

## **Do the burdens to being public affect the investment and innovation of newly public firms?**

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### **Abstract**

We examine how the regulatory burdens to being public affect the investment and innovation of newly public firms. To do so, we exploit the Jumpstart our Business Start-up (JOBS) Act, which eliminates certain disclosure, auditing, and governance requirements for a subset of newly public firms. Firms treated with these reduced burdens invest more and more efficiently after going public relative to untreated firms. These findings are concentrated in innovative investments, are accompanied by treated firms being less prone to cater to short-term earnings benchmarks, and are non-existent in dual class firms. We conclude that one reason the burdens to being public affect investment and innovation is because they divert resources away from long-run value increasing investments.

## 1. Introduction

Congress passed the Jumpstart our Business Startups Act of 2012 (JOBS Act) to stimulate small firm capital raising and growth. To facilitate this objective, the initial public offering (IPO) Task Force surveyed CEOs whose firms recently went public on the most significant challenges to an IPO. The top two challenges reported were (1) the administrative burdens of public reporting and (2) the accompanying reallocation of the CEO's time to reporting and compliance rather than company building (IPO Task Force, 2011). The JOBS Act seeks to mitigate these challenges with de-burdening provisions that reduce required financial statement and executive disclosure in the IPO prospectus and in annual reporting, and exempt issuers from auditor attestations to internal controls as well as shareholder say-on-executive pay votes.<sup>1</sup> The intent of these de-burdening provisions is to allow new issuers to “secure capital to grow their business and let managers pursue promising new products and innovations” (IPO Task Force, 2011).

There are two ways that the JOBS Act's de-burdening provisions may achieve this goal. The first is via increased IPO volume. Although the idea that de-burdening the public markets will increase IPO volume is intuitive, it is not well supported in the literature. Gao, Ritter, and Zhu (2013) and Doidge, Karolyi, and Stulz (2017) both find that the increased burdens to being public introduced with the Sarbanes-Oxley Act (SOX) had little effect on IPO volume. Dambra, Field, and Gustafson (2015) corroborate this evidence surrounding the passage of the JOBS Act, concluding that the de-burdening provisions are an unlikely driver of IPO activity.

The second way that the JOBS Act's de-burdening provisions may facilitate investment and innovation is by allowing the firms that do go public to invest and innovate more. Although there is a large literature examining how the burdens introduced by SOX affect investment, evidence is mixed, in part because of contemporaneous changes in regulation and market conditions.<sup>2</sup> Moreover, the extent to which

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<sup>1</sup> All of these provisions remain in effect for up to five years after a firm's IPO.

<sup>2</sup> See, for example, Barger, Lehn, and Zutter (2010), Kang, Liu, and Qi (2010), Albuquerque and Zhu (2018), Coates and Srinivasan (2014), Gao and Zhang (2018), Hanley (2017), and Leuz and Wysocki (2016).

this literature can be extended to newly public firms, such as those targeted by the JOBS Act, is unclear.

In this paper we introduce a policy experiment to provide evidence on whether the JOBS Act's de-burdening provisions affect post-IPO investment and innovation. An appealing feature of our empirical setting is that the JOBS Act's de-burdening provisions affect only a subset of IPO issuers. Specifically, the JOBS Act's de-burdening provisions only affect firms with \$75 million or more in public float (i.e., Non-Smaller Reporting Companies, Non-SRCs) because firms below this threshold (i.e., Smaller Reporting Company eligible firms, SRCs) have benefitted from the de-burdening provisions since February of 2008, approximately four years before the passage of the JOBS Act.<sup>3,4</sup> This allows us to use SRCs as a control group in a quasi-difference-in-differences framework, similar to that used by Chaplinsky, Hanley, and Moon (2017). This framework isolates the effect of the JOBS Act's de-burdening provisions because although SRCs do not benefit from the JOBS Act's de-burdening provisions, they do benefit from all other aspects of the JOBS Act, such as the ability to pre-market IPO shares and to confidentially file initial IPO prospectuses. Thus, by comparing the post-IPO investment of SRCs and non-SRCs before and after the enactment of the JOBS Act, we can both separate the effect of the JOBS Act's de-burdening provisions from its other provisions and include time fixed effects to control for changes in the economic conditions before and after the JOBS Act.

We corroborate existing evidence that the JOBS Act's de-burdening provisions do not significantly affect the type of firms going public.<sup>5</sup> There is no change in either the fraction of IPO issuers that are Non-SRCs or the relative characteristics of SRC and Non-SRC IPO issuers following the passage of the JOBS Act. Neither SRC nor non-SRC issuers significantly change in size (i.e., total assets, IPO proceeds, or

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<sup>3</sup> Except for the "Say-on-Pay" provisions, which were legislated in 2010 and effective in 2011 for Non-SRCs. SRCs were exempt from "Say-on-Pay" prior to the passage of the JOBS Act.

<sup>4</sup> The approximately 13% of IPO issuers with over \$1 billion in pre-IPO revenue are not affected by the JOBS Act provisions and are excluded from our analysis.

<sup>5</sup> Both Dambra, Field, and Gustafson (2015) and Cheng (2015) find that the pre-IPO marketing and confidential filing provisions (i.e., the "pre-IPO" provisions) result in a different type of firm going public after the passage of the JOBS Act. In contrast, neither study finds that the JOBS Act's de-burdening provisions affect the composition of firms going public.

revenues) or the probability of venture or private equity backing following the passage of the JOBS Act. Although there is some change in the industry composition of the firms going public following the JOBS Act, these changes do not significantly differ based on SRC status. Thus, we can plausibly identify the effect of the JOBS Act's de-burdening provisions on corporate investment by comparing the differential post-IPO investment of SRCs and Non-SRCs before and after the passage of the JOBS Act.

