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The JOBS Act and Information Uncertainty in IPO Firms

Abstract

This study examines the effect of the Jumpstart Our Business Startups Act (JOBS Act) on information uncertainty in IPO firms. The JOBS Act creates a new category of issuer, the Emerging Growth Company (EGC), and exempts EGCs from several disclosures required for non-EGCs. Our findings are consistent with proprietary cost concerns motivating EGCs to eliminate some of the previously mandatory disclosures, which increases information uncertainty in the IPO market, attracts investors who rely more on private information, and leads EGCs to provide additional post-IPO disclosures to mitigate the increased information uncertainty. Our results also are consistent with agency explanations, whereby EGCs exploit the JOBS Act provisions to avoid compensation related disclosures, which results in larger IPO underpricing for such firms. Overall, we provide evidence on how reduced mandatory disclosure affects the IPO market.

Keywords: JOBS Act, mandatory disclosure, voluntary disclosure, proprietary costs, information uncertainty, underpricing, volatility.

The JOBS Act and Information Uncertainty in IPO Firms

I. INTRODUCTION

This study examines how the Jumpstart Our Business Startups Act (JOBS Act) affects information uncertainty in firms with initial public offerings (IPOs). The JOBS Act, which was signed into law in April 2012, creates a new category of issuer, the Emerging Growth Company (EGC), and reduces mandatory disclosure for EGCs to encourage initial public offerings. Specifically, the Act includes provisions that allow EGCs to file draft registration statements confidentially with the Securities and Exchange Commission (SEC), to reduce the scope of executive compensation and financial statement information, to delay application of new or revised accounting standards, and to delay compliance with Section 404(b) of the SarbanesOxley Act (SOX), which relates to auditor attestation on internal controls. Our findings are consistent with proprietary cost concerns motivating EGCs to eliminate some of the previously mandatory disclosures, which increases information uncertainty in the IPO market, attracts investors who rely more on private information, and leads EGCs to provide additional post-IPO disclosures to mitigate the increased information uncertainty. Our results also are consistent with agency explanations, whereby EGCs exploit the JOBS Act provisions to avoid compensation related disclosures, which results in larger IPO underpricing for such firms.

A key purpose of the JOBS Act is to reduce the cost of accessing capital markets by eliminating unnecessary or overly burdensome disclosures. In reference to the Act, the SEC's website states that "…a cost-effective access to capital for companies of all sizes plays a critical role in our national economy." The Act reflects the belief that enabling more companies to gain less costly access to capital would enable more companies to create jobs throughout the economy. A March 23, 2012 editorial in the *Washington Post* expresses this logic succinctly:

"The case for the JOBS Act goes like this: Small companies create jobs. The easier it is to fund a small company, the more jobs there will be. Federal rules make it harder for start-ups to raise capital. Ergo, relax the rules." However, critics of the Act warned that the reduction in mandatory disclosure might lead to a loss of information to the market and undermine investor protections.[1]

Economic theory suggests that the effect of a reduction in mandatory disclosure on information uncertainty depends on the information content of the disclosure and whether voluntary disclosure can be used as a substitute. All else equal, a reduction in information content increases information uncertainty. However, if voluntary disclosure can substitute for mandatory disclosure, then any increase in information uncertainty stemming from a reduction in mandatory disclosure can be offset by a corresponding increase in voluntary disclosure. Whether firms substitute voluntary disclosure for mandatory disclosure depends on the information content of the disclosures and their respective costs. Examining whether the JOBS Act is associated with greater information uncertainty, and whether firms use other disclosures to mitigate any increase in information uncertainty, provides insight as to the information content of the reduced disclosures and the substitutability of mandatory and voluntary disclosure. Both of these insights are relevant to the SEC's ongoing consideration of reducing disclosure requirements for all publicly traded firms.[2]

To qualify for EGC status, an IPO firm must have less than $1 billion in annual revenue in the year prior to its IPO. This revenue threshold is sufficiently high that there are few firms without EGC status after the JOBS Act. Therefore, to address our research question, we

[1] In a March 14, 2012 letter to the Senate Banking Committee, SEC Chairman Mary Shapiro warned: "if the balance is tipped to the point where investors are not confident that there are appropriate protections, investors will lose confidence in our markets, and capital formation will ultimately be made more difficult and expensive."

[2] See the SEC's "Report on Review of Disclosure Requirements in Regulation S-K," https://www.sec.gov/news/studies/2013/reg-sk-disclosure-requirements-review.pdf.

compare information uncertainty in IPO firms with EGC status (EGC firms) to that in IPO firms that would have qualified for EGC status had their IPO occurred after the Act, i.e., firms that are below the $1 billion revenue threshold but had IPOs before the Act (NEGC firms). Because all firms in our tests are below the Act's $1 billion revenue threshold, selection based on that threshold does not account for any differences in information uncertainty we observe between the two groups of firms.

We test for differences in information uncertainty between EGC and NEGC firms by estimating the relation between measures of information uncertainty and EGC status. Following prior research, we measure information uncertainty using IPO underpricing and post-IPO equity return volatility (e.g., Ritter and Welch, 2002; Lowry, Officer, and Schwert, 2010). We use three measures of underpricing: market-adjusted stock returns based on the offer price and the closing price on the day of the IPO, the closing price on the day after the IPO, and the closing price 30 trading days after the IPO. We find that all three measures of underpricing are larger for EGC firms, and that underpricing is twice as large when measured over 30 days than when measured over one day. We use three measures of post-IPO volatility: total volatility, idiosyncratic volatility, and beta, all of which are estimated over 30 days after the IPO. We find that total and idiosyncratic volatility are significantly higher for EGC firms, but no evidence of a difference in beta. In terms of economic magnitudes, we find the difference in underpricing between the average EGC and NEGC firm on the day of the IPO (30 days after the IPO) is $9.97 ($18.18) million dollars, which translates to an economically significant 7.09% (12.93%) of IPO proceeds.

Next, we use two approaches to test whether variation in the extent to which EGC firms apply provisions of the JOBS Act explains the greater information uncertainty. In the first approach, we examine the relation between application of individual provisions of the Act and

underpricing and post-IPO volatility. We find that confidentially filing draft registration statements, presenting compensation information for fewer than five top executives, and omitting the compensation discussion and analysis are significantly associated with the larger underpricing, and that confidentially filing draft registration statements, presenting compensation information for fewer than five top executives, and presenting fewer than three years of audited financial statements are significantly associated with higher post-IPO volatility.

In the second approach, we construct two indexes based on the number of JOBS Act provisions that each EGC firms applies. We find that the indexes are significantly associated with the larger underpricing and higher post-IPO volatility for EGC firms. In addition, we find that inclusion of the indexes eliminates the larger underpricing and higher post-IPO volatility for EGC firms. These findings are evidence of a direct link between the provisions of the Act and greater information uncertainty of EGC firms, and that the greater information uncertainty is not attributable to potential intertemporal changes in market conditions that affect all EGC firms similarly. Findings from additional analyses support the inference that the greater information uncertainty of EGC firms is associated with the JOBS Act rather than intertemporal changes in market conditions.

One implication of greater information uncertainty is that investors who rely more on private information are at a greater information advantage than investors who rely more on public information. We find that EGC firms have higher bid-ask spreads and greater institutional ownership than NEGC firms, particularly EGC firms applying more provisions of the JOBS Act. The institutional ownership findings are most pronounced for dedicated institutional investors, who prior research identifies as being among the most informed institutional investors and relying more on private information. These findings suggest not only that the Act is associated

with greater information uncertainty, but also that the reduction in mandatory disclosure attracts investors who rely more on private information.

That a reduction in disclosure might increase underpricing and post-IPO volatility raises the question of why an EGC firm voluntarily would eliminate some previously mandatory disclosures. In making this decision, managers trade off the costs associated with eliminating the disclosure, e.g., foregone IPO proceeds, and the benefits from eliminating the disclosure. The reduction in IPO disclosures could reflect an information-based agency problem whereby managers personally benefit at the expense of shareholders, e.g., opportunistically eliminating disclosure to hide poor performance or details of an excessive pay package. Depending on the magnitude of the agency problem, underpricing could be substantial. Hence, greater underpricing for EGC firms might reflect not only heightened uncertainty arising from poor disclosure, but also deadweight losses arising from agency problems. Consistent with this explanation, we find the relation between reduced compensation disclosure and underpricing generally is stronger than the relation between reduced financial statement disclosure and underpricing.

The decision to eliminate some previously mandatory disclosures need not be exclusively the result of managerial opportunism. Prior literature identifies a key shareholder benefit of reduced disclosure is avoiding the revelation of proprietary information. To avoid revealing proprietary information, EGC firms might elect to apply JOBS Act provisions that reduce the previously mandatory disclosure of proprietary information and substitute voluntary disclosure of non-proprietary information. For example, earnings forecasts potentially reveal less proprietary information than detailed financial statements, but mitigate the greater information uncertainty that results from the reduction in previously mandatory disclosure. Because SEC

quiet period restrictions constrain voluntary disclosures of forward-looking information prior to the IPO, we expect such voluntary disclosures to occur predominantly in the post-IPO period.[3]

Consistent with proprietary costs affecting managers' disclosure decisions, we find that the larger underpricing and post-IPO volatility is greater for EGC firms with higher proprietary costs of disclosure, and that EGC firms provide additional disclosure following the IPO to mitigate the greater information uncertainty. Specifically, we find that the larger underpricing and post-IPO volatility is greater in research intensive EGC firms and EGC firms in concentrated industries; that following the IPO EGC firms provide significantly more management forecasts, file more Forms 8-K with the SEC, and issue more press releases; and that EGC firms experience a significantly larger market reaction to their first post-IPO earnings announcement. Findings from additional tests reveal that the greater information uncertainty for EGC firms persists 60 days after the IPO for the 22% of firms that have not announced earnings by that time. These findings are consistent with EGC firms providing more voluntary disclosure after the IPO than NEGC firms, and with disclosures subsequent to the IPO mitigating the greater information uncertainty of EGC firms. Our results suggest both explanations—agency problems and proprietary information—contribute to the reduction in previously mandatory disclosure, which causes greater information uncertainty for EGC firms.

The remainder of the paper is organized as follows. Section II discusses the institutional setting and provides the basis for our predictions. Section III explains the research design, and Section IV describes the sample and data. Section V presents findings from analyses relating to information uncertainty and Section VI reports findings from analyses relating to proprietary

[3] During our sample period, quiet period restrictions apply to voluntary disclosures of forward-looking information in the pre-IPO period, and forward-looking statements made in the context of an IPO are not covered by the statutory safe harbor provisions of the Private Securities Litigation Reform Act of 1995. See SEC Release 33-8591 (p. 68-69).

costs of IPO disclosure and to post-IPO disclosure. Section VII offers a summary and concluding remarks.

II. INSTITUTIONAL SETTING AND BASIS FOR PREDICTIONS

Reduced Mandatory Disclosure and the JOBS Act

The JOBS Act was signed into law on April 5, 2012. The Act creates a new category of issuer, the Emerging Growth Company (EGC). To qualify for EGC status, an IPO firm must have total gross annual revenues of less than $1 billion during the most recent fiscal year ending prior to the IPO.

The Act includes various provisions that reduce mandatory disclosure for EGCs. First, the Act allows EGCs to file draft IPO registration statements confidentially with the SEC, provided that the filing and any amendments to it are filed publicly no later than 21 days before the firm conducts a road show. Before the Act, IPO firms could not confidentially file their draft registration statements.[4]

Second, the JOBS Act provides for a reduction in disclosure of executive compensation and the number of years of audited financial statements in the IPO registration statement. In particular, prior to the Act, IPO firms were required to disclose three years of compensation information for the Named Executive Officers, i.e., the CEO, CFO, and the three other highest paid executives, and to provide a compensation discussion and analysis. EGCs are required to disclose compensation information only for two years and only for three named executives, including the CEO, and are not required to present a compensation discussion and analysis. Additionally, before the Act, IPO firms were required to include in their registration statements

[4] Some privately listed foreign firms and government-owned foreign firms were exempt from this restriction. See http://www.sec.gov/divisions/corpfin/internatl/nonpublicsubmissions.htm.

audited financial statements for three years or for the life of the firm, if shorter. EGCs are required to include only two years of audited financial statements.

Third, the JOBS Act allows EGCs to delay application of some accounting standards and delay compliance with Section 404(b) of SOX. Before the Act, IPO firms were required to apply new or revised accounting standards at their effective dates for public companies. EGCs are not required to comply with any new or revised financial accounting standard until it applies to non-public companies.[5] Regarding SOX compliance, before the Act, IPO firms were required to comply with Section 404(b) of SOX that mandates auditor attestation of the effectiveness of internal controls over financial reporting beginning with the second annual report after the IPO.[6] EGCs are permitted to opt out of compliance with Section 404(b) of SOX for up to five years.

