintended consequence of increasing underpricing for non-SRC IPOs.

For this analysis, we use a propensity-score matched difference-in-differences approach to examine the effect of the Act on both direct and indirect costs. By doing so, we control for observable characteristics that may endogeneously affect the decision to go public and any structural changes in the time-series costs of issuance that are unrelated to the passage of the Act. Examples of such changes might include changes in accounting or legal practices that coincide with the passage of the Act that could affect all issuers.

In Table 4, we continue to use the sample of propensity-score matched observations shown in Panel A of Table 3. In order to test Hypotheses 2 and 3, we implement the difference-in-differences model using a regression framework that includes the following independent variables: a post-JOBS Act dummy (*Post*) equal to one if the offer date is after the JOBS Act (April 5, 2012) and zero otherwise, an affected group dummy (*Non-SRC*), and an interaction term (*Non-SRC×Post*). The main variable of interest is the interaction term, *Non-SRC×Post,* which tests whether the change in the dependent variable after the Act differs between non-SRCs and SRCs. We also include the same controls as in previous regressions in Panel B of Table 3 but do not report their coefficients in order to focus on the main findings of interest.

[23] OLS regressions results comparing the direct and indirect costs of EGC IPOs to control IPOs without using a propensity-score matched sample are available in online appendix Table OA.2.

Table 4 presents the difference-in-differences regression results for the direct and indirect costs of going public. In models (1) to (3), the coefficients of *Non-SRC×Post* for measures of direct costs indicate no significant decrease for non-SRCs after the Act. In models (4) and (5), the coefficients of *Non-SRC×Post* for *Initial Return* and *Total Costs* are significantly positive. Consistent with Hypothesis 3, the coefficients of *Non-SRC×Post* imply that non-SRC EGCs have an additional 11 percentage point increase in underpricing after the Act compared to non-SRC IPOs before the Act.

In economic terms, we follow the example in Ritter (2013) and estimate the impact of the Act on the indirect costs of going public on the post-IPO market capitalization of the firm.[24] In Table 4, the average underpricing of non-SRC EGCs in the post-Act period (controlling for other factors) is estimated to be approximately 11 percentage points higher relative to the underpricing of non-SRC IPOs in the pre-Act period. In other words, after controlling for other factors known to affect underpricing, the average initial return of non-SRCs in the pre-Act period is 14.4% versus 25.4% in the post-Act period, an increase of almost 76%. For non-SRC EGCs in the post-Act period with average proceeds of $191.5, the results imply an additional $21.1 million is left on the table after the Act [($191.5 million×1.11) - $191.5 million)]. Given that our average firm sells 30% of its post-IPO market capitalization, the $21.1 million represents of a 3.3% additional loss in value based on an implied post-IPO market capitalization of $638.3 million [$191.5 million/0.30]. Therefore, substantial costs are associated with higher underpricing that issuers should consider in assessing the potential benefits of the Act.[25]

4.3 Regression Discontinuity Design

[24] The example in Ritter (2013) also includes the effects of direct costs but in our case, we find that the average total direct costs for non-SRC IPOs before and after the Act are both estimated to be 9%.

[25] One question that naturally arises is whether the increase in underpricing is due to a lower offer price for issuing firms or a higher market price on the first day of trading. To address this issue, we generate a model of CPI-adjusted proceeds and CPI-adjusted first-day market value using pre-Act IPOs with a regression specification similar to Table 3 but including *Residual Ln(Revenue)* instead of *Residual Ln(Proceeds)*. We then predict the expected proceeds and market value for EGC IPOs. We find that EGC IPOs have significantly lower proceeds (at the 10% level) but not significantly higher market values than the corresponding predicted values. The lower offer price is consistent with investors requiring additional compensation during bookbuilding for greater information asymmetry.

In this section, we examine the differential impact of the Act on direct and indirect costs by focusing only on EGCs, a sample of IPOs that occurs exclusively after the Act. By doing so, we further address the concern that the Act itself may have endogenously changed the type of firm that chooses to go public.

Since many of the provisions of the Act were previously available to SRCs, we follow Iliev (2010) and employ a regression discontinuity design to examine the differential effects of the Act on EGCs just above and below the $75 million proceeds threshold (excluding the overallotment option). We focus on EGCs near the $75 million threshold using three different bandwidths: 1) between $50 and $100 million, 2) between $25 and $125 million, and 3) between $0 and $150 million. The widest of these bandwidths captures approximately 79% of EGC issuers. Consistent with the regression discontinuity design literature (Lee and Lemieux, 2014), the estimation uses the following local linear regression model to determine the difference in outcomes around the $75 million threshold:

$$\text{Initial Return} = \beta_1 \text{Non-SRC} + \beta_2 (\text{Proceeds-75}) + \beta_3 \text{Non-SRC}\times(\text{Proceeds-75}) + \beta X, \quad (1)$$

where *Non-SRC* is a dummy variable equal to one if proceeds are greater than $75 million and zero otherwise. We subtract *Proceeds* by the threshold of $75 million, (*Proceeds-75*) and include an interaction term, *Non-SRC x (Proceeds-75)*, to allow for the slope of the regression function to differ above and below the threshold. We also include a vector of control variables, *X*, similar to those used in the initial return regressions in Panel B of Table 3. The main variable of interest is *Non-SRC*, whose coefficient estimates the discontinuity or jump in underpricing above the $75 million threshold.

One criteria for the validity of our regression discontinuity design is whether the assignment of firms above and below the threshold is random after the JOBS Act. We assess this in Figure 2 using the McCrary (2008) test for discontinuities of the density of proceeds at the threshold. Interestingly, as can be seen from Figure 2(a), we reject the null of continuity in the density of proceeds at the threshold prior to the Act with a Z-statistic of 3.0 (0.702/0.234). It appears that before the Act, IPO firms purposefully set their proceeds below the $75 million threshold most likely to receive the benefits of SRC status. By contrast, Figure 2(b) provides evidence that after the Act, the assignment of firms around the SRC

threshold is random. Consistent with the Act extending reduced disclosure to a larger set of firms, we do not reject the null of continuity in the density of proceeds at the threshold after the Act with a Z-statistic of 0.45 (0.108/0.241).

Table 5 reports the results of the regression discontinuity analysis before (Panel A) and after the Act (Panel B). In the pre-Act period in Panel A, the coefficient of *Non-SRC* for *Initial Return* is not significant for any of the bandwidths, indicating no significant difference in underpricing above and below the threshold before the Act. By comparison, in Panel B, we find in the post-Act period, the coefficients of *Non-SRC* are statistically significant in the all three bandwidths. In the middle bandwidth, with proceeds ranging from $25 million to $125 million, the estimated coefficient of *Non-SRC* implies additional average underpricing of 18.6% between firms just below and just above the $75 million threshold.

Figure 3 graphically illustrates the potential discontinuity in underpricing before (Figure 3(a)) and after the Act (Figure 3(b)). In Figure 3(a), there is no discernable break in initial returns for firms below and above the $75 million threshold. As mentioned above, these findings should be interpreted with caution as the sample of firms before the Act fails the McCrary (2008) test. In Figure 3(b), there is a clear discontinuity or jump in initial returns around the threshold for non-SRC EGCs that went public after the Act. Our regression discontinuity analysis findings mirror those of prior tests: extending reduced disclosure to larger firms is associated with a higher cost of capital.[26]

5. Analysis of EGC Disclosure Choices

The Act moves away from the one-size-fits-all regulatory regime and gives IPO issuers some ability to optimize the relative benefits and costs of their disclosure decisions. In this section, we examine the determinants of EGCs' disclosure decisions and how underpricing has evolved since the Act was passed.

[26] In unreported results using regression discontinuity design, we do not find any difference in direct costs between SRCs and non-SRCs either before or after the Act.

5.1 Adoption of JOBS Act Provisions

In order to obtain information on which provisions of the Act an EGC adopts, we manually inspect the Draft Registration Statements and S-1 registration statements to determine which EGCs use the confidential submission procedure.[27] We identify whether IPOs test-the-waters before going public by first employing a PERL script to identify filings with the word "water" in the underwriting agreement attached to the registration statement and its amendments and manually verify that the item refers to testing-the-waters. We code both of the provisions equal to one if the firm took advantage of the provision and zero, otherwise.