We find robust evidence that Non-SRC firms going public after the passage of the JOBS Act invest more in the years following their IPO than Non-SRCs going public earlier. Difference-in-differences estimates and parallel trend analyses indicate that this investment increase is unique to Non-SRCs and occurs discontinuously after the passage of the JOBS Act (i.e., there is no trend in the relative investment of SRCs and non-SRCs before Congress passes the JOBS Act). Relative to SRCs, Non-SRC firms increase average quarterly investment by approximately 0.5 standard deviations after the passage of the JOBS Act. The magnitude and statistical significance of this estimate are qualitatively similar and statistically significant during each of the first four quarters a firm is public.<sup>6</sup> In addition, results are similar using a propensity score matched (PSM) sample in which Non-SRC and control firms are observably similar pre- and post-JOBS Act, restricting the sample to firms with below \$150 million in public float, or conducting a within-firm analysis in which the dependent variable is a firm's post-IPO increase in investment, compared to their own pre-IPO level of investment.

The analysis thus far is akin to an intent-to-treat analysis, defining our treatment group as all firms over \$75 million in public float irrespective of whether or not they adopt any de-burdening provisions. A benefit to this approach is that it circumvents any endogeneity in the types of firms that select various provisions. In particular, our analysis is not subject to the concern that firms adopt more JOBS Act provisions when they intend to invest more aggressively. A limitation of this approach, however, is that we cannot isolate which de-burdening provision drives the change in investment behavior. In our next set of

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<sup>6</sup> The effect is also significant during the second year, although three of the four individual quarterly observations are not significant at conventional levels.

tests, we directly examine the association between JOBS Act provision adoptions and investment, with the understanding that the relations cannot be interpreted causally. Consistent with the JOBS Act's de-burdening provisions being an important driver of the increased post-IPO investment of Non-SRCs, we find that 93% of post-JOBS Act issuers adopt at least one of the de-burdening provisions and the adoptions of these provisions are associated with increased investment. Specifically, the adoption of the auditor attestation, say-on-pay opt-outs, or the reduced executive disclosure provision is associated with a 1.4 to 1.8 percentage point increase in quarterly investment relative to total assets. In contrast, we find no evidence of a significant relation between the pre-IPO provisions and post-IPO investment.

Taken together, the results presented thus far are consistent with the burdens to being public constraining the investment of newly public firms. Several features of our analysis make alternative interpretations, such as reduced burdens to being public attracting firms that invest aggressively to the public markets, unlikely. First, the observable characteristics of firms treated with the JOBS Act's de-burdening provisions change similarly to the characteristics of firms in our control sample surrounding the passage of JOBS. Second, our findings are robust to using within-firm changes in investment behavior. Finally, our results are robust to using a matched sample within which pre- and post-JOBS Act issuers are similar on observable dimensions, including several that we do not explicitly match on. In our view, the totality of our findings is most consistent with the burdens to being public negatively affecting the post-IPO investment of newly public firms.

We next decompose our investment measure to separately analyze how the burdens to being public affect research and development (R&D) expenditure, which we use to proxy for innovative investment, and capital expenditure. Existing literature provides several channels through which the burdens to being public may inhibit R&D more than capital investment. First, R&D is typically more informationally sensitive, which Ferreira, Manso, and Silva (2012) and Aggarwal and Hsu (2013) argue generates a negative relation between the profitability of innovation and the level of mandated disclosure. Second, agency costs, such as demands to meet quarterly earnings, will more likely dissuade managers from innovative (as opposed to

capital) investments because their costs are recognized immediately on the income statement and their benefits accrue with substantial delay.<sup>7</sup> Consistent with the above logic, we find that the effect of the JOBS Act's de-burdening provisions in increasing investment is concentrated in R&D investment. For the median (average) firm we estimate that the JOBS Act's de-burdening provisions lead to approximately \$2 million (\$3 million) more in quarterly R&D expenditures. We find no statistically significant effect on capital expenditures. This result suggests that the burdens to being public are an economically important driver behind the established result that going public inhibits innovation (see e.g., Bernstein, 2015).

If the investment decline triggered by the burdens to being public is driven by frictions, such as a diversion of managerial attention away from investment toward quarterly reporting or increased disclosure costs, then we expect relaxed burdens to not only increase investment, but also investment efficiency. To investigate this idea, we employ a triple differencing specification to identify whether the investment of firms benefitting from the de-burdening provisions becomes more positively related to market-to-book, which we use to proxy for investment opportunities as in Badertscher, Shroff, and White (2013). We find that the investment of firms treated with the JOBS Act's de-burdening provisions becomes more positively related to the firm's market-to-book ratio. Like the increased level of investment, this increased investment efficiency is concentrated in R&D, not capital, investment.

Although our empirical setting is well suited to identify how the JOBS Act's de-burdening provisions affect investment, we can only provide circumstantial evidence on the underlying mechanism. The concentration of the effect in R&D investment combined with the increased investment efficiency suggests that the information frictions and agency costs associated with the burdens to being public are one driver of our results. One form of this mechanism with substantial anecdotal support is the idea that the JOBS Act's de-burdening provisions allow for increased focus on operations as opposed to distractions

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<sup>7</sup> Aghion, Van Reenen, and Zingales (2013) argue this, stating "The pressure for quarterly results may induce a short-term focus (Porter 1992) and the risk of being fired (Kaplan and Minton 2012) might dissuade risk-averse managers from innovation."

from financial reporting obligations (Teach 2014).<sup>8</sup> Consistent with this, we find that the de-burdening provisions are associated with a reduced propensity to just beat earnings targets and that investment is not sensitive to the burdens to being public for dual class firms, for which shareholder-executive conflicts are presumably less of a distraction.