Fourth, the JOBS Act exempts EGCs from future auditing standards adopted by the Public Company Accounting Oversight Board (PCAOB), unless the SEC decides that such standards should apply to EGCs; from requirements in the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank) that would otherwise require firms to hold advisory say-on-pay votes and to disclose the ratio of CEO pay to median employee pay; and from quiet period restrictions on research coverage by affiliated analysts. The Act also provides underwriters of EGC IPOs greater freedom to communicate with qualified buyers as referred to in the Act to determine their interest in the offering. EGCs can elect to apply some or all of these provisions.

[5] That is, EGCs are permitted to apply new or revised accounting standards issued by the Financial Accounting Standards Board as if they were private companies. Although EGCs may irrevocably elect to comply with these standards when the standards are effective for public companies, they are not permitted to apply the standards selectively, i.e., standard by standard.

[6] Small business reporting firms, i.e., those with public float less than $75 million or revenue less than $50 million, were exempt from compliance with Section 404(b) of SOX even after two years.

The SEC is presently considering whether to extend the reduction in mandatory disclosure to other publicly traded firms. Section 108 of the JOBS Act requires the SEC to conduct a review of reporting requirements for all IPO firms to determine how such requirements can be updated to modernize and simplify the registration process with the goal of reducing the volume of mandatory disclosure while still providing material information to shareholders (EY, 2014; KPMG, 2014). In its "Report on Review of Disclosure Requirements in Regulation S-K," the SEC concludes that a full review of disclosure requirements for all public firms is appropriate because there may be simplifications, modernizations, revisions, or eliminations that would be suitable for all companies, not just IPO firms. This conclusion is consistent with concerns expressed by several large public firms that many mandatory disclosures are costly to prepare and burdensome to investors to interpret.[7] The SEC's report, together with these concerns, suggests that the Act's reduction in mandatory disclosure for EGCs is a first step in a potentially broader reduction in mandatory disclosure for all publicly traded firms. Hence, examining whether the reduction in mandatory disclosure increases information uncertainty of EGCs is relevant to the SEC's ongoing consideration of a broader reduction of mandatory disclosure.

Related Literature and Empirical Predictions

There is an extensive literature regarding IPOs, including the pricing of IPO shares and post-IPO performance (see Ritter and Welch, 2002 for a review). This literature establishes that the average IPO is underpriced, i.e., the closing price on the day of the IPO is greater than the IPO offer price, and that the underpricing is substantial. For example, Ritter and Welch (2002) reports an average first-day return of 18.8% for a sample of IPOs between 1980 and 2001. Prior research also establishes that firms with larger underpricing have higher post-IPO volatility, and

[7] See, e.g., "The 109,894-Word Annual Report" (Monga and Chasan, *The Wall Street Journal*, June 2, 2015) and "Firms, Regulators Try to Sort out What's Worth Disclosing to Investors" (Chasan and Rubenfeld, *The Wall Street Journal*, November 2, 2015).

interprets the higher volatility as evidence of increased information uncertainty (Lowry et al., 2010).[8]

In extant theoretical models, IPO underpricing reflects a risk premium that investors demand to compensate them for their uncertainty about the value of the firm (Beatty and Ritter, 1986; Rock, 1986). Underpricing reflects a risk premium because it reflects "money left on the table" during the offering, i.e., the amount of money that accrues to investors who purchase shares at the IPO offer price as compensation for bearing the uncertainty. Beatty and Ritter (1986) and Rock (1986) show analytically that as investors' uncertainty about the value of the firm increases, the required risk premium increases, which in turn increases the amount of underpricing. Two key assumptions underlying these models are risk-averse investors and rational underwriters: investors' demand for the IPO shares reflects the riskiness, or uncertainty, investors associate with these shares, and underwriters rationally anticipate this demand and price the IPO shares accordingly. The subsequent analytical and empirical IPO literature supports the interpretation of underpricing as reflecting a risk premium and uses underpricing as a measure of uncertainty. See Ritter and Welch (2002) for a review.

Prior research on disclosures associated with the IPO also supports the inference that IPO underpricing reflects a risk premium for information uncertainty. For example, Beatty (1989) and Willenborg (1999) show that higher quality auditors can reduce underpricing by increasing the quality of the financial statements in the IPO prospectus. Schrand and Verrecchia (2005) finds that IPO firms with more frequent disclosures prior to the IPO have smaller underpricing. Leone, Rock, and Willenborg (2007) finds that IPO firms disclosing more information about the use of proceeds have smaller underpricing. Arnold, Fishe, and North (2010) finds that firms with

[8] Information uncertainty refers to the inverse of the average amount of information available to the market, i.e., the inverse of the average precision of investors' beliefs (e.g., Lambert, Leuz, and Verrecchia, 2007).

a greater proportion of "hard" relative to "soft" information in their IPO registration statements have smaller underpricing. Boulton, Smart, and Zutter (2011) finds that IPO firms in countries with higher earnings quality have smaller underpricing.

A key feature of the JOBS Act is that it has several provisions that reduce mandatory disclosure for EGCs. To the extent that the reduction in mandatory disclosure increases information uncertainty, the related IPO literature leads us to predict that EGC firms have larger underpricing and higher post-IPO volatility than NEGC firms. EGC status alone does not imply reduced disclosure because firms are free to ignore provisions of the Act that permit reduced disclosure, e.g., confidential filing of the prospectus. Thus, reduced disclosure depends on the extent to which an EGC firm applies these provisions of the Act. We predict that the larger underpricing and post-IPO volatility for EGC firms is greater for EGC firms that apply more provisions.

That a reduction in mandatory disclosure might increase information uncertainty raises the question of why a firm voluntarily eliminates some previously mandatory disclosures. In making this decision, managers trade off the costs associated with an increase in information uncertainty and benefits from eliminating the disclosure. Although the costs of non-disclosure primarily are borne by shareholders, the benefits of non-disclosure can accrue to both managers and shareholders.

In terms of benefits to managers, prior research suggests three ways managers can benefit from reduced disclosure at the IPO. First, managers typically are granted stock options with exercise prices equal to the IPO offer price (Lowry and Murphy, 2007), which can provide an incentive to increase underpricing, and thus reduce disclosure that, if made, would reduce underpricing. Second, managers have private information about the extent to which their

compensation exceeds the value of their labor services, which can lead managers to reduce compensation disclosure to avoid any negative consequences of perceived excessive pay. Third, managers might have private information about the extent to which the firm's performance is worse than investors perceive it to be and report opportunistically (e.g., Teoh, Welch, and Wong 1998). If this is the case, managers have an incentive to make it more difficult for investors to assess the firm's performance. In each case, managers' incentives to reduce disclosure reflect an information-based agency problem in which managers benefit at the expense of shareholders. If underpricing reflects deadweight losses from agency problems, then we expect EGCs have higher underpricing even in the absence of increased information uncertainty, and depending on the magnitude of the agency problems the higher underpricing could be substantial.

In terms of benefits to shareholders, prior research suggests avoiding the revelation of proprietary information is the primary benefit of reduced disclosure in general (e.g., Verrecchia, 1983) and for IPO firms in particular (e.g., Guo, Lev, and Zhou, 2004). In equilibrium, firms with high (low) proprietary costs of disclosure will be more (less) willing to bear an increase in information uncertainty associated with a reduction in mandatory disclosure. Hence, we expect the greater information uncertainty for EGC firms is higher for those with higher proprietary costs of disclosure. For example, Boone, Floros, and Johnson (2015) finds that firms granted permission by the SEC to redact from their S-1 prospectus the details of material contracts, e.g., supplier contracts, customer contracts, and license or royalty terms, based on the firm's statement that failure to redact such details would result in a loss of competitive advantage, have significantly higher first-day underpricing. Specifically, Boone et al. (2015) finds that these firms forego 5% of IPO proceeds to avoid revelation of proprietary information. In the context

of the JOBS Act, Dambra, Field, and Gustafson (2015) states that proprietary considerations are a key deterrent to IPO disclosure.

To the extent the reduction in previously mandatory disclosure is motivated by concerns about revealing proprietary information, and voluntary disclosure can substitute for the reduced disclosure, we expect EGC firms to provide more post-IPO voluntary disclosures that presumably have lower proprietary costs than the disclosures that they elect to eliminate. For example, an earnings forecast likely contains less proprietary information than a year's financial statements and management discussion and analysis. Importantly, we expect such voluntary disclosure to be made predominantly in the post-IPO period because quiet period restrictions constrain voluntary disclosures of forward-looking information prior to the IPO (e.g., Cedergren, 2014). Finding that EGC firms substitute voluntary disclosure for previously mandatory disclosure and that these additional disclosures mitigate the higher uncertainty, suggests that the reduction in previously mandatory disclosure is not motivated entirely by agency problems.

Several contemporaneous studies examine various costs and benefits of the JOBS Act on the IPO market, including implications for IPO activity and the direct costs associated with the Act. Consistent with the proprietary cost motivation for reduced disclosure, Dambra et al. (2015) finds that IPO volume increased after the Act, and the increase is concentrated in firms with high proprietary costs of disclosure, i.e., research intensive firms and firms in concentrated industries. Cheng (2015) finds firms that apply the confidential filing provision of the Act have lower IPO withdrawal rates, which increases IPO volume. Chaplinsky, Hanley, and Moon (2016) examines direct costs of IPOs associated with applying provisions of the Act that permit reduced disclosure, but fails to find evidence of a reduction in these costs. Westfall and Omer (2014) finds evidence of an increase in audit fees for firms that apply provisions of the Act.

Dambra, Field, Gustafson, and Pisciotta (2016) finds that the Act's eased restrictions on research coverage by affiliated analysts lowered the information content of analysts' earnings forecasts. Gipper (2015) finds that reduced disclosure of executive compensation information is associated with a significant reduction in CEO pay and interprets this finding as inconsistent with managerial opportunism explaining the reduction in compensation disclosure.

Our study focuses on information uncertainty in IPO firms associated with the JOBS Act. Two contemporaneous studies, Chaplinsky, Hanley, and Moon (2016) and Gupta and Israelsen (2016), find that first-day underpricing is larger after the Act, but generally find the provisions do not explain the larger first-day underpricing. These studies do not consider underpricing beyond the first day. We find that larger underpricing for EGC firms extends up to 30 trading days after the IPO, and that provisions of the Act are associated with underpricing measured up to 30 days. We corroborate these findings by linking provisions of the Act to higher post-IPO equity volatility, bid-ask spread, and ownership by dedicated institutional investors.

Our study provides evidence relevant to the SEC's ongoing consideration of extending the reduction in mandatory disclosure beyond IPO firms. First, we find that several individual provisions of the JOBS Act, and indexes for the number of provisions an EGC firm applies, explain the greater information uncertainty. Second, we find that EGC firms, particularly those applying a greater number of JOBS Act provisions, attract investors who rely more on private information. Third, we find that the greater information uncertainty is concentrated in EGC firms with higher proprietary costs of disclosure. Fourth, we find that EGC firms provide more voluntary disclosure after the IPO than NEGC firms, and that such disclosure, combined with the first post-IPO earnings announcement, mitigates the greater information uncertainty of EGC firms. These findings provide evidence on how the costs and benefits of reduced mandatory

disclosure differ across firms and investors, and they suggest EGC firms substitute post-IPO voluntary disclosures for the previously mandatory disclosures that they elect to eliminate.

III. RESEARCH DESIGN

Overview of Tests and Defining EGC and Comparable Firms without EGC Status

We begin by testing whether IPO underpricing and post-IPO equity return volatility are larger for EGC firms than for NEGC firms. We next test whether the extent to which an EGC firm applies the JOBS Act provisions, e.g., confidentially filing draft IPO registration statements, explains any larger underpricing and post-IPO volatility. A key feature of the JOBS Act that directly affects our research design is that to qualify for EGC status, and therefore to be eligible to apply the eased regulations in the Act, an IPO firm must have less than $1 billion in annual revenue in the year prior to its IPO. The $1 billion revenue threshold is sufficiently high that the vast majority of firms with IPOs after the Act qualify for EGC status. See figure 1 for the distribution of revenue for firms that have IPOs after the Act and meet our data requirements. Therefore, to address our research question, we compare information uncertainty of EGC firms to that of NEGC firms, i.e., firms that are below the $1 billion revenue threshold but had IPOs before April 2012. For example, a firm with an IPO in November 2011 with less than $1 billion in revenue would have qualified as an EGC if it had an IPO seven months later in June 2012.