For the public on-ramp disclosure provisions, we read the relevant portions of the S-1s for all EGCs and manually verify that an EGC: (1) reports two (versus three) years of audited financials, and (2) reports reduced executive compensation disclosure for less than five named executive officers or less than three years of compensation data. For the other provisions, we record whether an EGC: (3) delays implementation of SOX Section 404(b), (4) exempts itself from the Dodd-Frank governance requirements, or (5) delays implementing new or revised accounting standards until such time as they apply to private companies (see Appendix A for a summary of the provisions). Items (3) through (5) are post-IPO reporting requirements. Depending on the wording of the S-1, we code the choices as "Yes" (intend to take advantage), "No" (do not intend to take advantage), or "May" (no decision about the intention).[28]

[27] Although the all confidentially submitted draft registration statements after October 15, 2012, are available from EDGAR, some draft filings submitted from April 5, 2012, to October 14, 2012, are not available. During this period, the SEC received the confidential submissions using a secure e-mail system. Twenty-five EGCs in our sample submitted their registration statements confidentially using the e-mail system, and we identify them and collect their initial submission dates by manually reading the correspondence between the firm and the SEC on EDGAR.

[28] Often, 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. If the intentions of the issuer are not clear, they are coded as "May." We also code as "May" 17 firms that have reduced financial statement disclosure but have only two years of operations after inception, 13 firms that have reduced executive compensation disclosure but fewer than three years of operations, and three firms that did not mention their intention to delay adoption of new or revised public accounting standards. We also tried to collect information on whether an EGC chose to be exempt from future mandatory audit firm rotation requirement by the Public Company Auditing Oversight Board. Very few companies mention this provision, and we exclude it from our analysis.

Table 6 shows the frequency of EGCs' disclosure decisions. For the overall sample, there is a relatively high frequency of exemption adoption. In particular, 94.9% of all EGCs elect to reduce executive compensation disclosure, 91.0% to confidentially file their registration statement, and 70.5% to test-the-waters. To a lesser extent, 50.0% report two years of audited financials and only 13.1% choose to delay compliance with the public company adoption dates for new or revised accounting rules. With respect to the SOX Section 404(b) and the Dodd-Frank governance requirements, 45.2% and 37.8% of EGCs, respectively, state an unequivocal intention to delay compliance with these provisions. EGCs make the same decision for both provisions in all but 37 out of 312 cases.[29] If "Mays" are included, 96% of EGCs either state an intention to delay compliance or preserve the option of later doing so for these provisions.

In Table 6, we show that EGCs increase their usage of the reduced disclosure provisions as the Act matures. EGCs choose to adopt 3.1 of the seven provisions ("Average Yes") in the first year post-Act, and this increases to 4.3 provisions in the third year post-Act. With respect to the individual provisions, the largest increase in usage occurs for two years of audited financials, which climbs from 17.9% in the first year to 61.3% in the third year following the passage of the Act. This trend suggests that as more time has elapsed since the Act, issuers have taken fuller advantage of the provisions and disclose less information.

Prior literature finds that the price effects from SEC rule changes frequently diminish as investors and issuers adjust to the effects of the rule. In Figure 4, we graph the residual underpricing from the same regression model used to generate models (3) or (4) in Panel B of Table 3, but without the EGC dummy. The graph shows a rise in residual initial returns as the number of provisions taken increases and no mitigation of underpricing as the Act has matured.

5.2 Determinants of Disclosure Choice

[29] Our findings contrast with Barth et al. (2014), who report that 100% of EGCs choose to delay SOX Section 404(b) audits of internal controls (they do not examine Dodd-Frank governance provisions). We conjecture that the difference in results may be due to the categorization of the ambiguous "may" intention as a definitive "yes."

In this section, we examine the determinants of the choice to disclose more information than is required under the Act. Core (2001), Beyer, Cohen, Lys, and Walther (2010), and Leuz and Wysocki (2016), among others, note any decision about the firm's level of disclosure raises concerns about endogeneity. Therefore, our analysis can shed light on whether observable characteristics are related to the decision to disclose less information.

In Table 7, the dependent variable, *Number of "No" Choices*, is the total number of the seven exemptions that an issuer declines to take. By declining exemptions, an EGC discloses more information than is mandated by the Act. We include both firm and offering characteristics in the specification as well as dummy variables for the biotech/pharmaceutical and high-tech industries. We separate these two industries because these issuers likely have greater proprietary costs of information, and therefore could face a difficult trade-off between withholding sensitive information and potentially higher capital costs (Guo et al., 2004, Berger, 2011, and Dambra et al., 2015).

Overall, we find that issuers that disclose less information are those that are more likely to have higher proprietary information costs and characteristics that may make them difficult for investors to value. Generally speaking, firms are less likely to disclose more information (fewer *Number of "No" Choices*) if they are smaller in terms of proceeds raised, younger, and unprofitable (in one specification). The coefficients of the dummies for the *Second* and *Third Year After Act* also confirm earlier results that EGCs in general adapt significantly more exemptions over time. In models (1) and (2), we find that more R&D-intensive firms are significantly more likely to disclose less information. In models (3) and (4), however, when we include broader industry dummies, the coefficients of R&D become insignificant and the biotech/pharmaceutical industry dummy is significantly negative. This suggests that the results for R&D are largely driven by the biotech and pharmaceutical companies, which likely have high proprietary costs of information.

In unreported results, we also examine whether EGCs adopting fewer disclosure exemptions experience lower underpricing. An important caveat of this analysis, however, is that we do not control for endogeneity and therefore, the interpretation of the results should be viewed as suggestive rather than

as conclusive. For the full sample of EGCs, we do not find a significant relation between firms that take more exemptions (and disclose less information) and underpricing. Concentrating, however, only on the sample of biotech and pharmaceutical EGCs, we find evidence that the more exemptions a firm takes, the greater is the underpricing. The results suggest that these issuers might find it beneficial to withhold sensitive information, even though it could result in potentially higher capital costs. Consistent with this, Boone, Floros, and Johnson (2016) examine a sample of IPOs from 1996 through 2011 and find that issuers that redact information in their prospectus are smaller, younger firms with high R&D expenditures—characteristics similar to the sample of EGC firms that disclose less information. They find that firms redacting information also have significantly higher underpricing and conclude that "shielding proprietary information is a first order determinant of underpricing."

6. Potential Benefits of the Act

We have shown that the vast majority of the firms that go public after the Act adopt EGC status despite the potentially higher indirect costs of issuance. This suggests that issuers believe that the costs of reduced disclosure are outweighed by other benefits of the Act. In this section, we discuss and quantify, where possible, some of the potential benefits of the Act.

First, by allowing issuers a menu of disclosure options rather than a one-size-fits-all approach, the Act increases the ability of issuers to determine their optimal disclosure policy that best balances the benefits of withholding information against potentially increased costs of capital. The high adoption of EGC status and the fact that firms are adopting more of the exemptions of the Act as time passes suggest that the benefits of withholding information, even if investors discount the offer price, are higher for many firms than the perceived costs of revealing the information.

Second, although many of the provisions of the Act were previously available to SRCs, the ability to confidentially file a draft registration statement with the SEC and test-the-waters are new to all issuers. These two provisions, termed "de-risking provisions" by Dambra et al. (2015), reduce the probability of a withdrawn IPO. Relative to the pre-Act period, an issuer can seek comments from the SEC confidentially,

and if the issuer is unable to make it through the review process or otherwise chooses not to proceed with the offer, there is less risk of disclosing potentially valuable information to rivals. Even if the issuer proceeds with the offering, the delay in disclosing information to competitors may still be valuable.[30]

The testing-the-waters provision can provide information on investor interest before formally announcing an offer. In addition, by simultaneously confidentially filing and testing–the-waters, an issuer can explore other options such as a merger at the same time as it prepares to go public without having to disclose proprietary information.[31] While this has been a frequently cited advantage of the JOBS Act, we cannot observe whether firms are more likely to withdraw an offer after the Act, or determine whether the ability to simultaneously pursue two or more exit strategies leads to higher valuations because we do not observe firms that confidentially file, but subsequently withdraw their offering.

Third, some of the provisions of the Act that occur post-IPO delay ongoing compliance costs, such as SOX 404(b). In their S-1s, approximately 45% of EGCs definitively state an intention to delay SOX compliance and 51% state that they may delay SOX compliance, suggesting that most issuers ascribe some value to the potential cost savings of this provision. Prior to the Act, non-SRCs had to comply with SOX 404(b) in their second year after going public compared to their fifth year following the Act, and thus non-SRC EGCs that delay compliance with SOX 404(b) gain three years of additional relief. Given the post-issue delay in compliance with SOX and the recent cutoff of our sample, we cannot directly measure the cost savings in audit fees for those EGCs that delay SOX compliance.