There are several other mechanisms through which the JOBS Act's de-burdening provisions may increase post-IPO investment. Because R&D-intensive newly public firms are likely somewhat capital constrained, the compliance cost reduction triggered by the de-burdening provisions may free up capital for investment. Although Chaplinsky, Hanley, and Moon (2017) find little evidence that the JOBS Act affects direct IPO issuance costs, such as underwriter, audit, or legal fees, existing literature on SOX suggests that the internal and ongoing compliance costs are large and especially relevant for smaller firms.<sup>9</sup> Financial Executives International (2005) puts first-year SOX compliance costs at approximately \$4 million. Liazos (2012) further argues that the reduced executive disclosure generates meaningful cost savings for firms as they go public.

Our paper makes several contributions to the literature. First, we contribute new evidence on how the burdens of being public affect corporate investment. Existing literature on the topic focuses on seasoned firms and yields mixed results. Kraft, Vashishtha, and Venkatachalam (2017) find that the transition to quarterly disclosure between 1950 and 1970 results in less investment, while Pozen, Nallareddy, and Rajgopal (2017) find no effect of mandatory quarterly reporting on investment using a policy experiment in the United Kingdom between 2007 and 2014. Other studies investigate this question using the introduction of SOX as a policy shock to the burdens of being public. Barger, Lehn, and Zutter (2010), Kang, Liu, and Qi (2010), and Gao and Zhang (2018) find that U.S. firms' investment declines relative to international firms' investment following SOX. In contrast, Albuquerque and Zhu (2018) find no effect of SOX on investment using a regression discontinuity design similar to that of Gao and Zhang (2018). Coates

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<sup>8</sup> For instance, the CFO of Malibu Boats, a post-JOBS Act EGC, noted that the JOBS Act allowed him "to focus more on managing the business and not have to immediately turn all your energies to 404(b)."

<sup>9</sup> See, e.g., Iliev (2010), Coates and Srinivasan (2014), and Barger, Lehn, and Zutter (2010).

and Srinivasan (2014) summarize this literature noting that U.S. investment declines in the years predating SOX, but it is unclear whether it is attributable to SOX or broader changes in the U.S. environment. Indeed, Bradshaw (2009), Leuz and Wysocki (2016), and Hanley (2017) discuss how the multitude of regulations passed in the early 2000s makes it difficult to separately identify the consequences of any single legislation.

The JOBS Act provides an opportunity to plausibly identify how the mandatory disclosure and governance burdens to being public affect investment within a sample of newly public firms. The unique disclosure and informational environment of the IPO process, combined with the aforementioned mixed literature examining seasoned firms, makes it hard to infer our main results from the existing literature. Indeed, Leuz and Verrecchia (2000) argue that the richness of the disclosure environment is one reason for the mixed evidence regarding the economic benefits to disclosure in the U.S. Our findings both answer the call from recent survey papers to examine the real consequences of disclosure changes (e.g., Leuz and Wysocki 2016, Kanodia and Sapra 2016) and offer new insight suggesting that heavy-handed security regulations contribute to the lower investment and innovation levels of public firms documented in Asker et al. (2015) and Bernstein (2015).

Finally, our findings are policy-relevant because they represent some of the first evidence of significant positive effects of the JOBS Act's de-burdening provisions. Dambra, Field, and Gustafson (2015) find that the de-burdening provisions have little effect on whether or not firms go public, while Barth, Landsman, and Taylor (2017) and Chaplinsky, Hanley, and Moon (2017) all find evidence that these provisions increase informational asymmetry. This evidence is particularly relevant to policymakers given the recently passed legislation that expanded the de-burdening provisions to a larger subset of companies (SEC 2018).

## **2. Policy Setting and Identification Strategy**

In March 2011, the IPO Task Force was commissioned to identify the most significant regulatory burdens and risks that small public firms face. According to the Task Force, CEOs of firms that recently went public responded that the biggest challenges to being public are (1) the administrative burdens of



public reporting, and (2) the reallocation of CEO's time to reporting and compliance rather than building their company. To mitigate these challenges, the IPO Task Force recommended a series of provisions designed to allow newly public firms to more effectively raise capital and invest, which became the foundation of Title I of the JOBS Act that was passed by Congress in April of 2012. Upon the signing of the bill, President Obama remarked that his job was "to help our companies grow." (Office of the Press Secretary 2012).

In this paper, we examine whether the JOBS Act increased the investment of newly public firms. In doing so, we provide new evidence on the empirical question of how the mandatory disclosure and governance burdens to being public affect corporate investment and innovation.

### *2.1. The JOBS Act: A regulatory shock to the burdens of being public.*

The JOBS Act streamlines the IPO process for emerging growth companies (EGCs), which are firms with less than \$1 billion in annual revenues in the year prior to going public. Firms retain EGC status for five years after they go public, as long as their revenues do not exceed \$1 billion, their public float does not exceed \$700 million, and they have not issued over \$1 billion in non-convertible debt within three years. EGC status retroactively applies to all eligible firms going public on or after December 8, 2011.

The first way that the JOBS Act streamlines the IPO process for EGCs is by removing some of the burdens of being a public firm, through what we refer to as the Act's de-burdening provisions. It accomplishes this by (1) reducing disclosure requirements, (2) reducing auditing requirements, and (3) eliminating executive say-on-pay. The JOBS Act reduces the amount of financial and executive compensation information that EGCs must disclose. In terms of financial disclosure, it reduces the required IPO prospectus disclosure from five to two years of selected financial data and from three to two years of audited financial statements. This reduced disclosure persists after firms go public as firms never have to disclose any information prior to that disclosed in their IPO prospectus. The JOBS Act also reduces the amount of required executive compensation disclosure. Post-JOBS Act, EGCs must disclose compensation for only the past two (instead of three) years and only for the three (instead of five) highest paid executives.

EGCs can omit the typically required compensation, discussion, and analysis (CD&A) section, which includes proxy statement disclosure of the executive's incentive structure, compensation performance measures, benchmarks, and related peer firm performance.<sup>10</sup> The JOBS Act also eliminates certain auditing requirements, such as the auditor's attestation to internal controls, and exempts issuers from new PCAOB standards.<sup>11</sup> Finally, the JOBS Act eliminates shareholder say-on-pay votes, which can lead to suboptimal managerial behavior such as fixating on short-term performance or re-allocating effort to lobby their shareholders (Gallagher 2015, Iliev and Vitanova 2018). Together, these de-burdening provisions reduce many established costs to becoming a public company.