< INSERT FIGURE 1 ABOUT HERE >

In our primary tests, we do not compare information uncertainty of EGC firms to that of firms ineligible for EGC status, i.e., firms with more than $1 billion in pre-IPO revenue, for two reasons. First, the revenue threshold used to define EGC status is sufficiently high that only 28 post-JOBS Act IPO firms did not qualify for EGC status, i.e., had gross revenues in excess of $1

billion in the year prior to the IPO (see figure 1).[9] Second, IPO firms with more than $1 billion in pre-IPO revenue are fundamentally different from the general population of IPO firms. For example, as figure 1 reveals, of the 28 firms ineligible for EGC status, 21 have pre-IPO revenues that exceed $2 billion, which is more than fourteen times the revenue of the average EGC firm of $0.14 billion. Additionally, the lack of IPO firms with revenue close to either side of the $1 billion threshold implies that a regression discontinuity design based on the threshold cannot be used a basis for identifying the effect of Act on information uncertainty. It also suggests that firms do not manage revenue downwards to just meet the EGC revenue threshold. Nonetheless, section 5.4 describes findings from tests that employ firms with more than $1 billion in pre-IPO revenue.

Do EGC Firms Have Greater Information Uncertainty?

We use two complementary analyses to test our predictions. First, we test our predictions by estimating equation (1).

$$\begin{aligned} InfoUncertainty_i = {} & \varphi\, EGC_i + \delta_1\, Assets_i + \delta_2\, Revenue_i + \delta_3\, BM_i + \delta_4\, ROA_i \\ & + \delta_5\, Age_i + \delta_6\, Tech_i + \delta_7\, Research_i + \delta_8\, PctRetained_i \\ & + \delta_9\, Big4_i + \gamma\, Fixed\ Effects_i + \varepsilon \end{aligned} \quad (1)$$

InfoUncertainty is either underpricing (e.g., Beatty and Ritter, 1986; Rock, 1986) or post-IPO volatility (Lowry et al., 2010). The focus of our tests is the coefficient on *EGC*, which is an indicator variable that equals one for EGC firms, and zero otherwise. The coefficient on *EGC* represents mean information uncertainty for EGC firms incremental to that for NEGC firms after controlling for the remaining explanatory variables; mean information uncertainty for NEGC firms is reflected in the *Fixed Effects* coefficients. Therefore, if the JOBS Act increased (decreased) information uncertainty for EGC firms, then we expect $\varphi > 0$ ($\varphi < 0$). The *i* subscript

[9] See also Ernst & Young LLP (2013a, 2013b) and Latham and Watkins (2013, 2014).

refers to firm *i*. When estimating equation (1) and the equations that follow, we eliminate outliers and base reported *t*-statistics on standard errors clustered by industry and IPO date.[10]

We measure underpricing over three intervals. Following prior research, we measure underpricing as the market-adjusted return, i.e., the raw return minus the market return, where the raw return is the closing price on the day of the IPO, i.e., day $t = 0$, minus the IPO offer price, scaled by the IPO offer price, *Underpricing(0)*. Because information uncertainty arising from reduced disclosure delays the speed at which information is impounded in stock prices (Healy and Palepu, 2001), if there is greater information uncertainty associated with the JOBS Act there could be delayed pricing. Accordingly, we also measure underpricing using the closing price on the first trading day after the IPO, i.e., day $t = 1$, *Underpricing(0,1)*, and the closing price 30 trading days after the IPO, i.e., day $t = 30$, *Underpricing(0,30)*.[11] We market-adjust our measures of underpricing to take account of systematic differences in market conditions between the two groups of firms.[12]

We use three measures of post-IPO volatility. The first, *Volatility*, is the standard deviation of daily equity returns over the 30-day window beginning the day after the IPO, i.e., $t = 1$ to 30. We exclude the IPO-day return, i.e., $t = 0$, to mitigate the effects of the large first-day returns on the volatility measure. The second and third measures separate *Volatility* into its idiosyncratic and systematic components, *IdioVol* and *Beta*. *IdioVol* (*Beta*) is the standard deviation of residuals (slope coefficient) from a firm-specific market model estimated over the 30-day window. Because we expect any reduction in information content at a firm's IPO

[10] Following Belsley, Kuh, and Welsch (1980) we classify as outliers those observations with studentized residuals greater than 2.5 in absolute value. All inferences are unaffected by the inclusion of outliers. When clustering by industry, we use two-digit SIC codes to ensure a sufficiently large number of clusters.
[11] Using a 30-day window also ensures that the closing price we use to calculate underpricing is not affected by short-term price supports provided by the underwriter (e.g., Lowry et al., 2010).
[12] Untabulated findings from estimations using raw returns or the natural logarithm of returns reveal the same inferences as those based on the tabulated findings.

primarily to be idiosyncratic, separating volatility into idiosyncratic and systematic components should increase the power of our tests; if the information uncertainty arising from the reduction in information content is idiosyncratic, *EGC* should have no association with *Beta*.[13]

Equation (1) includes control variables identified in prior research as determinants of underpricing and post-IPO volatility. In particular, we include as control variables firm size, revenue, the equity book-to-market ratio, profitability, firm age, research and development expense, ownership retention, auditor quality, and fixed effects for industry membership, venture backing, exchange listing, and lead underwriter (Loughran and Ritter, 2004; Purnanandam and Swaminathan, 2004; Schrand and Verrecchia, 2005; Leone, Rock, and Willenborg, 2007; Lowry, Officer, and Schwert, 2010).

Assets is the natural logarithm of one plus total assets, *Revenue* is the natural logarithm of one plus revenue, *BM* is book value of equity divided by market value of equity based on the IPO offer price, and *ROA* is net income scaled by total assets. *Age* is the natural logarithm of one plus the number of years from the firm's founding, or incorporation if the founding date is unavailable, to the date of the IPO. *Tech* is an indicator variable that equals one if the firm is in a high technology industry based on the Loughran and Ritter (2004) industry classification, and zero otherwise. *Research* is research and development expense scaled by revenue. *PctRetained* is the percent of post-IPO shares outstanding retained by the pre-IPO shareholders. *Big4* is an indicator variable that equals one if the IPO firm's auditor is Deloitte, Ernst & Young (EY), KPMG, or PwC, and zero otherwise. *Fixed Effects* denotes fixed effects based on the firm's industry, which we define using the Fama and French (1997) 12-industry classification, the firm's exchange listing, i.e., NYSE, NASDAQ, or AMEX, whether the firm received venture

[13] Lambert et al. (2007) shows that a reduction in disclosure of systematic (idiosyncratic) information increases investors' assessments of systematic (idiosyncratic) risk. In addition, using idiosyncratic volatility ensures our results are not attributable to uncertainty about market-wide conditions or fluctuations in the market return.

backing, and the identity of the firm's lead underwriter.[14] All accounting variables relate to the fiscal year preceding the IPO.

Provisions of the JOBS Act

We next test whether the extent to which an EGC firm applies the JOBS Act provisions explains any larger underpricing and post-IPO volatility. We base this analysis on information provided to us by EY regarding the specific provision of the Act each EGC firm applies.[15] For each provision we construct an indicator variable that equals one if the firm applies the provision, and zero otherwise. *Confidential* equals one if the firm filed confidentially its draft registration statement with the SEC. There are two indicators for compensation-related provisions: *ReduceComp* equals one if the firm presented compensation information for fewer than five top executives, and *OmitCDA* equals one if the firm omitted the compensation discussion and analysis section of the prospectus. There also are three indicators for accounting-related provisions: *ReduceAcct* equals one if the firm presented only two years of audited financial statements and was in existence for more than two years, and *DelayGAAP* equals one if the firm elected to delay application of new or revised accounting standards. *DelaySOX* equals one if a firm reserves the right to delay the internal controls audit required by Section 404(b) of SOX.

We test for a relation between these provisions and the differences in underpricing and post-IPO volatility between EGC and NEGC firms by estimating equation (2).

$$InfoUncertainty_i = \varphi\, EGC_i + \rho\, Provision_i + \delta_1\, Assets_i + \delta_2\, Revenue_i + \delta_3\, BM_i +$$

[14] We include both *Tech* and industry fixed effects because *Tech* is not a proper subset of the Fama and French (1997) 12-industry groups. Inclusion of industry fixed effects subsumes the effects of industry level variables, e.g., industry competition. Untabulated findings from estimations that include as additional control variables an indicator for small reporting companies, GDP growth for the respective calendar quarter, and the Chicago Board Options Exchange volatility index reveal no difference in inferences from those based on the tabulated findings.

[15] We verified that the EY data are correctly coded by examining IPO registration statements for 15 randomly selected IPOs.

$$\delta_4 ROA_i + \delta_5 Age_i + \delta_6 Tech_i + \delta_7 Research_i + \delta_8 PctRetained_i \quad (2)$$
$$+ \delta_9 Big4_i + \gamma Fixed\ Effects_i + \varepsilon$$

Provision is *Confidential*, *ReduceComp*, *OmitCDA*, *ReduceAcct*, *DelayGAAP*, or *DelaySOX*. If the JOBS Act provisions explain any larger underpricing and post-IPO volatility, we predict $\rho > 0$. However, because we have no basis on which to predict which provisions have larger or smaller effects on information uncertainty, we make no predictions about the relative magnitudes of the relations. Estimating equation (2) using each *Provision* separately allows us to estimate the effects on information uncertainty associated with individual provisions.

We also create two indexes, and include each index in equation (2) in place of *Provision*. The first, *JOBSIndex*, equals the sum of the six provision indicator variables, and the second, *HighIndex*, is an indicator variable that equals one if *JOBSIndex* is greater than or equal to the sample median of 4, and zero otherwise. Because each *Provision* equals one when the provision reduces disclosure, if the JOBS Act provisions explain any larger underpricing and post-IPO volatility, we predict $\rho > 0$.

An advantage of using the indexes in place of the individual provisions is that our inferences depend only on the number of the JOBS Act's provisions an EGC firm applies, rather than which provisions it applies. This is particularly relevant because there are few observations with which to identify the incremental effect of each provision. For example, 96% of EGC firms that file confidentially their draft registration statements also omit the compensation discussion and analysis, thereby making it difficult to distinguish each provision's incremental effects associated with information uncertainty. An advantage of using *HighIndex* relative to *JOBSIndex* is that it addresses potential nonlinearity in the relation between *JOBSIndex* and the

information uncertainty variables. A disadvantage of using *HighIndex* is that, by construction, it exhibits less cross-sectional variation than *JOBSIndex*.

IV. SAMPLE AND DATA

We construct our sample by identifying all IPOs in the US between July 1, 2009 and December 31, 2013 that appear in the Securities Data Corporation (SDC) database, list common stock on the NYSE, NASDAQ, or AMEX, file registrations statements on Form S-1 with the SEC, and have the stock price and accounting information necessary for our tests. We begin the sample period after the recent financial crisis to mitigate any confounding effects of the crisis on our inferences.[16] From SDC we obtain the IPO date, the IPO issue price, the number of shares offered and outstanding after the IPO, whether the firm was venture backed, the lead underwriter, and the firm's auditor. We obtain share price, equity returns, the market return, industry, and exchange listing from CRSP, revenue, net income, total assets, and book value of equity from Compustat, and firm age from the Field-Ritter dataset of company founding dates (Field and Karpoff, 2002; Loughran and Ritter, 2004).[17] We exclude IPOs that are leveraged buyouts, closed-end funds, open-end funds, trusts, and special purpose vehicles, i.e., SIC codes 6091, 6371, 6722, 6726, 6732, 6733, and 6799.

There are 176 firms with IPOs after the JOBS Act, i.e., after April 5, 2012, that qualify for EGC status and meet these data requirements. To construct our sample of EGC firms, from among these 176 firms we exclude all 16 firms with IPOs in April and May 2012 that had filed their prospectuses before the Act took effect, and two firms that qualified for EGC status but did

[16] We begin the sample in July 2009 because NBER business cycle dates indicate that a recession starts in the fourth quarter of 2007 and continues until June 2009. We also conduct our analyses including among NEGC firms those with IPOs from January 2004 through June 2009. Untabulated findings based on the extended NEGC sample reveal the same inferences as the tabulated findings.

[17] The Field-Ritter dataset is available on Jay Ritter's Web page (http://bear.cba.ufl.edu/ritter/FoundingDates.htm).

not mention the Act in the IPO registration statement or apply any of the Act's provisions.[18] The resulting sample of EGC firms comprises 158 firms that are below the Act's revenue threshold and have an IPO between June 2012 and December 2013. Our sample of NEGC firms comprises 218 firms that are below the revenue threshold and have IPOs between July 2009 and March 2012, i.e., before the Act became effective. Hence, the sample comprises 376 firms (158 EGC firms + 218 NEGC firms). We winsorize all continuous variables at the 1% and 99% levels for these firms across the sample period.[19]

< INSERT TABLE 1 ABOUT HERE >

Table 1, which presents descriptive statistics for the sample of 376 firms, reveals that the mean (median) total assets, IPO proceeds, and revenue are $380.59, $139.76, and $151.22 ($97.97, $89.59, and $76.50) million. Table 1 also reveals that the 75th percentile for revenue is $198.35 million, which is substantially below $1 billion.