Instead to gauge the potential cost savings of delaying SOX 404(b), we follow an approach used by Badertscher et al. (2014) to estimate the differences in auditing fees between public and private firms. We gather information from *Audit Analytics* on the annual audit fees for fiscal years 2003 to 2013 for all firms that would have qualified as EGCs. To be sure that we have identified the auditing fees associated with SOX compliance, we keep only those firms for which the data record indicates that they have begun to comply with SOX 404(b). By doing this, we exclude firms that originally do not have a requirement to

[30] The average time between the filing of the Draft Registration Statement and the first S-1 is 74 days.
[31] "Secret IPO Filings Feed Deal Frenzy," *Wall Street Journal*, July 27, 2015.

comply with SOX 404 (b), such as SRCs. From this sample of firms, we estimate the time series of the yearly percentage increases in their audit fees, focusing on the effect of initial compliance with the auditor attestation provisions of SOX after going public.[32]

Based on this analysis, we estimate an increase in audit fees for SOX 404(b) compliance of approximately 8.8% on average. Given average audit fees of $1.1 million per year in the sample, EGCs could save approximately $100,000 per year or $300,000 over three years from the regulatory relief granted by the Act. Audit fees, however, are not the only costs associated with compliance with internal controls. The SEC Study of the Sarbanes-Oxley Act of 2002 Section 404 Internal Control over Financial Reporting[33] estimates in Table 13 that the first-year total costs of compliance including the audit, outside vendors, and internal labor averages around $759,000. Because not all of these costs are recurring, and the SEC data are based on the self-reported numbers of all public firms and not just EGC-qualifying firms, this suggests an upper-bound estimate of total compliance costs of $2.3 million over three years.

These two approaches yield cost-savings estimates from the delay in compliance with SOX 404(b) in the range of $300,000 to $2.3 million. Compared to the average 11 percentage point increase in underpricing, or $21.1 million increase in the money left on the table experienced by an average non-SRC EGC noted earlier, the cost savings associated with the delay in SOX compliance are small. Nevertheless, given the high frequency with which issuers choose to delay SOX compliance, issuers could view these costs savings as a material benefit of the Act.

Fourth, prior to the Act, IPO issuers wishing to reduce disclosure were limited to raising no more than $75 million in proceeds in order to qualify as an SRC. Earlier we showed in the McCrary (2008) tests in Figure 2, that the $75 million threshold was binding before the Act but not afterwards. Thus, one

[32] We estimate that SOX 404(b) compliance increases audit fees using the following model: Yearly Percentage Change in Audit Fees = β_1 *SOX 404(b)* + β *X*, where *SOX 404(b)* is a dummy variable set to one if it is the firm begins complying with SOX 404(b) after the second year of going public, and zero otherwise, and *X* is a vector of control variables including total assets, asset growth, absolute value of impairments of good will/total assets, inventory plus receivables/total assets, book leverage, a dummy variable if the firm reports a loss before extraordinary items, a dummy variable if the firm's auditor is a Big 4 accounting firm, and a dummy variable if the firm is in a high-tech industry.

[33] Available at https://www.sec.gov/news/studies/2009/sox-404_study.pdf.

benefit of the Act could be that firms can raise additional proceeds and still benefit from the SRC provisions.

To attempt to quantify this benefit, we focus on SRCs that are close to the threshold and have proceeds between $50 million and $75 million before the Act. We propensity-score match these SRCs with EGCs after the Act using the same matching variables as in Panel A of Table 3, but replacing residual proceeds with residual assets and including *Fama-French 17* industry fixed effects. We assume that some of these SRCs may have wished to raise more than $75 million, but in doing so, would not have qualified for reduced reporting before the Act.

There are 35 pre-Act SRCs that are close to the threshold and these are matched to 35 post-Act EGCs. We then compare the difference in CPI-adjusted proceeds raised by the two groups of firms. On average, SRCs close to the threshold before the Act raise $64 million in proceeds compared to the matched sample of EGCs that raise $80 million after the Act. This difference is statistically significant at the 10% level. Given the high fixed costs of IPO issuance, a $16 million or 25% increase in proceeds could be economically meaningful for this subset of firms. If firms are less constrained in the amount of capital they raise after the Act, it supports the Act's goal of improving capital raising for "small" firms.

Finally, despite the potentially higher issuance costs for an individual firm, the Act could have an overall societal benefit of encouraging more firms to go public (Dambra et al., 2015), which may in turn stimulate job growth. Borisov, Ellul and Sevilir (2015) document higher post-IPO employment growth for a sample of IPOs that went public from 1990 through 2010 compared to private firms. Kenney, Patton and Ritter (2012) document a 156% increase in post-IPO employment for 1,700 potentially high growth companies (domestic operating companies less than thirty years old that are not spinoffs, rollups, buyouts, or demutualizations) that went public in the United States from June 1996 through 2010.

7. Conclusion

We examine the effects of Title I of the JOBS Act on the direct and indirect costs of going public over the first three years of the Act's effectiveness. The Act allows EGCs—generally, firms that have less

than $1 billion in revenues—an opportunity to scale back their required disclosures and forgo higher compliance standards for as long as they remain EGCs. For a sample of 312 EGC IPOs that filed their initial registration statement and went public after April 5, 2012, through April 30, 2015, we find that the vast majority of firms eligible for EGC status elect to take it. Further, as issuers have grown more accustomed to the provisions of the Act, 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. Consistent with lower mandated disclosure reducing transparency, we find that the indirect costs, as measured by underpricing, rise by an additional 11 percentage points for firms that are newly eligible for the provisions of the Act. This increase translates into a 3% additional loss of post-IPO market capitalization for an average non-SRC issuer. Our results are consistent with a large body of literature that finds that investors value transparency and that, in its absence, issuers are penalized by a higher cost of capital.

We explore and, where possible, quantify several benefits to the Act that could potentially offset some of the increase in the cost of capital. These include estimating the cost savings from delaying SOX Section 404(b) compliance and the benefit in terms of greater proceeds raised of being able to qualify for reduced disclosure without having a $75 million limit on offering proceeds. Although these benefits are potentially valuable to issuers, none of the benefits we examine appears large enough to offset the large increase in underpricing we document.

Finally, there are some larger trends in the sample of EGCs that bear watching. A high percentage of EGCs are unprofitable and substantially younger than the control sample and the majority of these IPOs occur in only two industries—biotech and pharmaceuticals—that have limited near-term prospects and little revenue to recognize. For the Act to achieve its ultimate purpose of spurring employment and economic growth, these IPO issuers must mature and survive the rigors of the public market. In addition, during the first three years of the Act, EGCs have adopted more of the Act's provisions and grown more willing to disclose less information. Finally, with few exceptions, the equity-market conditions of our

post-Act sample period have been generally favorable to IPO issuance. We leave to future work how issuers' disclosure decisions and investors' reaction to them may change under less favorable equity market conditions.

References

Agarwal, S., S. Gupta, and R. D. Israelsen, 2016, Public and Private Information: Firm Disclosure, SEC Letters, and the JOBS Act, Indiana University, Kelly School of Business Research Paper no. 17-4.

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

Badertscher, B., B. Jørgensen, S. Katz, and W, Kinney, 2014, Public Equity and Audit Pricing in the United States, *Journal of Accounting Research* 52, 303-339.

Barth, M., W. Landsman, and D. Taylor, 2016, 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.

Berger, Phillip, 2011, Challenges and Opportunities in Disclosure Research—A Discussion of the Financial Reporting Environment: Review of the Recent Literature, *Journal of Accounting and Economics* 51, 204-218.

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, 2010, Managing the Costs of Issuing Common Equity: The Role of Registration Choice, *Quarterly Journal of Finance and Accounting* 47, 57-85.

Beyer, A, D. Cohen, T. Lys, and B. Walther, 2010, The Financial Reporting Environment: Review of the Recent Literature, *Journal of Accounting and Economics* 50, 296–343.

Boone, A., I. Floros and S. Johnson, 2016, Redacting Proprietary Information at the IPO, *Journal of Financial Economics* 120, 102-123.