However, the existing literature suggests that the de-burdening provisions, in particular, have little effect on a firm's probability of going public (Dambra, Field, and Gustafson, 2015, Cheng, 2015) or the direct costs associated with going public (Chaplinsky, Hanley, and Moon, 2017). This is consistent with the finance literature that finds little effect of SOX on the probability that firms enter the public markets (Gao et al. 2013; Doidge et al. 2017). However, an important feature of the de-burdening provisions of the JOBS Act is that they persist for five years after the firm goes public. This contrasts with the other provisions of the JOBS Act, which relate only to the process of going public. Specifically, other JOBS Act provisions allow EGCs to confidentially file their IPO prospectus with the SEC, have analysts more involved IPO process (Dambra, Field, Gustafson, and Pisciotta 2018), and privately market the offering to qualified investors before the IPO prospectus is made public. Since the IPO prospectus is ultimately made public at least 21 days before a firm goes public, this is unlikely to have a persistent effect on corporate policy.<sup>12</sup> However, this combination of provisions does reduce the proprietary disclosure costs to going public, especially for firms that ultimately withdraw their IPO, which contributed to the post-JOBS Act

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<sup>10</sup> Gipper (2017) finds that these CD&A disclosure force firms to allocate more capital to the CEO's compensation.

<sup>11</sup> Note that this de-burdening provision is new to all EGCs. Therefore, our empirical strategy, which compares the effect of the JOBS Act on investment between SRC-eligible and SRC-ineligible firms (i.e. all EGCs), will not capture the effect of this particular provision.

<sup>12</sup> For instance, Dambra, Field, Gustafson, Pisciotta (2018) find that although having analysts more involved in the IPO process changes analyst behavior (analysts become more optimistic), this change in affiliated analyst behavior is short-lived (i.e., for coverage initiations) and thus unlikely to affect long-run firm outcomes.

increase in IPO volume (Dambra, Field, and Gustafson, 2015; Cheng, 2015). See Appendix A for a comprehensive summary of the of the JOBS Act's provisions.

## 2.2. *Identification Strategy*

Identifying the effect of the JOBS Act's de-burdening provisions is difficult, because it is hard to rule out the possibility that changes in market conditions or the types of firms going public contribute to any observed changes in investment surrounding its passage. For instance, prior literature finds a change in the composition of firms going and staying public over time (e.g., Gao, Ritter, and Zhu 2013; Grullon, Larkin, and Michaely 2018; Doidge, Karolyi, and Stulz 2017). To overcome this identification challenge, following Chaplinksy, Hanley, and Moon (2017), we utilize companies with below \$75 million in public float as a control group in a difference-in-differences framework.

Since February of 2008, firms with less than \$75 million in public float have been eligible for Smaller Reporting Company (SRC) status.<sup>13</sup> Specifically, since 2008, SRCs have been exempt from auditor rotations, auditor attestations of internal controls, and have the same options to reduce disclosure in their IPO prospectus and subsequent filings that EGCs are granted by the JOBS Act. However, the other aspects, such as increased analyst involvement, confidential IPO prospectus filings, and the ability to pre-market their IPO are new to SRCs after the JOBS Act.

The idea behind our identification strategy is to compare the relative post-IPO investment of SRC eligible firms and Non-SRC firms before and after the passage of the JOBS Act. All of the firms in our sample would qualify as EGCs, were they to issue in the post-JOBS Act period (i.e., we exclude the approximately 13% of IPO issues with over \$1 billion in pre-IPO annual revenues), but firms with greater than \$75 million in public float, Non-SRCs, experience the largest shock surrounding the passage of the JOBS Act because SRCs already had access to the de-burdening provisions. Thus, the change in the relative post-IPO investment of SRCs and Non-SRCs following the JOBS Act plausibly identifies the effect of the

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<sup>13</sup> In June 2018, the SEC recently extended the eligibility of SRC status to include firms with public floats up to \$250 million.

de-burdening provisions on the investment of young public firms. This identification strategy is similar to an intent-to-treat analysis in the sense that it circumvents any endogeneity in the selection of JOBS Act provisions. Equation 1 illustrates our main empirical model.

$$Investment_{iq} = \beta_1 Non-SRC_{iq} + \beta_2 JOBS\ IPO_i \times Non-SRC_{iq} + \beta_3 Ln(Assets)_{iq-1} + \beta_4 Cash\ Flows_{iq} + \beta_5 MTB_{iq} + \beta_6 Ln(Float)_{iq-1} + FEs + \varepsilon_{iq} \quad (1)$$

$Investment_{iq}$  is the investment in year-quarter  $q$  of firm  $i$ , measured as the sum of quarterly capital plus research and development expenses scaled by the firm's beginning of quarter total assets.  $Non-SRC_{iq}$  is an indicator for an observation with \$75 million or above in public float, which in our context is an indicator for a firm that is treated by the JOBS Act's de-burdening provisions. A firm can use its IPO proceeds (plus the value of shares held by non-affiliates at the time of the IPO) as their public float until the end of the first fiscal year in which the firm was publicly traded at the end of the second fiscal quarter.<sup>14</sup> We follow Chaplinsky, Hanley, and Moon (2017) by approximating public float during this period with an indicator for a firm that raises \$75 million or more in IPO proceeds. The logic behind this proxy is that firms raising over \$75 million in IPO proceeds cannot be eligible for SRC status because, by definition, they have a public float of over \$75 million.<sup>15</sup> To compute  $Non-SRC_{iq}$  for the later quarters in our sample, we hand-collect public float information from the firm's 10-K filing. SRC eligibility is based on the firm's public float as of the end of the second fiscal quarter of the previous fiscal year.