Table 1 reveals that mean first-day underpricing, *Underpricing(0)*, is 16.37%. This finding is consistent with prior research in that it indicates that IPOs are, on average, underpriced. Table 1 also reveals that mean underpricing over the longer horizons, *Underpricing(0,1)* and *Underpricing(0,30)*, are 17.26% and 19.23%. These statistics indicate that underpricing persists for several weeks beyond the first day. Mean *Volatility*, *IdioVol*, and *Beta* are 3.08, 2.93, and 0.57. These statistics indicate that most of the post-IPO volatility is idiosyncratic, and that returns shortly after the IPO exhibit little co-movement with the market, which helps rule out changes in market conditions as an alternative explanation for our findings.

[18] None of the 16 EGCs that had IPOs in April or May of 2012 elected to apply provisions of the Act. Of the other two firms that did not mention the Act in their IPO registration statements, one had its IPO in July 2012 but filed its prospectus before the Act, and the other had been a public company before the Act and emerged from Chapter 11 after the Act. Inferences are unaffected if we classify any or all of the firms in these two groups as either NEGC or EGC firms.

[19] Inferences based on no winsorization and alternative winsorization cutoffs of 0.5/99.5 and 5/95 are the same as those based on the table 3 findings.

< INSERT TABLE 2 ABOUT HERE >

Table 2 presents descriptive statistics separately for NEGC and EGC firms. Table 2 indicates that for NEGC and EGC firms, means (medians) of *Underpricing(0)* are 13.32% and 20.75% (6.70% and 14.28%), of *Underpricing(0,1)* are 13.51% and 22.59% (7.40% and 14.29%), and of *Underpricing(0,30)* are 13.28% and 27.45% (9.77% and 20.31%). These statistics reveal that, consistent with prior literature, NEGC firms have substantial underpricing and, consistent with our predictions, EGC firms have significantly larger underpricing. For NEGC and EGC firms, means (medians) of *Volatility* are 2.93% and 3.27% (2.59% and 3.06%), of *IdioVol* are 2.76% and 3.17% (2.38% and 2.97%), and of *Beta* are 0.58 and 0.56 (0.55 and 0.48). All of the differences in means and medians between NEGC and EGC firms are significant, except for those relating to *Beta*.[20] The larger total and idiosyncratic volatilities for EGC firms are consistent with our prediction that EGC firms have greater information uncertainty. Nonetheless, we base our inferences on findings from the multivariate tests in section 5.

Table 2 also indicates that EGC firms generally are smaller and less profitable. For example, the p-values for differences in means (medians) between EGC and NEGC firms for *Assets* and *ROA* are 0.04 and 0.03 (0.03 and < 0.01). The means for the remaining control variables are not significantly different between the two groups of firms.

V. RESULTS

Do EGC Firms Have Greater Information Uncertainty?

[20] We test for differences in means (medians) using a *t*-test (Wilcoxon signed rank test). Throughout, "significant" denotes a ten percent significance level under a two-sided alternative.

Table 3, panel A, presents results from estimating equation (1) when the dependent variable is one of the three underpricing measures, *Underpricing(0)*, *Underpricing(0,1)*, and *Underpricing(0,30)*. Panel A reveals that EGC firms have significantly larger underpricing than NEGC firms. The coefficients on *EGC* when *Underpricing(0)*, *Underpricing(0,1)*, and *Underpricing(0,30)* are the dependent variables are 7.09, 6.30, and 12.93 (*t*-statistics = 6.07, 6.22, and 5.10), i.e., the mean incremental underpricing for EGC firms ranges from 6.30% to 12.93% of IPO proceeds, depending on the underpricing measure.

These percentages, together with the untabulated mean (median) IPO proceeds for EGC firms of $140.64 ($83.85) million, imply that the mean (median) incremental forgone proceeds is $9.97, $8.86, and $18.18 ($5.94, $5.28, and $10.84) million depending on the specification. These amounts are estimates of the opportunity cost of EGC status. Whether these estimates appear "large" or "small" depends on how one assesses the potential benefits of EGC status, which include benefits to the manager arising from agency conflicts and benefits to shareholders arising from avoiding revelation of proprietary information.

< INSERT TABLE 3 ABOUT HERE >

Panel B presents results from estimating equation (1) when the dependent variable is one of the three post-IPO volatility measures, *Volatility*, *IdioVol*, and *Beta*. Panel B reveals that EGC firms have significantly higher *Volatility* and *IdioVol* than NEGC firms and have insignificantly different *Beta*. The coefficients on *EGC* are 0.27, 0.33, and –0.05 (*t*-statistics = 2.97, 3.61, and –1.14). These findings are consistent with the JOBS Act increasing post-IPO volatility and with most of the increase in volatility being idiosyncratic. Regarding the control variables, panel B

indicates that smaller, more profitable, and more research-intensive firms, and firms with Big 4 auditors have higher post-IPO volatility.[21]

Provisions of the JOBS Act

Table 4 presents descriptive statistics for each *Provision*, *JOBSIndex*, and *HighIndex*, and summary statistics relating to estimation of equation (2). Panel A presents descriptive statistics relating to the number of firms electing each provision, *JOBSIndex*, and *HighIndex*. Panel A reveals that 100% of the firms reserve the right to delay the internal controls audit required by SOX (mean *DelaySOX* = 1.00). Finding that no firm waives the right to delay Section 404(b) of SOX is consistent the firms viewing the costs of compliance as exceeding the benefits (Zhang, 2007; Gao, Wu, and Zimmerman, 2009).[22] Panel A also reveals that 73% of the firms file their draft registration statements confidentially with the SEC (mean *Confidential* = 0.73), which suggests that firms view public disclosure about a potential upcoming IPO as costly; 84% elect to present compensation information for fewer than five top executives (mean *ReduceComp* = 0.84); and 87% omit the compensation discussion and analysis (mean *OmitCDA* = 0.87). These statistics suggest the vast majority of firms perceive that the cost of these disclosures outweighs the benefit.

[21] We also test our predictions using a propensity score matched sample approach in which we match each EGC firm to an NEGC firm with similar characteristics. Specifically, we first estimate a propensity score for each firm as a function of the control variables in equation (1), omitting the industry fixed effects. We then match each EGC firm to an NEGC firm in its Fama and French (1997) 12-industry group. We select the sample of NEGC firms such that the sum of the squared differences in propensity scores between the EGC and NEGC firms is the lowest. Untabulated statistics reveal the means and medians of the control variables do not differ for the two groups of firms, which indicates a successful match. Untabulated findings relating to differences in means and medians of the information uncertainty measures between the matched samples reveal the same inferences as those based on the table 3 findings. In particular, means and medians of *Underpricing(0)*, *Underpricing(0,1)*, *Underpricing(0,30)*, *Volatility*, and *IdioVol*, are significantly larger for EGC firms than their matched NEGC counterparts, and there are no significant differences in *Beta*. In addition, untabulated findings from estimating equation (1) based on the matched sample reveal the same inferences as those based on the findings in table 3.

[22] That all sample firms took advantage of the exemption is consistent with the findings in Skadden (2014), which notes "[v]irtually all EGCs dating to the enactment of the JOBS Act have included disclosure that they intend to, or may, take advantage of the exemption from providing the auditor attestation report under Section 404(b)."

In contrast, only 39% of the firms present fewer than three years of audited financial statements (mean *ReduceAcct* = 0.39) and only 18% elect to delay application of new or revised accounting standards (mean *DelayGAAP* = 0.18). The fact that the vast majority of firms provide less compensation information, but a minority of firms provides less accounting information suggests that firms perceive the net benefits of disclosing accounting information as being higher than the net benefits of disclosing compensation information. Panel A reveals that the mean of *JOBSIndex* is 4.01, which indicates that, on average, firms apply approximately four provisions. The mean of *HighIndex* is 0.75, which indicates that 75% of the firms apply four or more provisions.

Panel B reports the correlations between the *Provision* variables, *JOBSIndex*, and *HighIndex*. Untabulated statistics reveal these correlations are significant at the 10% level or less, except for those relating to *DelayGAAP*. Not surprisingly, the two compensation-related provisions, *ReduceComp* and *OmitCDA*, are highly correlated (correlations = 0.46). *OmitCDA* and *Confidential* also are highly correlated (correlations = 0.45).

< INSERT TABLE 4 ABOUT HERE >

Panel C presents summary statistics relating to estimation of equation (2) for the three underpricing variables. Panel C reveals that the coefficients on *Confidential*, *ReduceComp*, *OmitCDA*, *JOBSIndex*, and *HighIndex* are significantly positive for all three underpricing specifications (*t*-statistics range from 2.73 to 6.85). The coefficients on *Confidential*, *ReduceComp*, and *OmitCDA*, which range from 5.81 to 7.08 in the *Underpricing(0)* specification, suggest that IPO firms that confidentially file their draft registration statements, present compensation information for fewer than five top executives, or omit the compensation discussion and analysis have first-day underpricing that is incrementally larger by approximately

6%. Based on this 6% amount and the untabulated mean IPO proceeds for EGC firms of $140.64 million, the mean forgone proceeds associated with JOBS Act provisions is approximately $8.44 million.

Panel C also reveals that the coefficients on *Confidential*, *ReduceComp*, *OmitCDA*, *JOBSIndex*, and *HighIndex* are more than twice as large when underpricing is measured over 30 days than when it is measured over one day. For example, the coefficient on *Confidential* for *Underpricing(0,30)* is 15.67, whereas it only 5.81 for *Underpricing(0)*. The coefficient on *ReduceAcct* is significantly positive for *Underpricing(0,30)* (*t*-statistic = 3.63), but insignificantly different from zero for *Underpricing(0)* and for *Underpricing(0,1)* (*t*-statistics = 0.43 and –0.40). These findings indicate a stronger relation between reduced compensation disclosure and underpricing than between reduced financial statement disclosure and underpricing, which is consistent with underpricing reflecting deadweight losses arising from agency problems, and agency problems motivating reduction in compensation disclosure. Regarding the remaining *Provision* variable, *DelayGAAP*, its coefficients are negative and significantly so for *Underpricing(0,30)* and *Underpricing(0)*. These findings are inconsistent with delaying application of new or revised accounting standards contributing to underpricing.

The *EGC* coefficient is insignificantly different from zero for all of three underpricing specifications that include *Confidential*, *ReduceComp*, *OmitCDA*, *JOBSIndex*, and *HighIndex*, with sole exception being the *Underpricing(0)* specification with *Confidential*. In other words, after controlling for the provisions of the JOBS Act, EGC firms do not have significantly larger underpricing than NEGC firms.

Panel D presents summary statistics relating to estimation of equation (2) for the three post-IPO volatility variables. Panel D reveals that the coefficients on *Confidential*, *OmitCDA*,

ReduceAcct, *JOBSIndex*, and *HighIndex* are significantly positive in the *Volatility* and *IdioVol* specifications (*t*-statistics range from 1.71 to 7.60). These findings indicate that application of these provisions is significant in explaining the higher post-IPO volatility for EGC firms. Regarding the remaining *Provision* variables, *ReduceComp* and *DelayGAAP*, their coefficients are insignificantly different from zero. Regarding the *Beta* specifications, panel D reveals that the coefficients on *Confidential*, *ReduceComp*, *JOBSIndex*, and *HighIndex* are significantly positive (*t*-statistics range from 2.57 to 6.34), but the coefficients on the remaining provisions are insignificantly different from zero. Thus, the findings in panel D reveal significant relations between post-IPO volatility and both reduced compensation and financial statement disclosures.

The *EGC* coefficient is either insignificantly different from zero or negative for the *Volatility*, *IdioVol*, and *Beta* specifications that include *Confidential*, *ReduceComp*, *OmitCDA*, *ReduceAcct*, *JOBSIndex*, and *HighIndex*, with the sole exception relating to the *IdioVol* specification with *ReduceAcct*. The *EGC* coefficient is significantly positive for the only remaining provision, *DelayGAAP*, which has no significant association with *Volatility* and *IdioVol*. In other words, after controlling for the provisions of the JOBS Act, EGC firms do not have significantly higher post-IPO volatility than NEGC firms.