Borisov, A., A. Ellul and M. Sevilir, 2015, Access to Public Capital Markets and Employment Growth, CEPR Discussion Paper No. DP10521.

Bushee, B., and C. Leuz, 2005, Economic Consequences of SEC Disclosure Regulation: Evidence from the OTC Bulletin Board, *Journal of 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, *Journal of Accounting and Economics* 58, 59-78.

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, *Accounting Horizons* 28, 627-671.

Core, J., 2001, A Review of the Empirical Disclosure Literature: Discussion, *Journal of Accounting and Economics* 31, 441–456.

Dambra, M., L. Field, and M. Gustafson, 2015, The JOBS Act and IPO Volume: Evidence that Disclosure Costs Affect the IPO Decision, *Journal of Financial Economics* 116, 121-143.

Dambra, M., L. Field, M. Gustafson, and K. Pisciotta, 2016, Pre-IPO Communications and Analyst Research: Evidence Surrounding the JOBS Act, University of Buffalo working paper

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* 55, 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.

Gipper, B., 2016, The Economic Effects of Mandating Expanded Compensation Disclosures, Stanford University working paper.

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.

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.

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.

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.

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

Iliev, P., 2010, The Effect of SOX Section 404: Costs, Earnings Quality and Stock Prices, *Journal of Finance* 65, 1163-1196.

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

Kenney, M., D. Patton, and J. Ritter, 2012, Post-IPO Employment and Revenue Growth for U.S. IPOs, June 1996-2010, *Kauffman Foundation Report.*

Lee, D. S. and T. Lemieux, 2014, Regression Discontinuity Designs in Social Sciences, *Regression Analysis and Causal Inference, H. Best and C. Wolf (eds.)*, Sage.

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

Leuz, C. and P. Wysocki, 2016, The Economics of Disclosure and Financial Reporting Regulation: Evidence and Suggestions for Future Research, *Journal of Accounting Research* 54, 525 – 622.

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

Loughran, T. and J. Ritter, 2004, Why Has IPO Underpricing Changed Over Time?, *Financial Management* 33**,** 5-37.

Lowry, M, and G. Schwert, 2002, IPO Market Cycles: Bubbles or Sequential Learning?, *Journal of Finance* 57, 1171-1200.

Maksimovic, V., and P. Pichler, 2001, Technological Innovation and Initial Public Offerings, *Review of Financial Studies* 14, 459–94.

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

McCrary, J., 2008, Manipulation of the Assignment Variable in the Regression Discontinuity Design: A Density Test, *Journal of Econometrics* 142, 698-714.

Ritter, J., 2011, Equilibrium in the Initial Public Offerings Market, *Annual Review of Financial Economics* 3, 347-374.

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.

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* 51, 1299 – 1345.

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.

Appendix A: Detailed Provisions of the JOBS Act

JOBS Act provisions applicable to IPO registration process		
Requirements for Regular Registrants	**Scaled Requirements Available to EGCs**	**SRC Eligibility**
Prohibition from soliciting customer orders before delivering a preliminary prospectus.	Allows issuers or their agents to engage in oral or written communications with potential investors (test-the-waters) that are qualified institutional buyers or institutions that are accredited investors either prior to or following the date of filing of a registration statement. The materials or oral communication must be consistent with the registration statement disclosure and should not contain information beyond what is provided in the registration statement (i.e., no projections).	New provision under the JOBS Act.
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 five named executive officers (i.e., CEO, CFO, and the three highest-paid executive officers) for three years of compensation data in IPO registration statements (and subsequent annual reports).	No CD&A is required. Tabular executive compensation disclosure is reduced to three named executive officers (i.e., CEO and two other highest-paid executives) for fewer than three years of compensation data in IPO registration statements (and subsequent annual reports).	Available to SRCs under Regulation S-K.
JOBS Act provisions applicable post-IPO		
Requirements for Regular Registrants	**Scaled Requirements Available to EGCs**	**SRC Eligibility**
Sarbanes-Oxley Section 404(b) requirement mandating management assessment and external auditor attestation of internal control over financial reporting, beginning with second 10-K following IPO.	Sarbanes-Oxley Section 404(b) compliance is delayed until firm 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.	SEC postponed reporting until June 2010. Dodd-Frank permanently exempted SRCs from reporting.
Dodd-Frank requires firms to hold separate nonbinding 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) the golden parachute arrangements for the company's named executive officers in connection with merger/acquisition and other similar transactions (Say on Golden Parachutes). Dodd-Frank also requires public companies to disclose the relationship between executive compensation and financial performance of the issuer; and the ratio of 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 the ratio of 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.

Appendix B: Selection Criteria for IPO Sample

Request	Exclusion Description	IPOs	EGCs
	SDC Request		
1	SDC: US Common Stock, Issue Date: 01/01/2003 to 4/30/2015 (Calendar)		
2	IPO: Select All IPOs	2848	
3	Closed End Fund Investment Type : NOT A,Z	2664	
4	Foreign Issue Flag (e.g., Yankee): Exclude All Foreign Issue Flag	2200	
5	REIT Type : NOT EQ, HY, MO, UN	2050	
6	REIT Segment : NOT AP, CA, FR, DV, GO, HC, IN, HO, MG, MH, MG, OF, OC, PR, RM, SS, SC, TN, UN	2050	
7	Rights Issue: Exclude All Rights Issues	2046	
8	Unit Issues: Unit Issue: Exclude All Unit Issues: Unit Issues	2045	
9	Limited Partnership: Exclude All Limited Partnerships	1947	
	Exclusion with SDC Flags and Manual Verification		
10	Merge with our EGC list	1947	500
11	Drop closed-end funds	1630	471
12	Drop best-efforts offers	1528	429
13	Drop self-underwritten offers	1479	408
14	Keep only NASDAQ, NYSE, AMEX, and OTC IPOs	1467	408
15	Drop IPOs with offer price < $2	1464	407
16	Keep only (Class A & B) Common/Ordinary Shares; Drop if SDC's Type of Security flag equals Beneficial Ints, Enhnce Incm Sec, Income Dep Sec, Ltd Liab Int, Ltd Prtnr Int, Shs Benficl Int, Stp Security or Units	1407	393
17	Difference between the file date and the offer date > 18 month	1379	385
18	Drop if the first-day close price is missing	1371	382
19	Drop manually verified non-IPOs: OTC and foreign exchange cross-listings, or firms that filed 10-Ks before IPOs Drop manually verified closed-end funds, REIT, Unit Issues, Limited Partnership, blank checks, best-efforts offers	1260	365
20	Drop EGCs that filed their initial registration before the Act	1232	337
21	Drop five IPO firms that qualify as EGCs based on the revenue cutoff but that did not elect EGC status	1227	337
Final Sample	Exclude from the EGC sample 25 IPOs that went public between 11/09/2011 and 04/05/2012 and retroactively qualified for EGC status	1227	312