$JOBS\ IPO_i$  is an indicator variable equal to 1 when an IPO issuance date is after December 8, 2011, and 0 otherwise. The coefficient,  $\beta_2$ , on the  $JOBS\ IPO_i \times Non-SRC_{iq}$  interaction is our main coefficient of interest. As discussed above, a plausible interpretation of  $\beta_2$  is the effect of the JOBS Act's de-burdening provisions on the investment of newly public firms. Industry experts emphasized that these particular regulatory requirements were some of the most onerous aspects of being a public firm and include reduced

<sup>14</sup> <https://www.sec.gov/info/smallbus/secg/smrepcosysguid.pdf>

<sup>15</sup> However, this proxy is imperfect because firms raising less than \$75 million may or may not be SRCs, depending on how much of the firm is owned by non-affiliates.

financial and executive disclosure, elimination of auditor attestations to internal controls, and elimination of shareholder say-on-pay. We further illustrate our identification strategy in Figure 1.

We include several firm-quarter level control variables that are common to the investment literature: lagged total assets, operating cash flows, and market-to-book ratio. Because our explanatory variable of interest is predicated on a discrete change in public float, we also include the natural log of public float to ensure that  $Non-SRC_{iq}$  does not capture a more general relation between IPO size and post-IPO investment. As we discuss in detail in Section 4, the similarity of our results after adding cubic controls for a firm's public float, restricting the sample to firms with under \$150 million in public float, or defining the dependent variable as a within-firm change, further mitigates the possibility that  $Non-SRC_{iq}$  captures a more general size effect.

We include several sets of fixed effects to control for the fact that the type of firms going public changes over time.<sup>16</sup> First, we include issue-year fixed effects, which is why we do not report the *JOBS IPO* main effect.<sup>17</sup> This controls for any difference in the types of firms going public at any given time. We also include year-quarter fixed effects corresponding to the period over which investment is measured. In addition, we include fiscal-quarter fixed effects (i.e., Q1, Q2...etc.) and fixed effects corresponding to the number of quarters since the firm went public to control for any predictable patterns in corporate investment (see e.g., Xu and Zwick, 2018). Finally, we include Fama-French 49 industry fixed effects, with the additional separate biotech industry indicator as in Dambra, Field, and Gustafson (2015).

For most of our analyses, we estimate Equation 1 over a firm's first eight full quarters as a public company, clustering our standard errors at the firm and year-quarter levels to ensure that repeated observations within the same firm or time period do not inflate our test statistics. In three separate robustness

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<sup>16</sup> See, for example, Gao et al. (2013), Doidge et al. (2017), and Grullon et al. (2018).

<sup>17</sup> Since firms going public after December 8, 2011 benefit from the JOBS Act's provisions, this indicator captures differences between firms going public in the first eleven months of 2011 compared to those going public in December. Although we include a *JOBS IPO* indicator in our estimation, we do not tabulate the coefficient because the small sample of firms going public in December of 2011 makes the coefficient difficult to interpret.

tests, we also (1) run our analyses separately by quarter to show that our main results are robust to collapsing the sample into one observation per firm, (2) employ a change specification where the dependent variable is the post-IPO change in annual investment (i.e., (post-IPO investment – pre-IPO investment) / pre-IPO total assets), and, in unreported tests, (3) aggregate our quarterly observations to annual observations.<sup>18</sup>

### **3. Data, Sample, and Descriptive Statistics**

The sample begins with all IPOs with issuance dates between February 2, 2008, and December 31, 2013, from SDC. The sample starts in 2008 when the SRC exemptions were extended for all issuers with less than \$75 million in public float and ends in 2013, two full years after the effective date of the JOBS Act. We delete all IPOs from the banking industry (SIC 6000s), IPOs with prices less than \$1 or proceeds \$1 million, non-original IPOs, limited partnerships, closed-end funds, rights offering IPOs, firms not listing on the major U.S. stock exchanges (AMEX, NYSE, and NASDAQ) and firms lacking Compustat financial statement and public float data to conduct our analyses. We follow the prior literature on the JOBS Act (Barth et al. 2017, Chaplinsky et al. 2017) and delete those firms that are not eligible for EGC status under the Act (pre-IPO annual revenues greater than \$1 billion). Our sample consists of 326 firms, of which 96 are eligible for SRC status. To examine firm behavior, we include the eight quarters following the IPO for each issuer where the beginning of the quarter occurred after the IPO date. This results in 2,505 firm-quarter observations for our main analyses, although the sample is smaller for some of our supplementary analyses.

#### *3.1 Descriptive Statistics*

Panel A of Table 1 presents descriptive statistics for our sample, after winsorizing all variables at the 1% and 99% levels, as we do throughout our analyses. The average firm-quarter in our sample has total assets of \$412.6 million, a public float of \$299.2 million, and revenues of \$65.7 million. Approximately 60 percent the issuers in our sample are venture-backed and 65 percent come from tech industries. On average (At the median), firms invest 6% (5%) of total assets per quarter and have negative cash flows, consistent

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<sup>18</sup> A limitation to using this annualized approach is that we cannot measure a firm's SRC status as precisely, since it is determined on a quarterly basis.

with studies comprising similar time periods (e.g., Gao, Ritter, and Zhu 2013). R&D expenses comprise of two-thirds of total investment at the mean. Our identification strategy follows that of Chaplinsky, Hanley, and Moon (2017) in that we compare the effects of the JOBS Act between SRC eligible and ineligible (i.e., Non-SRC) firms. As expected, Panel B of Table 1 shows that the Non-SRC firms are larger, more profitable, have larger public floats, and more revenues.