Taken together, the findings in table 4 provide evidence of a direct link between the provisions of the JOBS Act and the larger underpricing and post-IPO volatility. Because this evidence is based on cross-sectional variation in the extent to which EGC firms apply provisions of the Act—variation that occurs only within the post-JOBS Act period—the evidence supports our interpretation that our findings are not attributable to changes in market conditions between the pre- and post-JOBS Act periods.

Implications of Greater Information Uncertainty

The findings in table 3 suggest that EGC firms have greater information uncertainty than NEGC firms, and the findings in table 4 suggest that this greater information uncertainty is associated with the extent to which an EGC firm applies the reduced disclosure requirements of the JOBS Act. One implication of greater information uncertainty is that, holding constant the quality of private information, investors who rely on private information are at a greater information advantage than investors who rely on public information (e.g., Taylor and Verrecchia, 2015). As a result, it is likely that EGC firms have higher bid-ask spreads and greater institutional ownership than NEGC firms, particularly EGC firms applying more provisions of the Act. Further, it is likely the relations regarding institutional ownership are more pronounced for institutional investors that Bushee and Noe (2000) classifies as "dedicated" investors, who prior research suggests are among the most informed institutional investors. Such investors have access to and incentives to acquire private information, and thus prefer reduced public disclosure (e.g., Bushee and Noe, 2000; Callen, Livnat, and Segal, 2006; D'Souza, Ramesh, and Shen, 2010).

To provide evidence on these likelihoods, we test for differences in mean and median bid-ask spread over the 30 days following the IPO expressed as a percentage of price, and institutional ownership as of the end of the first calendar quarter after the IPO, and estimate versions of equation (1) using as the dependent variable bid-ask spread and institutional ownership. Following Bushee and Noe (2000), institutional investors are classified as (a) dedicated, i.e., those characterized by taking large stakes in firms and having low portfolio turnover, *LongTermOwn*, (b) transient, i.e., those characterized by high levels of both portfolio turnover and diversification, *ShortTermOwn*, and (c) quasi-indexers, i.e., those characterized by low levels of portfolio turnover and high levels of diversification, *IndexOwn*.

< INSERT TABLE 5 ABOUT HERE >

Findings in table 5, panel A, reveal that EGC firms have significantly higher mean bid-ask spread, significantly higher mean and median institutional ownership, and marginally higher mean ownership by dedicated investors (p-values = 0.05, 0.10, 0.10, and 0.14). Table 5, panel B, presents findings from estimation of equation (1) using as the dependent variable *BidAsk* and each of the four institutional ownership variables. The coefficient on *EGC* is significantly positive for *BidAsk*, *InstitOwn*, and *LongTermOwn* (*t*-statistics = 2.05, 3.63, and 2.36), and insignificantly different from zero for *ShortTermOwn* (*t*-statistic = 1.40). Finding a significant *EGC* coefficient for *IndexOwn* (*t*-statistic = 1.86) suggests that institutional investors with low turnover and high diversification also are attracted to EGC firms. Table 5, panel C, extends the analysis in panel B by including *JOBSIndex* as an explanatory variable. The *JOBSIndex* coefficients are significantly positive when *BidAsk* and *LongTermOwn* are the dependent variables, i.e., for bid-ask spread and dedicated investors (*t*-statistics = 2.19 and 2.28).

Taken together, the table 5 findings indicate that investors who rely more on private information, such as dedicated institutional investors, are attracted to EGC firms, particularly those that apply more JOBS Act provisions, and provide additional support for our inference that EGC firms applying more provisions of the Act have greater information uncertainty.

Additional Analyses

To provide additional evidence that our findings are not attributable to contemporaneous changes in market conditions, we conduct four analyses: (i) estimations that include year-quarter fixed effects, (ii) estimations employing pseudo-event periods, and estimations for two sets of firms that issued equity but were unaffected by the JOBS Act, i.e., (iii) estimations for IPOs with over $1 billion in revenue, and (iv) estimations for firms with seasoned equity offerings (SEOs).

Findings from all four analyses, detailed in the Internet Appendix and summarized below, support the inference that the greater information uncertainty of EGC firms is associated with the Act rather than intertemporal changes in market conditions.[23]

First, we estimate a modified version of equation (2) that includes year-quarter fixed effects. We find a significantly positive relation between *JOBSIndex* and four of the six measures of information uncertainty, and a significantly positive relation between *HighIndex* and all six measures of information uncertainty. Second, we compare the increase in information uncertainty during the JOBS Act period to that during other periods of the same length in our sample, i.e., pseudo-event periods. For five of the six uncertainty measures, with *Beta* being the exception, we find the increase in uncertainty during the JOBS Act period is an order of magnitude greater than that observed during any other 21 consecutive month period in our sample, including the period immediately prior to the effective date of the Act. Although these results do not rule out the possibility of a correlated omitted variable, such a variable would need to be correlated with the timing of the effective date of the Act, and the correlation would need to be sufficiently large so as to generate an increase in uncertainty unlike that observed during any other 21-month period in our sample.

Third, we estimate versions of equation (1) for IPO firms with revenue in excess of the $1 billion threshold necessary to qualify for EGC status. The sample of IPO firms with revenue greater than $1 billion includes 34 (28) IPOs before (after) the JOBS Act. Within this sample, we find none of the three underpricing measures is significantly higher after the Act, and only one post-IPO volatility measure, *Beta*, is significantly higher after the Act. Fourth, we estimate versions of equation (1) for firms with seasoned equity offerings with less than $1 billion in revenue. The sample of SEO firms includes 1,837 firms, of which 1,141 (696) had an SEO

[23] The Internet Appendix is located at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2465927.

before (after) the JOBS Act. Firms with SEOs in the latter period would have qualified for EGC status had the Act applied to seasoned equity offerings as well as IPOs. We find evidence of an increase in underpricing for the SEO sample, but this increase is an order of magnitude smaller than that for EGC IPOs, and no evidence of an increase in any of the post-IPO volatility measures.

VI. PROPRIETARY COSTS AND POST-IPO DISCLOSURE

As explained in section 2, if IPO firms take advantage of provisions of the JOBS Act that allow reduced disclosure to avoid revealing proprietary information, then we predict the greater information uncertainty for EGC firms is concentrated in EGC firms with higher proprietary costs of disclosure. We test our prediction by estimating versions of equation (1) that include three measures of proprietary costs, *PropCost*, and the interaction of *PropCost* with *EGC*; we predict the coefficient on the interaction variable is positive.

< INSERT TABLE 6 ABOUT HERE >

One measure of proprietary cost reflects research intensity, *ResearchIntensive*, and two reflect industry concentration, *IndConc_HHI* and *IndConc_MktShr4*.[24] *ResearchIntensive* is an indicator variable that equals one if *Research* is greater than one, and zero otherwise. *IndConc_HHI* is the Herfindahl-Hirschman measure of industry concentration, and *IndConc_MktShr4* is the four-firm concentration ratio, measured as the market share of the four largest firms based on sales. Both industry concentration measures are calculated annually based on the Fama-French 12-industry groups and are multiplied by 100.

[24] See Lang and Sul (2014, 266) for a summary of the prior literature suggesting that research intensive firms and firms in concentrated industries have high proprietary costs, and Dambra et al. (2015).

Table 6, panel A, presents descriptive statistics for each measure of proprietary cost, and panels B and C present summary statistics from the underpricing and post-IPO volatility regressions. The findings in panel B reveal that the *EGC***PropCost* coefficient is significantly positive in each of the nine underpricing regressions (*t*-statistics range from 1.78 to 7.00). The findings in panel C reveal similar inferences for the post-IPO volatility regressions in that each *EGC***PropCost* coefficient is significantly positive when *Volatility* or *IdioVol* is the dependent variable (*t*-statistics range from 1.80 to 3.00).

Collectively, our findings indicate that EGC firms have greater information uncertainty than NEGC firms associated with their IPO, that this greater information uncertainty is associated with reduced IPO disclosure, and that reduced disclosure is motivated by a desire to avoid revealing proprietary information. These findings raise the question of whether EGC firms provide post-IPO disclosures, which presumably reveal less proprietary information, but nonetheless mitigate the greater information uncertainty.[25]

To address this question, we test whether the first post-IPO earnings announcement is more informative for EGC firms than NEGC firms and whether EGC firms provide more voluntary disclosure between the IPO and the earnings announcement. We measure the informativeness of the earnings announcement using the absolute value of market-adjusted buy-and-hold return for days –3 to +3 centered on the earnings announcement date, |*EARet*|. Following Guay, Samuels, and Taylor (2016), we measure voluntary disclosure using number of management forecasts, *Forecasts*, number of firm-initiated press releases, *PressReleases*, and

[25] During our sample period, quiet period restrictions do not apply to voluntary disclosures of forward-looking information in the post-IPO period. See SEC Release 33-8591 (p. 59).

number of Form 8-K filings, *Filings8K*, all of which we measure from the day after the IPO to the day of the first post-IPO earnings announcement.[26]

< INSERT TABLE 7 ABOUT HERE >

Table 7, panel A, presents means and medians for |*EARet*| and the three post-IPO disclosure variables. The findings indicate that EGC firms have significantly more news at their first post-IPO earnings announcements (mean |*EARet*| is 6.93 for NEGC firms and 8.13 for EGC firms, p-value = 0.02), issue significantly more forecasts (mean *Forecasts* is 0.08 for NEGC firms and 0.30 for EGC firms, p-value < 0.01), issue significantly more press releases (mean *PressReleases* is 19.89 for NEGC firms and 27.28 for EGC firms, p-value <0.01), and file significantly more Forms 8-K (mean *Filings8K* is 1.55 for NEGC firms and 1.81 for EGC firms, p-value = 0.07). All management forecasts in our sample are bundled with the earnings announcement. Table 7, panel B, presents summary statistics from estimating a version equation (1) in which the dependent variables are |*EARet*| and the three post-IPO disclosure variables. Panel B reveals that the differences in panel A are present after including the control variables from equation (1). In particular, the *EGC* coefficient is significantly positive for all four specifications (*t*-statistics range from 1.99 to 4.10).

Untabulated statistics reveal that 78% and 79% of EGC and NEGC firms announce earnings by day 60 after the IPO, and that these percentages are not significantly different.[27]

[26] We obtain management forecast data from I/B/E/S. We include management forecasts of accounting items, e.g., earnings or revenue, over any horizon, e.g., next quarter or next year. We obtain firm-initiated press release data from RavenPack and Form 8-K filings data from WRDS SEC Analytics Suite. Although firms are required to file a Form 8-K in some circumstances, prior research suggests there is a discretionary component to the filing decisions and that managers use Forms 8-K to alter their information environment (e.g., Balakrishnan, Core, and Verdi, 2014). Regardless, management forecasts and firm-initiated press releases likely are less noisy measures of voluntary disclosure than Form 8-K filings.

[27] In particular, estimating a version of equation (1) using as the dependent variable an indicator variable for whether earnings is announced by day 60 reveals that the coefficient on *EGC* is insignificantly different from zero (*t*-statistic = –0.12); and the mean (median) number of days between the IPO and first post-IPO earnings announcement for EGC and NEGC firms are 44.44 and 38.12 (43.0 and 34.0).

These statistics and the findings in table 3 indicating that the greater information uncertainty for EGC firms extends through day 30 after the IPO, combined with the findings in table 7, panels A and B, raise two questions: (1) does the greater information uncertainty for EGC firms persist beyond 30 days after the IPO, and (2) do the disclosures up to and including the earnings announcement mitigate the greater information uncertainty?

To address the first question, we estimate equation (1) using stock return and equity return volatility for days 31 to 60 after the firm's IPO, i.e., *Return(31,60)* and *Volatility(31,60)*. To address the second question, we include an indicator variable, *LateAnnouncer*, that equals one if the firm has not announced earnings by day 60 after its IPO, and zero otherwise, and the interaction of *LateAnnouncer* and *EGC*. We expect the coefficient on *LateAnnouncer*EGC* is positive if the greater information uncertainty of EGC firms persists over the 31- to 60-day post-IPO period for EGC firms that have not announced earnings by day 60.

Table 7, panel C, reports the findings, with and without *LateAnnouncer* and *LateAnnouncer*EGC*. The findings in the first two columns, which do not include *LateAnnouncer* and *LateAnnouncer*EGC*, reveal no detectable differences in returns or volatility in the 31- to 60-day post-IPO window between EGC and NEGC firms. In particular, the *EGC* coefficients are negative, insignificantly different from zero (*t*-statistics = –0.40 and –1.75), and significantly smaller than those associated with the 0- to 30-day post-IPO window in table 3 (p-values < 0.01 and = 0.03). These findings indicate that the greater information uncertainty of EGC firms at the time of the IPO largely is mitigated by the 31- to 60-day post-IPO window.