Appendix C: Variable Descriptions

Status	
EGC IPOs	IPOs that self-identify as EGCs in their S-1s, and that filed their initial registration statement and went public between April 5, 2012, and April 30, 2015
Control IPOs	IPOs that went public before the Act was effective with less than $1 billion in revenue at the most recent fiscal year-end based on 2012 purchasing power dollars using the Consumer Price Index
SRCs	Issuers qualifying for a smaller reporting company status on or after February 5, 2008 (with less than $75 million in proceeds excluding the overallotment option), or for a small business issuer status before February 5, 2008 (less than $25 million in proceeds excluding the overallotment option)
Firm and Industry Characteristics	
Data except the age of the firm are from Compustat and if not available, hand collected from the IPO prospectus. Revenue, Total Assets, Book Leverage, PPE/Assets, R&D/Assets, and Sales Growth are winsorized at the first and 99th percentiles.	
Revenue ($MM)	Revenues
Revenue_CPI ($MM)	Revenues adjusted for inflation in 2012 purchasing power dollars using the Consumer Price Index
Residual Ln(Revenue)	Residual from a regression of the natural log of revenues adjusted for inflation in 2012 purchasing power dollars using the Consumer Price Index on VC, UW Market Share, and Ln(Age)
Total Assets ($MM)	Total assets
Book Leverage	Total long-term debt divided by total assets
PPE/Assets	Net Property Plant and Equipment divided by total assets
R&D/Assets	R&D expenses divided by total assets assuming zero when missing
R&D>0	One if the issue has R&D expenses greater than zero, and zero otherwise (missing values are set to zero)
Age (Years)	Difference in years between the earlier of the firm's founding date (from Jay Ritter's website) or date of incorporation and the offer date
Unprofitable	One if the issuer has negative net income, and zero otherwise
Sales Growth	Revenues divided by the prior year's revenues
Industry P/E Ratio	Industry median price-earnings ratio, calculated as share price divided by earnings per share, of all firms within the same *Fama-French 17* industry in the CRSP-Compustat merged database
Issue Characteristics	
Accounting & Legal Fees, and Gross Spread are winsorized at the first and 99th percentiles.	
Proceeds ($MM)	Total dollar gross proceeds in millions excluding the overallotment option
Proceeds_CPI ($MM)	Total dollar gross proceeds in millions excluding the overallotment option adjusted for inflation in 2012 purchasing power dollars using the Consumer Price Index
Residual Ln(Proceeds)	Residual from a regression of the natural log of total dollar gross proceeds adjusted for inflation in 2012 purchasing power dollars using the Consumer Price Index on VC and UW Market Share
Days in Registration	Number of days between the filing date of a draft registration statement or S-1 and the offer date
UW Market Share (%)	Average underwriter market share (the total proceeds of the IPOs managed by each book runner divided by the aggregate proceeds of all IPOs in a year as in Megginson and Weiss (1991)) in the year prior to the offer year. When there are multiple book runners for an issue, proceeds are equally divided by the number of book runners
VC	One if the issue is backed by venture capitalists, and zero otherwise
Accounting & Legal Fees (%)	Accounting and legal fees divided by offer proceeds
Gross Spread (%)	Total underwriting fees divided by offer proceeds
Total Direct Costs (%)	Sum of accounting fees, legal fees, and gross spread divided by offer proceeds
Total Costs (%)	Sum of accounting fees, legal fees, gross spread, and the dollar amount of initial return divided by offer proceeds
Initial Pricing Variables	
Initial Return (Underpricing) (%)	Closing price on the first trading day divided by the offer price minus 1
Offer Price Revision (%)	Change in price from the midpoint of the file range to the offer price divided by the midpoint file price
Offer Price Revision+ (%)	Offer Price Revision when it is positive, and zero otherwise
Offer Price Revision− (%)	Offer Price Revision when it is negative, and zero otherwise
Market and Time Variables	
$NASDAQ_{-90}$ (%)	Average buy-and-hold return of all NASDAQ-traded stocks during the 90 days prior to the offer date
$\#IPOs_{-90}$	Total number of IPOs in registration during the 90 days prior to the offer date
Crisis	One if the year is 2008 or 2009

Table 1: Sample of IPOs

This table reports the number of all IPOs, control IPOs, and EGC IPOs issued from January 1, 2003, to April 30, 2015. The sample of IPOs is from SDC and excludes foreign firms, REITs, closed-end funds, limited partner interests, right offers, unit offers, blank-check companies, best efforts, self-underwritten offers, issuers with a prior 10-K, offer prices less than $2 per share, and those companies that spend longer than 550 days in registration. Control IPOs are issuers that went public before the Act was effective with less than $1 billion in revenue at the most recent fiscal year-end based on 2012 purchasing power dollars using the CPI. EGCs are IPOs that self-identify as EGCs in their S-1s, and filed their initial registration statement and went public between April 5, 2012, and April 30, 2015. We exclude from the sample five IPOs that met the EGC criteria but did not select EGC status. In parentheses are the number of Control IPOs that were retroactively qualified as EGCs but went public before the Act became effective.

Year	All IPOs	IPOs with revenues <$1 billion	Percent of IPOs qualifying as EGCs	Control IPOs	EGC IPOs
2003	57	54	95%	54	
2004	160	139	87%	139	
2005	147	127	86%	127	
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	56	43	77%	28 (23)	15
2013	128	106	83%	0	106
2014	182	162	89%	0	162
30-Apr-15	31	29	94%	0	29
Total	1,227	1,069	87%	757	312

Table 2: Descriptive Statistics for EGC and Control IPOs

This table compares characteristics of EGC IPOs to control IPOs issued from January 1, 2003, to April 30, 2015. Firm characteristics are reported for the fiscal year prior to the IPO. *Revenue, Total Assets, Book Leverage, PPE/Assets, R&D/Assets, Sales Growth, Accounting & Legal Fees* and *Gross Spread* are winsorized at the first and 99th percentiles before the means are calculated. t-tests of means assume independence between the variables in each group. Chi-squared tests are used to compare medians. Two EGCs have missing *Accounting & Legal Fees*, and nine EGCs have missing *Sales Growth*. Variable definitions are in Appendix C. ***, **, * indicate that the means and medians are significantly different at the 1%, 5%, and 10% level, respectively.

	EGC IPOs (N=312)		Control IPOs (N=757)	
Firm Characteristics	Mean	Median	Mean	Median
Revenue ($MM)	131.05	52.11	148.73	77.52***
Revenue_CPI ($MM)	127.97	50.71	168.51***	87.28***
Total Asset ($MM)	333.33	65.72	318.07	85.61*
Book Leverage	0.44	0.16	0.34**	0.18
PPE/Assets	0.16	0.06	0.19**	0.10***
R&D/Assets	0.37	0.17	0.19***	0.02***
R&D>0	0.68	1.00	0.56***	1.00
Age (Years)	10.63	8.50	17.45***	9.00
Unprofitable	0.68	1.00	0.48***	0.00
Sales Growth	2.13	1.28	2.43	1.32
Industry P/E Ratio	38.82	42.05	46.43***	51.77***
Issue Characteristics				
Proceeds ($MM)	132.81	86.15	135.18	88.00
Proceeds_CPI ($MM)	129.69	83.05	152.47*	99.83***
UW Market Share (%)	7.05	4.82	7.23	6.50
Days in Registration	128.41	104.00	135.65	107.00
VC	0.59	1.00	0.49***	0.00
Offer Price Revision+ (%)	4.16	0.00	4.44	0.00
Offer Price Revision− (%)	-7.03	0.00	-6.03	0.00
Market Conditions				
$NASDAQ_{-90}$ (%)	4.87	5.05	4.45	4.16***
$\#IPOs_{-90}$	92.95	92.00	82.66***	83.00***
Direct and Indirect Costs of Issue				
Accounting & Legal Fees (%)	2.88	2.41	2.33***	1.94***
Gross Spread (%)	6.84	7.00	6.85	7.00
Total Direct Costs (%)	9.73	9.40	9.20***	8.87***
Initial Return (%)	20.57	10.17	13.40***	8.33
Total Costs (%)	30.44	20.31	22.82***	17.35

Table 3: Direct and Indirect Costs by SRC Status

This table reports the OLS regressions for IPOs issued from January 1, 2003, to April 30, 2015. The sample consists of EGC IPOs and their matched control IPOs in the pre-Act period that have non-missing matching variables. Our matching is based on the estimated propensity scores for the nearest neighbor within the same *Fama-French 17* industry without replacement. Panel A reports descriptive statistics for the matching variables used in our procedure. Panel B reports the OLS regressions comparing the direct and indirect costs of EGC IPOs to propensity-score matched control IPOs by SRC status. The dependent variables are in models: (1) *Total Direct Costs,* the sum of the dollar amount of Accounting Fees, Legal Fees, and Gross Spread divided by offer proceeds, and (2) *Initial Return,* the closing price on the first trading day divided by the offer price minus 1, both in percentage terms. The independent variable, *EGC* is equal to one for an EGC IPO (non-SRC and SRC) and is zero for a control IPO. Two EGC IPOs have missing *Total Direct Costs* because they did not report accounting and legal fees. Nine EGC IPOs have missing *Sales Growth*. The other independent variables are defined in Appendix C. The regressions in Panel B include industry fixed effects using *Fama-French 17* industry classifications. t-statistics are in parentheses below each coefficient, and all standard errors are robust and adjusted for clustering within industry and year quarter. ***, **, * indicate significance at the 1%, 5%, and 10% level respectively.