### 3.2. *Preliminary Evidence on Identifying Assumptions*

The differences between Non-SRC firms and control firms presented in Panel B of Table 1 do not compromise our identification strategy because we examine how behavior within the two groups changes surrounding the passage of the JOBS Act. However, there are a couple of assumptions needed in order to interpret  $\beta_2$  in Equation 1 as the effect of the JOBS Act's de-burdening provisions on the investment of newly public firms. Perhaps the most important assumption underlying this interpretation is that the de-burdening provisions do not cause a fundamentally different group of firms to go public. Existing literature suggests that this assumption is plausible. Both Dambra, Field, and Gustafson (2015) and Cheng (2015) find evidence that the non-de-burdening provisions of the JOBS Act, which are new both the SRCs and non-SRCs, affect the number and types of firms going public, but the de-burdening provisions do not.

To provide direct evidence on whether the relative characteristics of IPO issuers with above and below \$75 million in public float change following the JOBS Act, we run a series of descriptive firm-level regressions in the form of:

$$Y = \beta_0 + \beta_1 (JOBS\ IPO \times Non-SRC) + \beta_2 JOBS\ IPO + \beta_3 Non-SRC + \varepsilon \quad (2)$$

where Y represents firm characteristics at the time of (or shortly following) the IPO. Table 2 presents results to this regression for several first-order characteristics of IPO firms. Thus,  $\beta_1$  essentially captures whether the characteristics of our treated IPOs, *Non-SRCs*, change significantly differently than our untreated IPOs, *SRCs*, following the passage of the JOBS Act. Panel A shows that there is no significant change in the relative size of IPO issuers with above and below \$75 million in public float following the

JOBS Act, measured in terms of the natural log of total assets, IPO proceeds, or revenues. Panel B presents results focusing on the type of firms going public. We find no evidence of a change in the relative probability that firms on either side of the \$75 million are VC backed, high-tech, or biotech firms following the JOBS Act. Notably, the significantly positive *JOBS IPO* main effect in Column 6 of Panel B is consistent with the previously documented rise in biotech IPOs following the JOBS Act. Our lack of significance on the *JOBS IPO*  $\times$  *Non-SRC* interaction is also consistent with Dambra, Field, and Gustafson (2015), who argue that the JOBS Act's pre-IPO provisions (i.e., confidential filings and testing the waters), but not the de-burdening provisions, make going public more attractive for biotech firms.

Additionally, in unreported analyses, we examine whether firms appear to manipulate their SRC status by adjusting their IPO proceeds. We find no evidence of any bunching in IPO proceeds around the \$75 million threshold either before or after the passage of the JOBS Act.<sup>19</sup> Because we do not observe non-affiliated shares that are held prior to the IPO, which are also included in public float, we cannot definitively conclude whether some firms take steps to manage their SRC status. However, any float manipulation that does exist will not bias our approximation of SRC status because it is not occurring via manipulating IPO proceeds. Rather, our results will be attenuated due to measurement error in treatment status to the extent that firms have substantial non-affiliated shareholders prior to going public.

### 3.3. *Propensity Score-Matched Sample*

Despite the fact that the evidence presented in the previous section makes it unlikely that the relative characteristics of firms with above and below \$75 million in public change surrounding the passage of the JOBS Act, we replicate our results with a propensity score-matched (PSM) sample. As described in Figure 1, we match observations such that the pre- and post-JOBS Act issuers with \$75 million or more in public float are similar in terms of industry, total assets, market-to-book ratio, operating cash flows, and public

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<sup>19</sup> This evidence contrasts somewhat with that in Chaplinsky, Hanley, and Moon (2017) who find that, over a longer pre-JOBS Act sample, there is some clustering immediately above the \$75 million proceeds threshold. Not only does such clustering not exist in our sample, but clustering above \$75 million in proceeds is not indicative of firms selecting into SRC status. If anything, the opposite seems to occur.



floats. We conduct a similar match for firms with below \$75 million in public float. As shown in Figure 1, we PSM match quadrant I to II and then quadrant III to quadrant IV using one-to-one matching without replacement and require our matches to be within the same Fama French 12 industry along with a separate industry specifically for biotech firms (GICS = 352010). Following prior literature, we require that the maximum caliper width on the PSM matched pairs to be equal to 0.20 of the standard deviation of the propensity scores from our logit models (Austin 2011).

Table 3 presents differences between our treated and matched firms for both Non-SRC eligible (Panel A) and SRC eligible (Panel B) firms. Once we match on industry and investment determinants, we find no statistically significant differences pre- and post-JOBS Act for either the SRC or Non-SRC samples, except in the case of IPO proceeds which declines for both subgroups. Pre- and post-JOBS Act issuers are similar in terms of market-to-book ratio, operating cash flows, total assets, public float, the probability of being venture-backed, revenues, and industry. Although we cannot entirely rule out the possibility that SRCs and non-SRCs change along with some unobservable dimension surrounding the passage of the JOBS Act, these similarities between pre- and post-JOBS Act issuers within both subgroups, along dimensions that are not part of the matching procedure, makes such a scenario unlikely within the matched sample.

Dambra, Field, and Gustafson (2015) find that the change in IPO volume following the JOBS Act was largely the result of increased biotech IPOs. Our PSM sample allows us to set the number of biotech issuers to be identical before and after the JOBS Act for both our SRC eligible and SRC ineligible samples. This, along with the evidence in Table 2 that the percentage of SRC and Non-SRC issuers that are in the biotech increased similarly following the JOBS Act, provides further assurance that any observed change in post-IPO investment is unlikely to be driven by a fundamental increase in biotech firms.

#### **4. Main Results**

In this section, we use the identification strategy in Section 3 to examine whether the amount that newly public firms invest depends on the public disclosure and governance requirements identified as particularly onerous by the IPO Task Force. This empirical strategy uses SRC firms (i.e., those with less

than \$75 million in public float), which are exposed to market conditions and all non-de-burdening aspects of JOBS, in a quasi-difference-in-differences framework. As we discuss in Section 3.2, the interaction between *JOBS IPO* and *Non-SRC* plausibly isolates the effect of the JOBS Act’s de-burdening provisions (i.e., scaled financial and executive disclosure, auditor attestations, and say-on-pay votes) on investment.