The findings in the third and fourth columns, which include *LateAnnouncer* and *LateAnnouncer*EGC*, reveal that EGC firms that announce earnings by day 60 have significantly smaller, not larger, return and volatility than NEGC firms that announce earnings

by day 60 (*EGC t*-statistics = –2.20 and –2.79). However, as expected, the *LateAnnouncer*EGC* coefficients are significantly positive (*t*-statistics = 3.86 and 2.95). In addition, the total coefficients for late announcing EGC firms, i.e., the sum of the *EGC* and *LateAnnouncer*EGC* coefficients, are significantly positive for the both estimations (p-values = 0.03 and 0.09).

Taken together, the findings in table 7 are consistent with EGC firms providing more voluntary disclosure after the IPO than NEGC firms and with such disclosure, combined with the earnings announcement, mitigating the greater information uncertainty of EGC firms.

VII. SUMMARY AND CONCLUDING REMARKS

This study examines the effect of the Jumpstart Our Business Startups Act (JOBS Act) on information uncertainty in IPO firms. The Act creates a new category of issuer, the Emerging Growth Company (EGC), and reduces mandatory disclosure for EGCs to encourage initial public offerings. Specifically, the Act allows EGC firms to file draft IPO registration statements confidentially with the SEC, to reduce the scope of executive compensation and mandatory disclosure of financial statement information, to delay application of new or revised accounting standards, and to delay compliance with the Sarbanes-Oxley Act's requirement for auditor attestation on internal controls.

We test for differences in measures of information uncertainty—IPO underpricing and post-IPO equity return volatility—between IPO firms with EGC status and IPO firms that would have qualified for EGC status had their IPO been after the effective date of the JOBS Act. We also test whether variation in the extent to which IPO firms apply provisions of the Act explains any differences in underpricing and post-IPO volatility. We find that indexes for the number of JOBS Act provisions that EGC firms apply and several individual provisions explain the

differences in underpricing and post-IPO volatility. In addition, we find no evidence of differences once the indexes or several of the provisions are included in the analysis, which supports our interpretation that finding EGC firms have greater information uncertainty at the IPO is not attributable to contemporaneous changes in market conditions.

Regarding the Act's individual provisions, we find that confidentially filing draft registration statements, presenting compensation information for fewer than five top executives, omitting the compensation discussion and analysis, and presenting fewer than three years of audited financial statements are significantly associated greater information uncertainty at the IPO. Additionally, we find that EGC firms—particularly those applying more provisions of the JOBS Act—have significantly larger bid-ask spreads and significantly more dedicated institutional investors. These findings suggest not only that the Act is associated with greater information uncertainty, but also that the reduction in mandatory disclosure attracts investors who rely more on private information. We also find that the greater information uncertainty for EGC firms is higher for those firms with higher proprietary costs of disclosure, which is additional evidence with the avoidance of proprietary costs being a benefit to reduced mandatory disclosure.

Finally, we find that EGC firms experience a significantly larger market reaction to their first post-IPO earnings announcement, and provide significantly more management forecasts, issue more press releases, and file more Forms 8-K with the SEC. In addition, we find that the difference in information uncertainty between EGC and NEGC firms persists up to 60 trading days after the IPO only for the 22% of EGC firms that have not announced earnings by day 60. These findings are consistent with EGC firms providing more voluntary disclosure after the IPO

than NEGC firms, and with subsequent disclosure mitigating the greater information uncertainty of EGC firms at the IPO.

Taken together, our findings are consistent with the reduction in mandatory disclosure associated with the JOBS Act increasing information uncertainty in the IPO market. In addition, our findings suggest that agency problems and proprietary costs motivate EGCs to eliminate some previously mandatory disclosures, EGCs attract investors who rely more on private information, and EGCs provide additional post-IPO disclosures that mitigate the increased information uncertainty. Finding that the costs and benefits of reduced mandatory disclosure differentially affect different types of firms and investors should be informative to the SEC in its consideration of reducing disclosure requirements for all publicly traded firms.

REFERENCES

Arnold, T., Fishe, R., North, D., 2010. The Effects of Ambiguous Information on Initial and Subsequent IPO Returns. *Financial Management* 39: 1497-1519.

Balakrishnan, K., Core, J., Verdi, R., 2014. The relation between reporting quality and financing and investment: evidence from changes in financing capacity. *Journal of Accounting Research* 52, 1–36.

Beatty, R., 1989. Auditor Reputation and the Pricing of Initial Public Offerings. *The Accounting Review* 64: 693-709.

Beatty, R., Ritter, J., 1986. Investment Banking, Reputation, and the Underpricing of Initial Public Offerings. *Journal of Financial Economics* 15: 213-232.

Boone, A., Floros, I., Johnson, S., 2016. Redacted Proprietary Information at the Initial Public Offering. *Journal of Financial Economics* forthcoming.

Boulton, T., Smart, S., Zutter, C., 2011. Earnings Quality and International IPO Underpricing. *The Accounting Review* 86: 483-505.

Bushee, B., Noe, C., 2000. Corporate Disclosure Practices, Institutional Investors, and Stock Return Volatility. *Journal of Accounting Research* 38: 171-202.

Callen, J., Livnat, J., Segal, D., 2006. The Information Content of SEC Filings and Information Environment: A Variance Decomposition Analysis. *The Accounting Review* 81: 1017-1043.

Cedergren, M., 2014. Joining the conversation: How quiet is the IPO quiet period? Working paper, University of Pennsylvania.

Chaplinsky, S., Hanley, K.W., Moon, S.K., 2016. The JOBS Act and the Costs of Going Public. Working paper, University of Virginia.

Cheng, M., 2015. Going Public Privately: The Role of the Cost of Premature Disclosure in the IPO Process. working paper.

D'Souza, J., Ramesh, K., Shen, M., 2010. The Interdependence between Institutional Ownership and Information Dissemination by Data Aggregators. *The Accounting Review* 85: 159-193.

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

Dambra, M., Fields, L.C., Gustafson, M., Pisciotta, K., 2016. Pre-IPO Communications and Analyst Research: Evidence Surrounding the JOBS Act. Working paper.

Ernst & Young LLP, 2013a. The JOBS Act: One-year Anniversary, April.

Ernst & Young LLP, 2013b. The JOBS Act: 18 Months Later, November.

Fama, E., French, K., 1997. Industry Costs of Equity. *Journal of Financial Economics* 43: 153-193.

Field, L., Karpoff, J., 2002. Takeover Defenses in IPO Firms. *Journal of Finance* 57: 1857 1889.

Gao, F., Wu, J., Zimmerman, J., 2009. Unintended Consequences of Granting Small Firms Exemptions from Securities Regulation: Evidence from the Sarbanes-Oxley Act. *Journal of Accounting Research* 47, 459-506.

Gipper, B., 2015. Assessing the Effects of Disclosing Management Compensation, working paper.

Guay, W., Samuels, D., Taylor, D., 2016. Guiding Through the Fog: Financial Statement Complexity and Voluntary Disclosure. *Journal of Accounting and Economics* 62: 234-269.

Guo, R., Lev, B., Zhou, N., 2004. Competitive Costs of Disclosure by Biotech IPOs. *Journal of Accounting Research* 42, 319-355.

Gupta, S., Israelsen, R.D., 2016. Hard and Soft Information: Firm Disclosure, SEC Letters, and the JOBS Act. Working paper, University of Indiana.

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

KPMG. 2014. *Disclosure in the Balance: Investors' Perspective on Information Streamlining.*

Lambert, R., Leuz, C., Verrecchia, R., 2007. Accounting Information, Disclosure, and the Cost of Capital. *Journal of Accounting Research* 45: 385-420.

Lang, M., Sul, E., 2014. Linking industry concentration to proprietary costs and disclosure: Challenges and opportunities. *Journal of Accounting and Economics* 58: 265-274.

Latham and Watkins, 2013. The JOBS Act After One Year: A Review of the New IPO Playbook.

Latham and Watkins, 2014. The JOBS Act, Two Years Later: An Updated Look at the IPO Landscape.

Leone, A.J., Rock, S., Willenborg, M., 2007. Disclosure of Intended Use of Proceeds and Underpricing in Initial Public Offerings. *Journal of Accounting Research* 45: 111-153.

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

Lowry, M., Murphy, K.J., 2007. Executive Stock Options and IPO Underpricing. *Journal of Financial Economics* 85: 39-65.

Lowry, M., Officer, M., Schwert, G., 2010. The Variability of IPO Initial Returns. *Journal of Finance* 65: 425-465.

Purnanandam, A. Swaminathan, B., 2004. Are IPOs Really Underpriced? *Review of Financial Studies* 17: 811-848.

Ritter, J., Welch, I., 2002. A Review of IPO Activity, Pricing and Allocations. *Journal of Finance* 57: 1795-1828.

Rock, K., 1986. Why New Issues are Underpriced? *Journal of Financial Economics* 15: 187-212.

Schrand, C., Verrecchia, R., 2005. Information Disclosure and Adverse Selection Explanations for IPO Underpricing. Working paper, University of Pennsylvania.

Skadden, 2014. The JOBS Act: The Resurgent IPO Market and What We Learned in Year Two. *2014 Insights: A Collection of Commentaries on the Critical Legal Issues in the Year Ahead.*

Teoh, S.H., Welch, I., and Wong, T.J., 1998. Earnings Management and the Long-Run Market Performance of Initial Public Offerings. *Journal of Finance* 53: 1935-1974.

Titman, S., Trueman, B., 1986. Information Quality and the Valuation of New Issues. *Journal of Accounting and Economics* 8: 159-172.

Taylor, D., Verrecchia, R., 2015. Delegated Trade and the Pricing of Public and Private Information. *Journal of Accounting and Economics* 60: 8-32.

Verrecchia, R., 1983. Discretionary Disclosure. *Journal of Accounting and Economics* 5: 179-194.

Westfall, T., Omer, T., 2014. The Unintended Consequences of Emerging Growth Company Status on Initial Public Offering Valuation and the Associated Auditor Risk and Effort. working paper.

Willenborg, M., 1999. Empirical Analysis of the Economic Demand for Auditing in the Initial Public Offerings Market. *Journal of Accounting Research* 37, 225-238.

Zhang, I. 2007. Economic Consequences of the Sarbanes-Oxley Act of 2002. *Journal of Accounting and Economics* 44, 74-115.

Figure 1. Distribution of pre-IPO Revenue after the JOBS Act

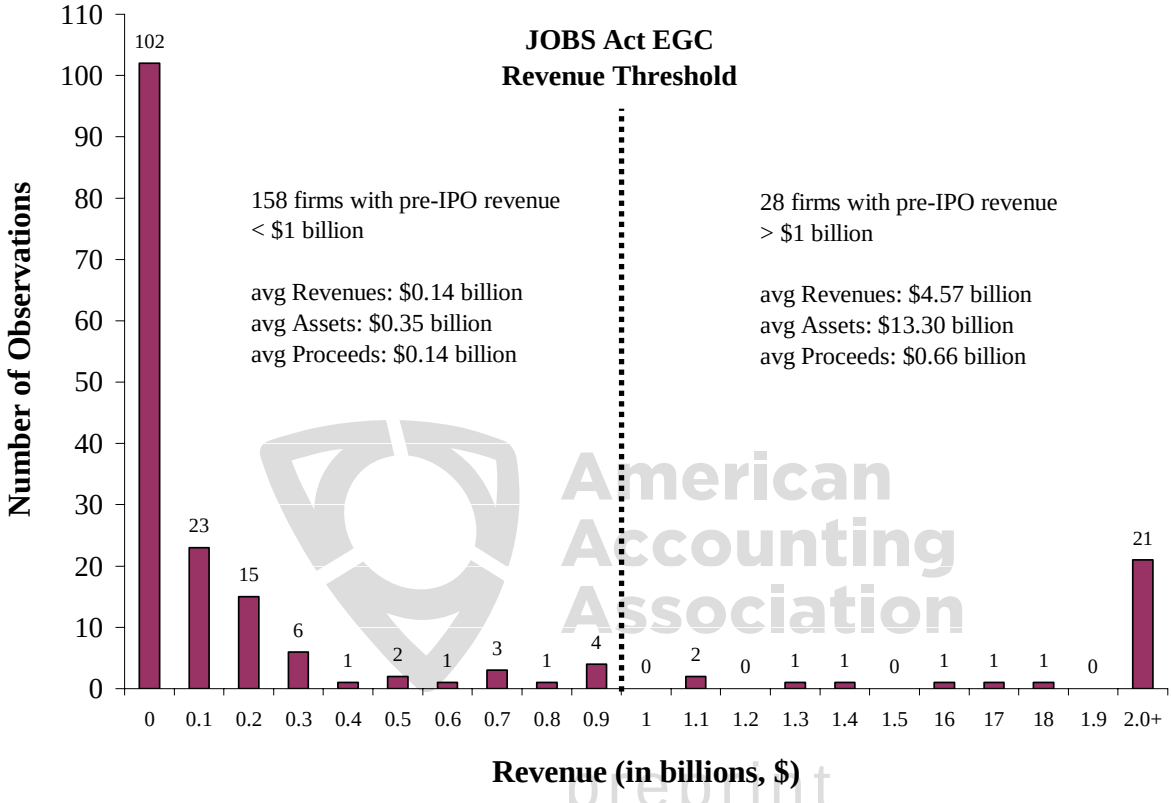

Table 1. Descriptive Statistics

Variable	Mean	Median	Std
Assets ($m)	380.59	97.97	942.67
IPO Proceeds ($m)	139.76	89.59	195.85
Revenue ($m)	151.22	76.50	201.73
Underpricing(0)	16.37	9.87	25.89
Underpricing(0,1)	17.26	10.93	27.38
Underpricing(0,30)	19.23	12.88	31.71
Volatility	3.08	2.73	1.63
IdioVol	2.93	2.60	1.60
Beta	0.57	0.52	0.94
Control variables			
Assets	4.71	4.59	1.58
Revenue	3.95	4.35	1.87
BM	0.23	0.10	0.44
ROA	–0.37	–0.01	1.26
Age	2.38	2.40	0.87
Tech	0.09	0.00	0.29
Research	1.01	0.02	4.67
PctRetained	0.63	0.73	0.27
Big4	0.75	1.00	0.43