Panel A: Descriptive Statistics for Matching Variables

Matching Variables	Mean	Mean	Mean Difference	t-statistic
	EGC Sample	Matched Sample		
Ln(Proceeds)	4.515	4.460	0.055	0.83
Ln(Revenue)	3.384	3.588	-0.203	-1.19
Unprofitable	0.683	0.630	0.053	1.37
Sales Growth	2.125	2.229	-0.104	-0.34
Ln(Age)	2.270	2.305	-0.035	-0.68
Book Leverage	0.445	0.365	0.080	1.42
PPE/Assets	0.165	0.167	-0.002	-0.09
R&D/Assets	0.380	0.307	0.072	1.62
UW Market Share	7.140	7.524	-0.383	-0.67
$NASDAQ_{-90}$	4.927	4.514	0.413	0.78
Industry P/E Ratio	38.566	40.239	-1.673	-1.06
Observations	303	303		

Table 3: Direct and Indirect Costs by SRC Status (continued)

Panel B: OLS Analysis

	Total Direct Costs (1)	Total Direct Costs (2)	Initial Return (3)	Initial Return (4)
	Non-SRC	SRC	Non-SRC	SRC
EGC	0.283**	0.201	11.872***	0.986
	(2.52)	(0.50)	(4.19)	(0.29)
Residual Ln(Proceeds)	-1.349***	-1.460***	4.435**	0.383
	(-11.58)	(-4.49)	(2.32)	(0.19)
Unprofitable	0.391***	0.345	-1.404	-5.051
	(2.71)	(0.85)	(-0.50)	(-1.22)
R&D>0	0.357**	1.020*	8.530***	-3.530
	(2.23)	(1.71)	(2.93)	(-0.56)
Ln(Age)	-0.116	0.379	-2.934*	-0.327
	(-1.27)	(1.16)	(-1.81)	(-0.08)
UW Market Share	-0.075***	-0.059***	0.199	0.143
	(-7.42)	(-2.64)	(1.34)	(0.57)
Ln(Days in Registration)	0.253***	1.132***	0.228	-3.416
	(2.65)	(3.07)	(0.12)	(-1.16)
$NASDAQ_{-90}$	-0.007	-0.016	0.168	0.290
	(-0.82)	(-0.74)	(1.11)	(1.32)
$Ln(\#IPOs_{-90})$	-0.594**	0.245	-1.586	-1.361
	(-2.55)	(0.31)	(-0.55)	(-0.25)
Crisis	0.336*	1.129	-1.047	-4.340
	(1.91)	(1.42)	(-0.36)	(-0.52)
Offer Price Revision+			1.000***	2.737***
			(4.49)	(3.79)
Offer Price Revision−			0.458***	0.194*
			(3.57)	(1.78)
Constant	10.551***	4.817	20.730	20.611
	(7.34)	(1.09)	(1.18)	(0.57)
Industry FE	Y	Y	Y	Y
Observations	428	176	430	176
Adjusted R^2	0.459	0.300	0.290	0.144

Table 4: Difference-in-Differences Analysis of Direct and Indirect Costs

This table reports the difference-in-differences regressions for IPOs issued from January 1, 2003, to April 30, 2015, using the same propensity-score matched sample in Table 3. The sample consists of EGC IPOs and their matched control IPOs in the pre-Act period that have non-missing matching variables. Our matching is based on the estimated propensity scores for the nearest neighbor within the same *Fama-French 17* industry. Panel A of Table 3 reports descriptive statistics for the matching variables used in our procedure. The dependent variables (as a percent of offer proceeds) are in models: (1) *Accounting & Legal Fees*; (2) *Gross Spread*; (3) *Total Direct Costs*, (4) *Initial Return*, and (5) *Total Costs*. Two EGC IPOs have missing *Accounting & Legal Fees*. The independent variables include: *Non-SRC,* which is equal to one if an EGC IPO is not an SRC and zero if it is an SRC, *Post*, which is equal to one if the offer date is after the Act (April 5, 2012) and zero otherwise, and the interaction term between *Non-SRC* and *Post*. The regressions also include the same set of controls as in Panel B of Table 3 and defined in Appendix C, but the coefficients for these controls are not reported 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 robust and adjusted for clustering within industry and year quarter. ***, **, * indicate significance at the 1%, 5%, and 10% level respectively.

	Acc. & Legal Fees	Gross Spread	Total Direct Costs	Initial Return	Total Costs
	(1)	(2)	(3)	(4)	(5)
Non-SRC x Post	0.020	-0.059	0.074	11.263***	11.519***
	(0.06)	(-0.66)	(0.20)	(2.65)	(2.70)
Non-SRC	-0.998***	0.215**	-0.896***	-0.776	-1.707
	(-3.85)	(2.41)	(-2.89)	(-0.27)	(-0.60)
Post	0.230	0.046	0.160	0.930	1.036
	(0.69)	(0.56)	(0.43)	(0.30)	(0.33)
Industry FE	Y	Y	Y	Y	Y
Observations	604	606	604	606	604
Adjusted R^2	0.486	0.286	0.535	0.303	0.285

Table 5: Regression Discontinuity Analysis

The table reports estimates of the regression discontinuity model: Initial Return = β_1 Non-SRC + β_2 (Proceeds-75) + β_3 Non-SRC×(Proceeds-75) + β X. Panel A shows the results for the pre-Act period (January 1, 2003–April 4, 2012) and Panel B shows the post-Act period (April 5, 2012–April 30, 2015). Three different bandwidths measured in millions of dollars are considered: 50≤Proceeds≤100, 25≤Proceeds≤125, and 0≤Proceeds≤150 around the SRC threshold ($75 million excluding the overallotment option). *X* is a vector of control variables used in the initial return regressions in Panel B of Table 3 excluding *UW Market Share* and *Residual Ln(Proceeds)*. We report only the coefficients of *Non-SRC*, a dummy variable equal to 1 if the EGC is not an SRC, *Proceeds-75* equal to proceeds minus the $75 million threshold, and the interaction term between *Non-SRC* and *Proceeds-75*, to focus on the main variables of interest. The regressions include industry fixed effects using *Fama-French 50* industry classifications. t-statistics are in parentheses below each coefficient, and all standard errors are robust and adjusted for clustering within industry and year quarter. ***, **, * indicate significance at the 1%, 5%, and 10%, respectively. Results using an analogous regression discontinuity model that replaces the assignment variable, *Proceeds* with *Ln(Proceeds)* are available in online appendix Table OA.3.

Panel A: Pre-Act Sample

	Initial Return	Initial Return	Initial Return
	(1)	(2)	(3)
	50≤Proceeds≤100	25≤Proceeds≤125	0≤Proceeds≤150
Non-SRC	-0.858	1.843	2.714
	(-0.18)	(0.53)	(0.88)
(Proceeds-75)	0.035	0.095	0.104**
	(0.18)	(1.19)	(1.98)
Non-SRC x (Proceeds-75)	0.428	0.038	-0.018
	(1.36)	(0.27)	(-0.22)
Industry FE	Y	Y	Y
Observations	271	444	562
Adjusted R^2	0.181	0.233	0.210

Panel B: Post-Act Sample

	Initial Return	Initial Return	Initial Return
	(4)	(5)	(6)
	50≤Proceeds≤100	25≤Proceeds≤125	0≤Proceeds≤150
Non-SRC	11.692*	18.622**	23.779***
	(1.87)	(2.27)	(3.29)
(Proceeds-75)	0.447	-0.088	-0.017
	(1.55)	(-0.31)	(-0.13)
Non-SRC x (Proceeds-75)	0.353	0.565	0.084
	(0.59)	(1.31)	(0.49)
Industry FE	Y	Y	Y
Observations	136	206	247
Adjusted R^2	0.166	0.252	0.219

Table 6: Frequency of Use of JOBS Act Provisions

This table reports the frequency with which EGCs state their intentions to use the reduced disclosure and compliance provisions of the JOBS Act. The information is gathered from the S-1 filings and underwriting agreement attached to the S-1 filings of 312 IPOs made by EGCs during April 5, 2012, through April 30, 2015. "Yes" indicates that the EGC took advantage or intends to take advantage of the provision. "No" indicates that the EGC did not or does not intend to take advantage of the provision. "May" indicates that EGCs either stated they had not decided their intentions, or that they may take advantage with respect to the provision.