Columns 1 and 2 of Table 4 present the baseline results of this difference-in-differences analysis, with Column 2 excluding all control variables except for year and industry fixed effects. In both cases, the *JOBS IPO*  $\times$  *Non-SRC* interaction is 0.027 and statistically significant. The similarity in coefficients between Columns 2 and 3 shows that our findings are not sensitive to the set of control variables or fixed effect structure used throughout the analysis. Unreported tests also show that our findings are similar when aggregating the analysis to the annual level, measuring all flow variables over the trailing twelve months.<sup>20</sup>

In Columns 3 and 4 of Table 4, we take two steps to further mitigate the possibility that our findings are due to a change in the relative characteristics of the types of firms going public with less \$75 million in public float, compared to larger firms. In Column 3, we minimize the variation in public floats by restricting the sample to firms with less than \$150 million in public float. This reduces our sample by approximately 60% but leaves just over 500 firm-quarters on either side of the \$75 million threshold. In this specification, we also exclude issuers with between \$70 and \$80 million in public float, to mitigate measurement error and the possibility that some issuers select to be on either side of the \$75 million public float threshold (e.g., Gao, Wu, and Zimmerman 2009). The fact that the *JOBS IPO*  $\times$  *Non-SRC* interaction remains highly significant and similar in magnitude to the estimates in Columns 1 and 2 mitigates the potential concern that the Non-SRC indicator captures some non-linearity in the relation between public float and post-IPO investment. Unreported tests further alleviate this possibility as the *JOBS IPO*  $\times$  *Non-SRC* coefficient is virtually unchanged after adding in cubic controls for a firm’s public float.

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<sup>20</sup> These annualized results hold whether we include one observation per firm during their first year following the IPO or two observations per firm, one for each of the first two years after their IPO. We view the quarterly specification as preferable because it allows us to more precisely define our control variables, including SRC status.

In Column 4, we restrict the sample to our PSM observations, in which the observable characteristics of firms with above and below \$75 million in public float do not change following the passage of the JOBS Act. Again, we continue to find a highly significant *JOBS IPO*  $\times$  *Non-SRC* interaction that is similar in magnitude to the estimates in Columns 1–3. The similarity of the pre- and post-JOBS Act issuers within this matched sample make it unlikely that differences between pre- and post-JOBS Act issuers are a primary driver of our findings.

Figure 2 decomposes the pre- and post-JOBS Act by year and plots the estimates for *Year*  $\times$  *Non-SRC* interactions coefficients generated from specifications similar to those in Columns 2–4 of Table 4, except that we replace the *JOBS IPO* indicator with a year indicator for the calendar year in which IPO occurred. We vary the calendar year of the *Year* indicator in separate regressions across the time series of our IPO sample. The figure shows that the relative post-IPO investment of newly public firms with less than and greater than \$75 million in public float is persistent within either the pre- or post-JOBS Act period, but very different across the two periods. In the pre-JOBS Act period, firms with \$75 million or more in public float invested less than smaller firms, while in the post-JOBS Act period, they invest more. This takeaway is similar using the full, float <\$150 million, or matched samples. The evidence in this figure is important because it suggests that there was no trend in the relative investment of firms with less than or greater than \$75 million in public float prior to the JOBS Act. Rather, there appears to be a structural break in this relation following its passage, when firms with \$75 million and over in public float first benefitted from the Act’s de-burdening provisions.

We next examine the timing of this investment increase relative to the firm’s IPO date. The solid line in Figure 3 presents coefficient estimates for the *JOBS IPO*  $\times$  *Non-SRC* interaction for a specification that is identical to that in Column 2 of Table 4, except that the sample is restricted to one observation per firm and the regressions are conducted separately for each quarter following the IPO. Thus, we conduct eight separate regressions. The x-axis indicates how many quarters following the IPO each sample occurs, and we report the interaction coefficient for each of these post-IPO quarter samples. The figure illustrates

that the positive *JOBS IPO*  $\times$  *Non-SRC* interaction is most statistically significant in the first year following the IPO, however, there is not a clear decline in the point estimates during the following year. In addition, this quarterly decomposition demonstrates that the statistical significance of the post-JOBS Act increase in investment does not rely on having multiple observations per firm. For instance, the estimates generated for quarters 1 through 4 are highly statistically significant with approximately 300 IPO issuers in each sample.

Overall, our evidence thus far suggests that the JOBS Act's de-burdening provisions have an economically large effect on the post-IPO investment of newly public firms. Non-SRC quarterly investment increases by two to three percentage points per quarter relative to SRCs following the passage of the JOBS Act, which corresponds to between \$4 million and \$5 million dollars for the median IPO issuer. Relative to the standard deviation of post-IPO quarterly investment, which is 5% of assets, this represents an approximately 0.5 standard deviation increase in post-IPO investment. The economically significant positive relation between the JOBS Act's de-burdening provisions and corporate investment that we estimate is consistent with evidence in Kang et al. (2010), which finds that the burdens introduced by SOX resulted in firms raising their discount rate on investments from under 10% to over 15% with the increasing being largest for small firms. In Section 5, we discuss the magnitude of our findings in more depth, along with analyses that decompose investment into its components and a discussion of the potential mechanisms through which the de-burdening provisions may impact investment.

#### 4.1. *Within-firm Analysis*

As a robustness test, we conduct a within-firm analysis where the dependent variable is an issuer's post-IPO change in investment, defined as the difference between post-IPO annual investment and pre-IPO annual investment scaled by pre-IPO total assets. We do not deploy this within-firm analysis for our main specification because firms go public to raise capital for investment (e.g., Ang and Brau, 2006; Lowry et al. 2017), leading to drastic changes in investment level in the years surrounding firms' IPOs. In our sample, the average firm increases investment by 100% of their pre-IPO assets in the year following their IPO

(compared to pre-IPO levels) even after winsorizing the post-IPO change in investment at the 1% and 99% levels. The 99 percentile firm increases investment by 16 times their pre-IPO assets, while the 90<sup>th</sup> percentile increases by just over 3 times their pre-IPO assets. Given the substantial variation, we aggressively winsorize post-IPO change in investment at the 10% and 90% levels, although results are similar winsorizing at the 1% and 99% levels.