This table presents descriptive statistics for variables used in our tests. $m denotes millions of dollars. *Underpricing(0)* is the return on the first trading day, i.e., closing price on the day of the IPO minus the IPO offer price divided by the offer price, *Underpricing(0,1)* is the return from the offer price to the closing price on the second trading day, and *Underpricing(0,30)* is the return from the offer price to the closing price thirty trading days later. *Underpricing(0)*, *Underpricing(0,1)*, and *Underpricing(0,30)* are the raw return minus the market return over the respective window and expressed in percent. *Volatility* is the standard deviation of daily returns over the thirty-day window beginning the day after the IPO, i.e., $t = 1$ to 30, and *IdioVol* (*Beta*) is the standard deviation of residuals (slope coefficient) from a firm-specific market model estimated over the same window. *Assets* (*Revenue*) is the natural logarithm of one plus total assets (revenue) in the year preceding the IPO. *BM* is equity book value in the year preceding the IPO scaled by equity market value based on the offer price. *ROA* is net income scaled by assets, both for the year preceding the IPO. *Age* is the natural logarithm of one plus the number of years from the firm's founding or incorporation, if the founding date is unavailable, to IPO. *Tech* is an indicator variable that equals one if the IPO firm is a technology company based on the Loughran and Ritter (2004) classification. *Research* is research and development expense scaled by sales, both for the year preceding the IPO. *PctRetained* is the percent of post-IPO shares outstanding retained by the pre-IPO shareholders. *Big4* is an indicator variable that equals one if the firm's auditor is Deloitte, EY, KPMG, or PwC. The sample comprises 376 IPO firms from July 2009 to December 2013.

Table 2. Univariate Differences between NEGC and EGC Firms

Variable	NEGC Firms (N = 218) mean	NEGC Firms (N = 218) median	EGC Firms (N = 158) mean	EGC Firms (N = 158) median	p-value: test of difference in means	p-value: test of difference in medians
Underpricing(0)	13.32	6.70	20.75	14.28	<0.01	0.02
Underpricing(0,1)	13.51	7.40	22.59	14.29	<0.01	0.01
Underpricing(0,30)	13.28	9.77	27.45	20.31	<0.01	<0.01
Volatility	2.93	2.59	3.27	3.06	0.04	0.02
IdioVol	2.76	2.38	3.17	2.97	0.02	0.01
Beta	0.58	0.55	0.56	0.48	0.87	0.58
Assets	4.86	4.83	4.52	4.38	0.04	0.03
Revenue	4.10	4.42	3.73	4.23	0.06	0.05
BM	0.25	0.12	0.21	0.08	0.40	0.05
ROA	–0.25	0.00	–0.54	–0.07	0.03	<0.01
Age	2.44	2.48	2.31	2.20	0.15	0.09
Tech	0.09	0.00	0.10	0.00	0.64	NA
Research	0.93	0.01	1.12	0.05	0.70	0.10
PctRetained	0.63	0.72	0.64	0.74	0.74	0.47
Big4	0.72	1.00	0.79	1.00	0.12	NA

This table reports means and medians of variables we use in our tests for EGC and NEGC firms. EGC firms are firms with IPOs after the JOBS Act with EGC status and NEGC firms are firms with IPOs before the Act that would have qualified for EGC status had their IPO occurred after the Act, i.e., firms that are below the $1 billion revenue threshold but had IPOs before the Act. We report two-tailed p-values for tests of differences in means (medians) using a *t*-test (Wilcoxon signed rank test). See table 1 for variable definitions. The sample comprises 376 IPO firms from July 2009 to December 2013.

Table 3. Summary Statistics for
IPO Underpricing and Post-IPO Equity Volatility Regressions

Panel A. IPO Underpricing

	Underpricing(0)		*Underpricing(0,1)*		*Underpricing(0,30)*	
Variable	coef	*t*-stat	coef	*t*-stat	coef	*t*-stat
EGC	7.09	6.07	6.30	6.22	12.93	5.10
Assets	0.60	1.07	–0.20	–0.29	0.10	0.09
Revenue	1.07	1.81	1.68	4.60	0.33	0.36
BM	–3.77	–1.98	–3.27	–2.33	–3.47	–2.23
ROA	1.81	4.77	1.97	5.91	2.62	3.81
Age	–1.45	–2.05	–1.63	–2.33	–0.39	–0.38
Tech	0.75	0.12	–0.79	–0.09	17.74	1.74
Research	–0.00	–0.00	–0.02	–0.12	–0.70	–3.40
PctRetained	–7.68	–1.04	–5.17	–0.87	–4.11	–0.57
Big4	1.07	0.64	1.63	0.81	5.00	1.51
Fixed Effects	Industry, Exchange, Venture, Underwriter		Industry, Exchange, Venture, Underwriter		Industry, Exchange, Venture, Underwriter	
R^2 (%) / N	32.80 / 376		29.93 / 376		29.13 / 376	

Panel B. Post-IPO Equity Volatility

	Volatility		*IdioVol*		*Beta*	
Variable	coef	*t*-stat	coef	*t*-stat	coef	*t*-stat
EGC	0.27	2.97	0.33	3.61	–0.05	–1.14
Assets	–0.35	–6.06	–0.33	–5.99	–0.12	–3.05
Revenue	–0.03	–1.47	–0.04	–1.83	0.05	1.00
BM	–0.19	–1.43	–0.13	–1.00	0.14	3.10
ROA	0.12	3.34	0.11	3.41	0.05	7.98
Age	–0.09	–1.67	–0.08	–1.35	–0.04	–1.92
Tech	–1.03	–8.59	–0.91	–4.51	–0.64	–2.94
Research	0.01	2.23	0.01	2.45	0.00	0.87
PctRetained	0.75	1.45	0.73	1.46	0.20	1.41
Big4	0.39	3.59	0.44	4.65	–0.07	–0.69
Fixed Effects	Industry, Exchange, Venture, Underwriter		Industry, Exchange, Venture, Underwriter		Industry, Exchange, Venture, Underwriter	
R^2 (%) / N	34.54 / 376		34.31 / 376		10.90 / 376	

This table presents regression summary statistics from estimating equation (1). Panel A (B) presents results for three measures of IPO underpricing (post-IPO equity volatility). *EGC* is an indicator variable that equals one for EGC firms, and zero otherwise. EGC firms are firms with IPOs after the JOBS Act with EGC status and NEGC firms are firms with IPOs before the Act that would have qualified for EGC status had their IPO occurred after the Act, i.e., firms that are below the $1 billion revenue threshold but had IPOs before the Act. *t*-statistics are based on standard errors clustered by industry and IPO date. See table 1 for variable definitions. All regressions include untabulated industry, stock exchange, venture capital, and underwriter fixed effects. The sample comprises 376 IPO firms from July 2009 to December 2013.

Table 4. Individual JOBS Act Provisions

Panel A. Individual Provisions

Value	*DelaySOX*	*Confidential*	*ReduceComp*	*OmitCDA*	*ReduceAcct*	*DelayGAAP*	*JOBSIndex*	*HighIndex*
N (*Variable* = 1)	158	115	133	138	61	28	NA	118
N (*Variable* = 0)	0.00	43	25	20	97	130	NA	40
Mean	1.00	0.73	0.84	0.87	0.39	0.18	4.01	0.75

Panel B. Correlation Matrix

Variable	*Confidential*	*ReduceComp*	*OmitCDA*	*ReduceAcct*	*DelayGAAP*	*JOBSIndex*	*HighIndex*
Confidential		0.28	0.45	0.22	–0.09	0.67	0.66
ReduceComp	0.28		0.46	0.13	–0.07	0.59	0.59
OmitCDA	0.45	0.46		0.26	0.03	0.72	0.65
ReduceAcct	0.22	0.13	0.26		0.01	0.63	0.37
DelayGAAP	–0.09	–0.07	0.03	0.01		0.28	0.16
JOBSIndex	0.62	0.48	0.58	0.72	0.31		0.83
HighIndex	0.66	0.59	0.65	0.37	0.16	0.79	

Table 4. Individual JOBS Act Provisions (cont'd)

Panel C. IPO Underpricing

	Provision						
Variable	*Confidential*	*ReduceComp*	*OmitCDA*	*ReduceAcct*	*DelayGAAP*	*JOBSIndex*	*HighIndex*
	Dependent variable: *Underpricing(0)*						
Provision	5.81	7.08	6.77	1.07	–4.31	2.08	6.54
	(5.72)	(5.93)	(3.21)	(0.43)	(–3.05)	(3.74)	(6.58)
EGC	3.06	1.38	1.34	6.69	7.89	0.72	2.48
	(2.18)	(0.95)	(0.56)	(3.81)	(6.78)	(0.37)	(1.62)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2 (%)	33.34	33.45	33.30	32.82	33.07	33.18	33.52
N	376	376	376	376	376	376	376
	Dependent variable: *Underpricing(0,1)*						
Provision	7.12	7.79	5.71	–0.75	–3.12	1.77	8.34
	(3.73)	(4.56)	(3.30)	(–0.40)	(–1.33)	(3.29)	(4.47)
EGC	1.84	0.05	1.47	6.58	6.88	1.95	0.90
	(1.62)	(0.04)	(0.93)	(5.63)	(4.94)	(0.82)	(0.67)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2 (%)	30.30	30.64	30.25	29.94	30.06	30.05	30.60
N	376	376	376	376	376	376	376
	Dependent variable: *Underpricing(0,30)*						
Provision	15.67	17.92	16.35	6.38	–8.44	5.34	17.22
	(2.73)	(6.85)	(3.51)	(3.63)	(–2.89)	(4.41)	(5.80)
EGC	1.51	–2.11	–1.58	10.27	14.48	–3.48	0.18
	(0.61)	(–1.40)	(–0.61)	(4.43)	(4.38)	(–1.38)	(0.11)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2 (%)	30.17	30.32	29.64	29.64	29.71	30.02	30.75
N	376	376	376	376	376	376	376

Table 4. Individual JOBS Act Provisions (cont'd)

Panel D. Post-IPO Equity Volatility

	Provision						
Variable	*Confidential*	*ReduceComp*	*OmitCDA*	*ReduceAcct*	*DelayGAAP*	*JOBSIndex*	*HighIndex*
	Dependent variable: *Volatility*						
Provision	0.42	0.23	0.33	0.58	0.09	0.25	0.60
	(2.18)	(1.08)	(3.32)	(7.60)	(0.52)	(7.23)	(6.70)
EGC	0.00	0.11	0.01	0.09	0.28	–0.45	–0.16
	(0.04)	(0.47)	(0.12)	(1.49)	(2.90)	(–3.92)	(–1.73)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2 (%)	36.32	35.88	35.98	37.86	35.75	37.00	36.74
N	376	376	376	376	376	376	376
	Dependent variable: *IdioVol*						
Provision	0.41	0.29	0.39	0.57	0.07	0.25	0.61
	(1.71)	(1.62)	(3.91)	(7.19)	(0.36)	(7.31)	(6.94)
EGC	0.06	0.10	0.00	0.14	0.32	–0.42	–0.12
	(0.48)	(0.47)	(0.02)	(1.95)	(2.80)	(–3.84)	(–1.38)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2 (%)	35.74	34.55	34.67	36.40	34.32	36.64	36.32
N	376	376	376	376	376	376	376
	Dependent variable: *Beta*						
Provision	0.44	0.17	0.03	0.13	–0.34	0.08	0.25
	(6.34)	(3.80)	(0.35)	(1.33)	(–2.84)	(2.57)	(3.80)
EGC	–0.36	–0.19	–0.08	–0.10	–0.03	–0.29	–0.23
	(–4.54)	(–3.90)	(–1.00)	(–1.50)	(–0.49)	(–2.39)	(–4.09)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2 (%)	13.12	11.13	10.91	11.11	11.89	11.44	11.62
N	376	376	376	376	376	376	376