	May		No		Yes	
Time Period	Number	Percentage (%)	Number	Percentage (%)	Number	Percentage (%)
Confidential Filings						
Full Period			28	8.97	284	91.03
Apr 12 - Mar 13			8	28.57	20	71.43
Apr 13 - Mar 14			12	8.16	135	91.84
Apr 14 - Apr 15			8	5.84	129	94.16
Testing-the-Waters						
Full Period			92	29.49	220	70.51
Apr 12 - Mar 13			15	53.57	13	46.43
Apr 13 - Mar 14			39	26.53	108	73.47
Apr 14 - Apr 15			38	27.74	99	72.26
Two Years Audited Financials						
Full Period	17	5.45	139	44.55	156	50.00
Apr 12 - Mar 13	0	0.00	23	82.14	5	17.86
Apr 13 - Mar 14	8	5.44	72	48.98	67	45.58
Apr 14 - Apr 15	9	6.57	44	32.12	84	61.31
Reduced Executive Compensation Disclosure						
Full Period	13	4.17	3	0.96	296	94.87
Apr 12 - Mar 13	1	3.57	3	10.71	24	85.71
Apr 13 - Mar 14	7	4.76	0	0.00	140	95.24
Apr 14 - Apr 15	5	3.65	0	0.00	132	96.35
Delay SOX 404(b) Auditor Attestation						
Full Period	158	50.64	13	4.17	141	45.19
Apr 12 - Mar 13	14	50.00	4	14.29	10	35.71
Apr 13 - Mar 14	76	51.70	8	5.44	63	42.86
Apr 14 - Apr 15	68	49.64	1	0.73	68	49.64
Delay Dodd-Frank "Say on Pay" Votes						
Full Period	181	58.01	13	4.17	118	37.82
Apr 12 - Mar 13	15	53.57	2	7.14	11	39.29
Apr 13 - Mar 14	85	57.82	10	6.80	52	35.37
Apr 14 - Apr 15	81	59.12	1	0.73	55	40.15
Delay Adoption of New or Revised Public Accounting Standards						
Full Period	3	0.96	268	85.90	41	13.14
Apr 12 - Mar 13	0	0.00	23	82.14	5	17.86
Apr 13 - Mar 14	2	1.36	128	87.07	17	11.56
Apr 14 - Apr 15	1	0.73	117	85.40	19	13.87

Average Number of Provision Choices			
	May	No	Yes
Full Period	1.19	1.78	4.03
Apr 12 - Mar 13	1.07	2.79	3.14
Apr 13 - Mar 14	1.21	1.83	3.96
Apr 14 - Apr 15	1.20	1.53	4.28

Table 7: Determinants of Disclosure Choices

This table reports the determinants of disclosure choices for the sample of EGCs using OLS regressions. The dependent variable, *Number of "No" Choices*, is the total number of choices for each of the seven exemptions in which the issuer indicates it will *not* take the exemption. A higher *Number of "No" Choices* indicates more disclosure relative to the minimum mandated by the Act. We follow Loughran and Ritter (2004) for the high-tech industry classification. t-statistics are in parentheses below each coefficient and all standard errors are robust. ***, **, * indicate significance at the 1%, 5%, and 10% level, respectively.

	Number of "No" Choices			
	(1)	(2)	(3)	(4)
Residual Ln(Proceeds)	0.194**	0.159**	0.201**	0.168**
	(2.37)	(1.97)	(2.50)	(2.11)
Unprofitable	-0.250*	-0.180	-0.146	-0.062
	(-1.85)	(-1.44)	(-1.08)	(-0.49)
Ln(Age)	0.156*	0.127	0.164**	0.137*
	(1.80)	(1.53)	(2.02)	(1.72)
Book Leverage	0.025	0.018	0.029	0.018
	(0.31)	(0.23)	(0.37)	(0.25)
PPE/Assets	-0.272	-0.131	-0.423	-0.327
	(-0.99)	(-0.49)	(-1.47)	(-1.18)
R&D/Assets	-0.205**	-0.243**	0.017	-0.020
	(-1.99)	(-2.44)	(0.16)	(-0.20)
UW Market Share	0.016**	0.009	0.009	0.004
	(2.13)	(1.20)	(1.08)	(0.55)
Second Year After Act		-0.826***		-0.770***
		(-3.29)		(-3.03)
Third Year After Act		-1.167***		-1.087***
		(-4.63)		(-4.19)
High Tech			0.236	0.079
			(1.47)	(0.49)
Bio/Pharma			-0.617***	-0.628***
			(-4.64)	(-4.92)
Constant	1.636***	2.592***	1.716***	2.621***
	(6.94)	(7.20)	(7.40)	(7.16)
Industry FE	N	N	N	N
Observations	312	312	312	312
Adjusted R^2	0.056	0.156	0.135	0.219

Figure 1: Time Series of EGC and Control IPOs

The figure displays the number of all IPOs, EGC IPOs, and control IPOs issued from January 1, 2003, to April 30, 2015. The sample of IPOs is from SDC and excludes foreign firms, REITs, closed-end funds, limited partner interests, right offers, unit offers, blank-check companies, best efforts, self-underwritten offers, issuers with a prior 10-K, offer prices less than $2 per share, and those companies that spend longer than 550 days in registration. Control IPOs are issuers that went public before the Act was effective with less than $1 billion in revenue at the most recent fiscal year-end based on 2012 purchasing power dollars using the CPI. EGCs are IPOs that self-identify as EGCs in their S-1s, and filed their initial registration statement and went public between April 5, 2012, and April 30, 2015.

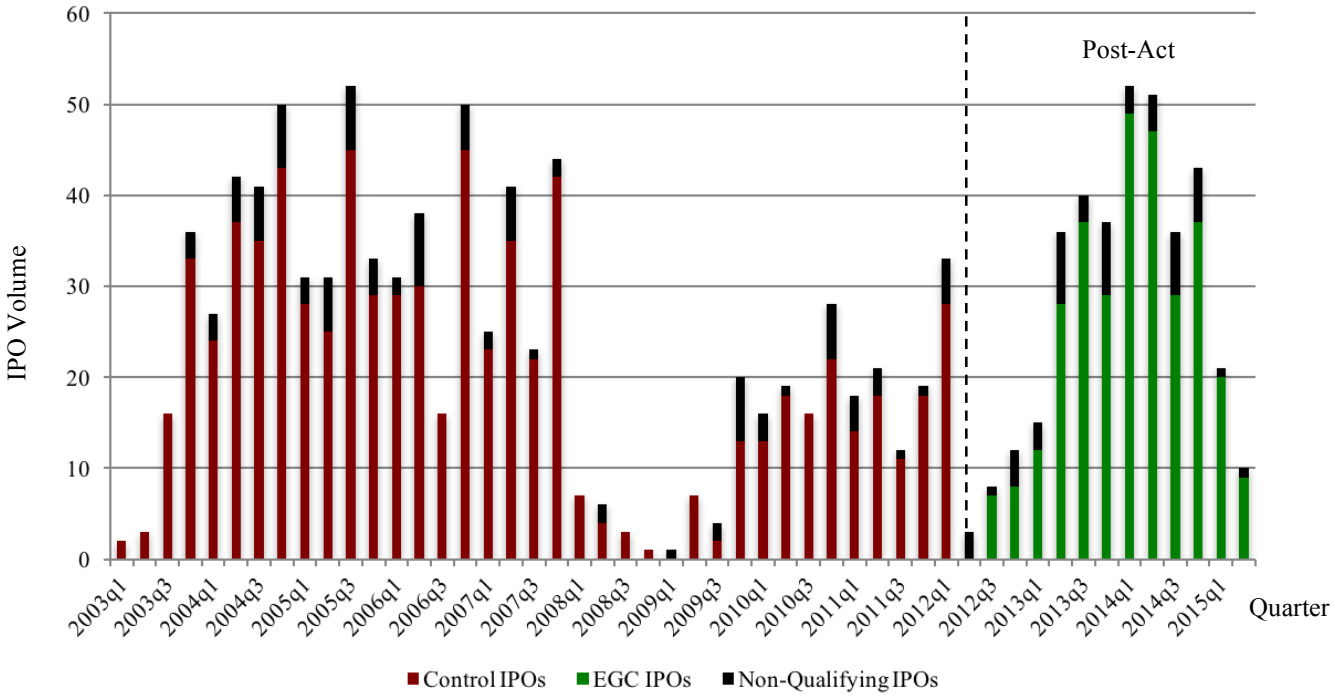
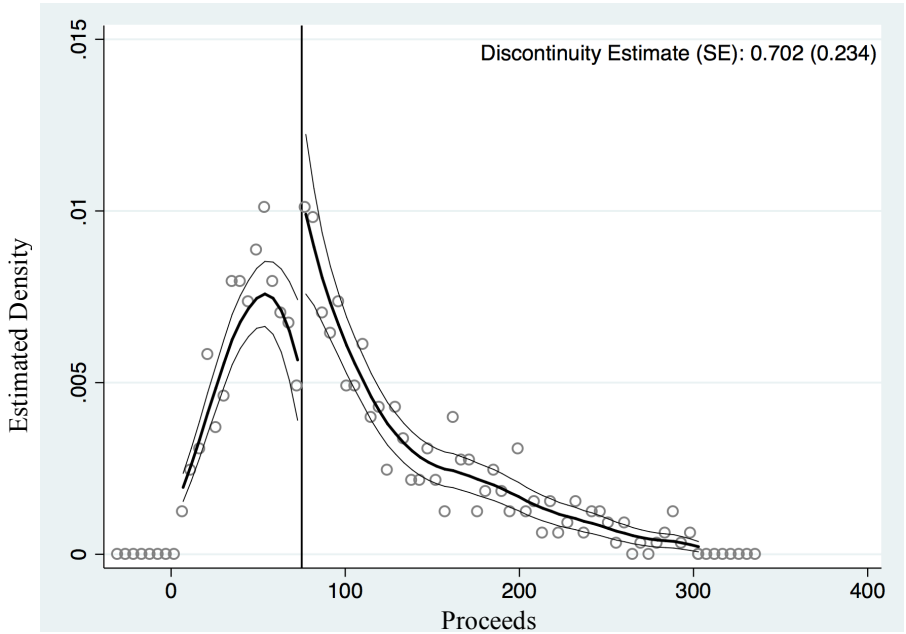
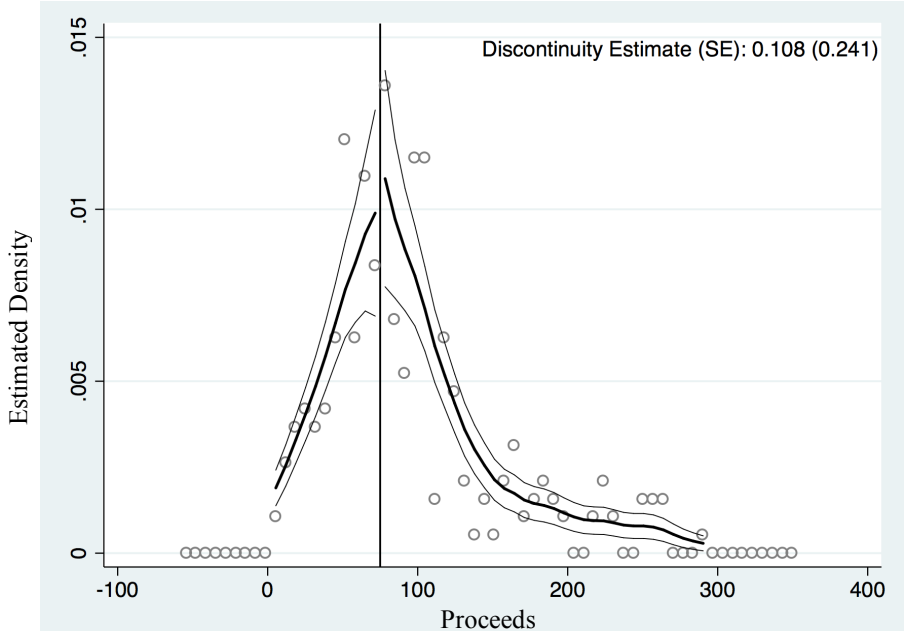