This table presents descriptive statistics regarding provisions of the JOBS Act. Panel A presents number of firms electing each provision. *DelaySOX* equals one if a firm did not waive its right to delay the internal controls audit required by Section 404(b) of SOX. *Confidential* equals one if the firm filed confidentially its draft registration statement with the SEC. *ReduceComp* equals one if the firm presented compensation information for fewer than five top executives. *OmitCDA* equals one if the firm omitted the compensation discussion and analysis. *ReduceAcct* equals one if the firm presented only two years of audited financial statements and was in existence for more than two years. *DelayGAAP* equals one if the firm elected to delay

application of new or revised accounting standards. Each indicator variable equals zero otherwise. *JOBSIndex* is the sum of the six provision variables. *HighIndex* is an indicator variable that equals one if *JOBSIndex* is greater than or equal to four, and zero otherwise. Panel B presents a correlation matrix, with Pearson (Spearman) correlations appearing above (below) the diagonal. Panel C (D) presents regression summary statistics from estimating equation (2) using the three IPO underpricing (three post-IPO equity volatility) measures after including indicator variables for each individual JOBS Act provision, *JOBSIndex*, or *HighIndex*. *EGC* is an indicator variable that equals one for EGC firms, and zero for NEGC firms. EGC firms are firms with IPOs after the Act with EGC status and NEGC firms are firms with IPOs before the Act that would have qualified for EGC status had their IPO occurred after the Act, i.e., firms that are below the $1 billion revenue threshold but had IPOs before the Act. For parsimony, coefficients on control variables are not tabulated. See table 1 for variable definitions. *t*-statistics appear in parentheses and are based on standard errors clustered by industry and IPO date. The sample comprises 376 IPO firms from July 2009 to December 2013.

Table 5. Implications of Greater Information Uncertainty

Panel A. Descriptive Statistics

Variable	NEGC Firms (N = 218) mean	NEGC Firms (N = 218) median	EGC Firms (N = 158) mean	EGC Firms (N = 158) median	p-value: test of difference in means	p-value: test of difference in medians
BidAsk	0.66	0.50	0.80	0.52	0.05	0.46
InstitOwn	0.25	0.20	0.30	0.21	0.10	0.10
LongTermOwn	0.02	0.00	0.04	0.00	0.14	NA
ShortTermOwn	0.08	0.06	0.08	0.06	0.72	0.79
IndexOwn	0.11	0.08	0.13	0.09	0.22	0.19

Panel B. EGC Firms and Bid-Ask Spread and Institutional Ownership

Variable	*BidAsk*	*InstitOwn*	*LongTermOwn*	*ShortTermOwn*	*IndexOwn*
EGC	0.11	0.07	0.02	0.01	0.02
	(2.05)	(3.63)	(2.36)	(1.40)	(1.86)
Controls	Yes	Yes	Yes	Yes	Yes
R^2 (%)	52.60	30.51	11.40	35.17	31.62
N	376	376	376	376	376

Panel C. JOBS Act Provisions and Bid-Ask Spread and Institutional Ownership

Variable	*BidAsk*	*InstitOwn*	*LongTermOwn*	*ShortTermOwn*	*IndexOwn*
JOBSIndex	0.03	0.01	0.01	0.01	–0.01
	(2.19)	(0.73)	(2.28)	(0.35)	(–0.81)
EGC	0.11	0.03	–0.01	0.01	0.04
	(2.05)	(0.83)	(–0.33)	(0.27)	(1.76)
Controls	Yes	Yes	Yes	Yes	Yes
R^2 (%)	57.91	30.61	11.74	35.19	31.71
N	376	376	376	376	376

Panel A reports means and medians for bid-ask spread and each of four measures of institutional ownership for EGC and NEGC firms. We report two-tailed p-values for tests of differences in means (medians) using a *t*-test (Wilcoxon signed rank test). *BidAsk* is the average bid-ask spread over the 30 trading days following the IPO expressed as a percentage of price. *InstitOwn* is the fraction of shares outstanding held by institutional owners as of the first Form 13F filing after the IPO. *LongTermOwn* is the fraction of shares outstanding held by institutional investors classified as dedicated, *ShortTermOwn* is the fraction of shares outstanding held by institutional

investors classified as transient, and *IndexOwn* is the fraction of shares outstanding held by institutional investors classified as quasi-indexers. Investor classifications are from Bushee and Noe (2000). Panel B (Panel C) presents regression summary statistics from estimating equation (1) (equation (2)) using bid-ask spread and each of the four measures of institutional ownership as the dependent variable. For parsimony, we do not tabulate coefficients on control variables. See table 1 for variable definitions. *t*-statistics are based on standard errors clustered by industry and IPO date. The sample comprises 376 IPO firms from July 2009 to December 2013.

Table 6. Proprietary Costs

Panel A. Measures of Proprietary Costs

Variable	NEGC Firms (N = 218) mean	NEGC Firms (N = 218) median	EGC Firms (N = 158) mean	EGC Firms (N = 158) median	p-value: test of difference in means	p-value: test of difference in medians
ResearchIntensive	0.08	0.00	0.15	0.00	0.03	NA
IndConc_HHI	2.06	2.01	2.06	1.96	0.97	<0.01
IndConc_MktShr4	21.79	22.66	21.94	22.21	0.72	<0.01

Panel B. Proprietary Costs and IPO Underpricing

	PropCost = ResearchIntensive			*PropCost = IndConc_HHI*			*PropCost = IndConc_MktShr4*		
Variable	*Underpricing(0)*	*Underpricing(0,1)*	*Underpricing(0,30)*	*Underpricing(0)*	*Underpricing(0,1)*	*Underpricing(0,30)*	*Underpricing(0)*	*Underpricing(0,1)*	*Underpricing(0,30)*
*EGC * PropCost*	20.37	16.88	32.13	8.49	7.12	11.69	1.66	1.56	2.41
	(7.00)	(5.99)	(6.59)	(2.03)	(1.78)	(2.46)	(2.43)	(2.41)	(2.91)
EGC	4.78	4.50	9.75	–10.24	–5.81	–10.13	–29.07	–25.24	–38.87
	(3.30)	(3.79)	(3.87)	(–1.18)	(–0.71)	(–1.00)	(–1.94)	(–1.79)	(–2.17)
PropCost	–12.20	–12.12	–19.92	–1.73	–1.04	–2.41	–0.28	–0.23	–0.50
	(–5.84)	(–5.55)	(–5.30)	(–0.67)	(–0.37)	(–0.90)	(–0.61)	(–0.51)	(–0.99)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FEs	Yes	Yes	Yes	No	No	No	No	No	No
R^2 (%)	34.82	31.27	30.95	18.57	16.62	18.12	18.96	17.12	18.72
N	376	376	376	376	376	376	376	376	376

Table 6. Proprietary Costs (cont'd)

Panel C. Proprietary Costs and Post-IPO Equity Volatility

	PropCost = ResearchIntensive			*PropCost = IndConc_HHI*			*PropCost = IndConc_MktShr4*		
Variable	*Volatility*	*IdioVol*	*Beta*	*Volatility*	*IdioVol*	*Beta*	*Volatility*	*IdioVol*	*Beta*
*EGC * PropCost*	0.50	0.39	0.41	0.21	0.23	–0.06	0.05	0.05	–0.01
	(3.00)	(2.17)	(4.99)	(2.17)	(2.24)	(–0.52)	(1.80)	(1.88)	(–0.26)
EGC	0.20	0.28	–0.11	–0.26	–0.23	0.10	–0.81	–0.75	0.08
	(2.13)	(2.82)	(–2.37)	(–0.94)	(–0.86)	(0.41)	(–1.50)	(–1.45)	(0.19)
PropCost	–0.04	0.06	–0.07	–0.05	–0.05	0.13	0.01	0.01	0.02
	(–0.49)	(0.75)	(–1.37)	(–0.50)	(–0.60)	(2.05)	(0.31)	(0.29)	(1.60)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FEs	Yes	Yes	Yes	No	No	No	No	No	No
R^2 (%)	34.99	34.71	11.74	25.91	26.44	6.61	26.31	26.81	6.75
N	376	376	376	376	376	376	376	376	376

Panel A presents descriptive statistics for three measures of proprietary costs. *ResearchIntensive* is an indicator variable that equals one if *Research* is greater than one, and zero otherwise. *IndConc_HHI* is the Herfindahl-Hirschman measure of industry concentration calculated annually on the Fama-French 12-industry groups and multiplied by 100. *IndConc_MktShr4* is the four-firm concentration ratio, measured as the market share of the four largest firms (ranked on sales) in the industry multiplied by 100. Panel B (C) presents regression summary statistics from estimating equation (1) measuring information uncertainty using three measures of IPO underpricing (post-IPO equity volatility) and interacting *EGC* with each of the three proprietary cost measures. For parsimony, we do not tabulate coefficients on control variables. We exclude industry fixed effects from specifications in which proprietary costs are measured at the industry level. See table 1 for variable definitions. *t*-statistics appear in parentheses and are based on standard errors clustered by industry and IPO date. The sample comprises 376 IPO firms from July 2009 to December 2013.

Table 7. Post-IPO Disclosures

Panel A. Measures of Post-IPO Disclosure

Variable	NEGC Firms (N = 218) mean	NEGC Firms (N = 218) median	EGC Firms (N = 158) mean	EGC Firms (N = 158) median	p-value: test of difference in means	p-value: test of difference in medians
|EARet|	6.93	4.53	8.13	5.58	0.02	0.16
Forecasts	0.08	0.00	0.30	0.00	<0.01	NA
PressReleases	19.89	11.00	27.28	18.00	0.02	<0.01
Filings8K	1.55	1.00	1.81	2.00	0.07	0.03

Panel B. Summary Statistics for Post-IPO Disclosure Regressions

Variable	*|EARet|*	*Forecasts*	*PressReleases*	*Filings8K*
EGC	0.52	0.22	5.41	0.30
	(1.99)	(2.93)	(4.10)	(3.83)
Controls	Yes	Yes	Yes	Yes
R^2 (%)	12.81	17.80	24.77	14.67
N	376	376	376	376

Panel C. Returns and Equity Volatility 31 to 60 Days after the IPO

Variable	*Return (31,60)*	*Volatility (31,60)*	*Return (31,60)*	*Volatility (31,60)*
EGC	–0.34	–0.14	–2.17	–0.25
	(–0.40)	(–1.75)	(–2.20)	(–2.79)
*LateAnnouncer * EGC*			10.11	0.59
			(3.86)	(2.95)
LateAnnouncer			–1.72	–0.36
			(–1.28)	(–2.02)
Controls	Yes	Yes	Yes	Yes
R^2 (%)	10.47	41.02	13.03	42.38
N	376	376	376	376
p-value for test: *EGC* + *LateAnnouncer * EGC* = 0			0.03	0.09

Panel A presents descriptive statistics for measures of post-IPO disclosure. *LateAnnouncer* is an indicator variable that equals one if the firm announces earnings more than 60 days after the IPO, and zero otherwise. *|EARet|* is the absolute value of market-adjusted returns for days –3 to +3 centered on the first earnings announcement after the IPO, and *Forecasts*, *PressReleases*, and *Filings8K* are the number of management forecasts, firm-initiated press releases, and Form 8-K filings, measured from the day after the IPO to the day of the first post-IPO earnings announcement. We report two-tailed p-values for tests of differences in means (medians) using a

t-test (Wilcoxon signed rank test). Panel B presents regression summary statistics from estimating equation (1) using |*EARet*|, *Forecasts*, *PressReleases*, and *Filings8K* as the dependent variable. Panel C presents regression summary statistics from estimating equation (1) measuring information uncertainty over the 31-day to 60-day post-IPO window. *Return(31,60)* is the raw return minus the market return over the respective window and expressed in percent. *Volatility(31,60)* is the standard deviation of daily returns over the respective window. For parsimony, we do not tabulate coefficients on control variables. See table 1 for variable definitions. *t*-statistics appear in parentheses and are based on standard errors clustered by industry and IPO date. The sample comprises 376 IPO firms from July 2009 to December 2013.