Figure 2: McCrary Test of Proceeds Discontinuity

Graphical representation of the McCrary (2008) tests of discontinuity in the proceeds (assignment) variable (a) before and (b) after the JOBS Act. SRC status is defined as issuers with less than $75 million in proceeds (excluding the exercise of the overallotment option).



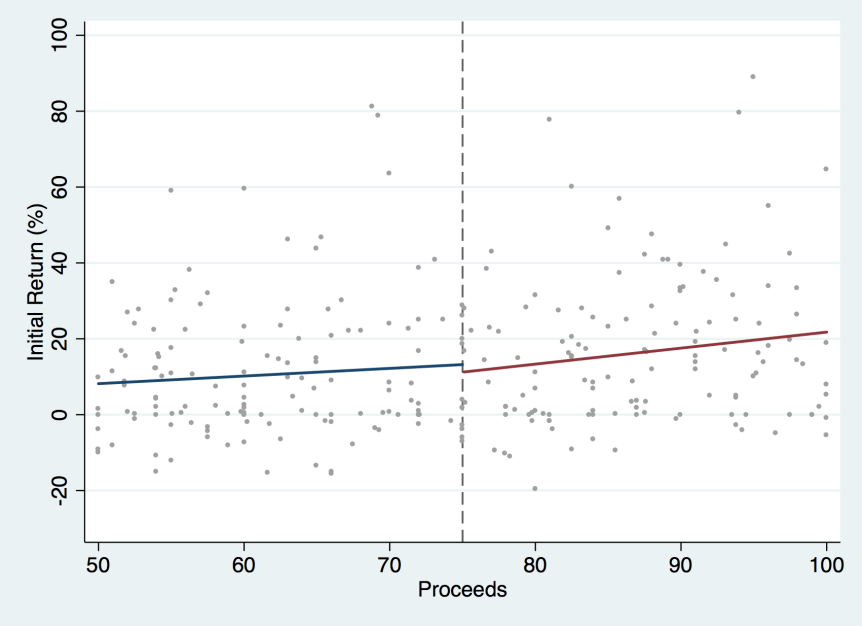
(a) Pre-Act: January 1, 2003–April 4, 2012



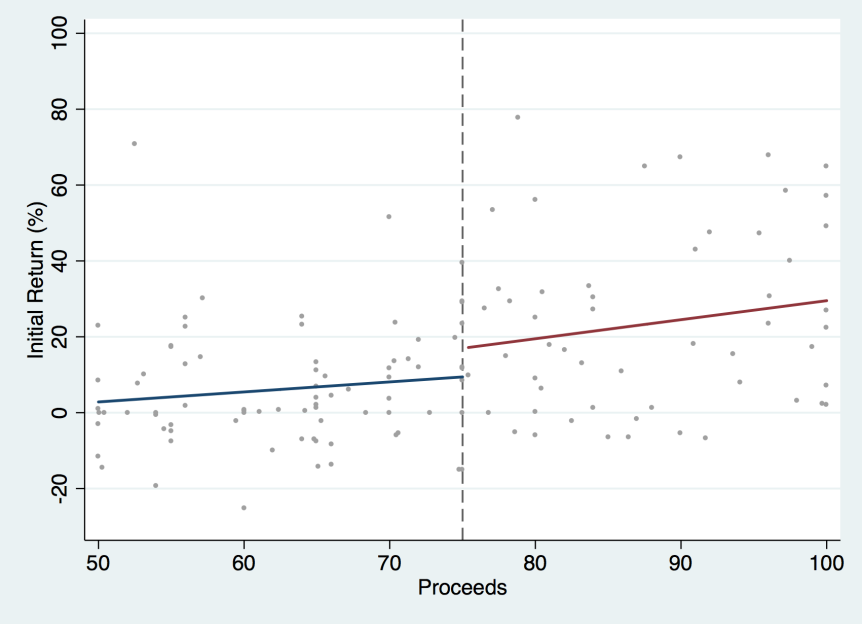
(b) Post-Act: April 5, 2012–April 30, 2015

Figure 3: Regression Discontinuity around SRC Threshold

Graphical illustration of the fitted values from the regression discontinuity model specification in Table 5 for proceeds between $50 million and $100 million. The solid lines are the predicted values of initial returns from the model around SRC status that is defined as issuers with less than $75 million in proceeds (excluding the exercise of the overallotment option). Three IPOs after the Act with initial returns greater than 100% are not shown. There are no IPOs with initial returns greater than 100% in this bandwidth prior to the Act.



(a) Pre-Act: January 1, 2003–April 4, 2012



(b) Post-Act: April 5, 2012–April 30, 2015

Figure 4: Residual Initial Returns and Volume over Time

The figure displays the yearly average of residual initial returns and yearly volume of IPOs as measured by number of issues over the sample period. The sample consists of all IPOs that could or did qualify for EGC status. The residual initial return is the residual from the regression model on firm, market and industry characteristics in either Column (3) or (4) of Panel B of Table 3 excluding the EGC dummy and without splitting the sample between SRC EGCs and non-SRC EGCs. 2015 only includes the first quarter.