The empirical specification we use to examine the effect of the JOBS Act’s de-burdening provisions on the post-IPO change in investment is similar to that described in Equation 1, with a few important differences. First, the dependent variable is the change in investment relative to pre-IPO investment scaled by pre-IPO assets  $\left(\frac{\text{Investment}_{t \text{ or } t+1} - \text{Investment}_{\text{Pre-IPO}}}{\text{Assets}_{\text{Pre-IPO}}}\right)$  and the sample includes observations for the first two years after a firm goes public. Thus, the sample includes up to two observations per firm and we include an indicator variable to capture in which of the two years the observation occurs. Second, all control variables are measured as of the IPO date. Thus, we control for investment opportunities with sales growth instead of market-to-book ratios and proxy for SRC status with IPO proceeds, instead of the more sophisticated public float measure used throughout the rest of our analyses.<sup>21</sup> Finally, we include only issue-year and industry fixed effects, since year-quarter, calendar quarter, and the number of quarters since the IPO fixed effects are not intuitive given our focus on annual changes in investment.

Column 1 of Table 5 is similar to Column 1 of Table 4 in that we restrict the sample to Non-SRC issuers and exclude issue-year fixed effects. The *JOBS IPO* indicator is a statistically significant 0.39. This corresponds to non-SRCs having a 0.38 standard deviation larger change in post-IPO investment following the passage of the JOBS Act, which is quantitatively similar to our quarterly results in Table 4. In Columns 2 and 3, we add SRCs to the sample and include issue-year fixed effects to ensure that this increase in post-IPO investment is not due to changes in market conditions. The positive and significant interaction between

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<sup>21</sup> Results are similar defining SRC status as in our other tests.

JOBS Act IPOs and Non-SRCs suggests that the increase in post-IPO investment is unique to the firms benefitting from the JOBS Act's de-burdening provisions. In unreported tests, we find similar results after excluding observations reporting post-IPO investment within six months of going public, mitigating the possibility that our post-IPO change in investment actually captures investments that occur prior to the IPO. These findings, combined with the evidence in Table 4, suggests that the burdens to being public restrict the investment of newly public firms.

#### 4.2. *Relation between JOBS Act Provision Selections and post-IPO Investment*

Our analysis thus far has bypassed issues relating to the endogenous selection of JOBS Act provisions by defining treatment based on SRC eligibility, as opposed to the actual provisions that firms select. In this section, we examine whether the selection of the various JOBS Act provisions is associated with investment activity, with the understanding that this analysis does not lend itself to a causal interpretation. Nevertheless, if the JOBS Act's de-burdening provisions are a driver of the increased post-IPO investment of newly public firms with over \$75 million in public float, then it is reasonable to expect a positive relation between the adoption of the de-burdening provisions and post-IPO investment. To examine this, we hand-collect whether the 108 post-JOBS Act EGCs in our sample select each provision. We follow the procedure described in Dambra, Field, and Gustafson (2015). Within our sample, we find that approximately 45% of post-JOBS Act EGCs adopt the auditor attestation opt-out, reduced executive disclosure, and reduced financial disclosure provisions. Thirty-six percent opt-out of non-binding say-on-pay votes and 25% opt-out of future accounting standard adoptions. In sum, 93% of post-JOBS Act EGCs make use of at least one of the Act's de-burdening provisions.

Table 6 indicates a generally positive relation between the selection of the de-burdening provisions and post-IPO investment. Columns 1 through 3 show that the adoption of the auditor attestation and say-on-pay opt-outs or the reduced executive disclose provision are associated with increased investment in the eight quarters after a firm goes public. The magnitude of the relation is quite large. Each provision is

associated with a 1.4 to 1.8 percentage point increase in quarterly investment relative to total assets.<sup>22</sup> Columns 4 and 5 show no evidence of a significant relation between reduced financial disclosure or opt-outs relating to future accounting changes and post-IPO investment.

Taken together, the results in Tables 4 through 6 are consistent with the burdens to being public constraining the investment of newly public firms. Perhaps the most likely alternative interpretation is that reducing the burdens to being public attracts firms that intend to invest aggressively in the public markets. Although we cannot completely rule out this alternative contributing to our findings, several features of our empirical design make it unlikely to be the primary driver. Table 2 shows that the relative (observable) characteristics of firms with above and below \$75 million in public float do not change following the JOBS Act. In addition, Table 5 shows that our findings persist when examining within-firm changes in investment behavior. Finally, our matched sample ensures that pre- and post-JOBS Act issuers are similar on observable dimensions, including several that we do not explicitly match on. Despite these similarities between the firms treated with the JOBS Act's de-burdening and control firms, the group of firms benefitting from the de-burdening provisions increases post-IPO investment relative to other firms following the JOBS Act.

## **5. Additional Tests**

In this section, we provide additional texture to our findings in Section 4, which evidence that the burdens to being public inhibit the investment of newly public firms. We begin by examining the types of investment that are most sensitive to these burdens imposed by the JOBS Act. Next, we provide some evidence on whether the incremental investment facilitated by the JOBS Act's de-burdening provisions appears to be efficient. Finally, we discuss and provide circumstantial evidence on the most likely mechanisms through which relaxing the burdens to being public impact corporate investment.

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<sup>22</sup> High correlations between the adoption of the various de-burdening provisions prevent us from isolating a single provision (or set of provisions) that drives this relation. Indeed, when all three of these de-burdening provisions are simultaneously included in the same regression their coefficients range from 0.005 to 0.008 and none are statistically significant.

### 5.1. *Decomposing Investment*

Depending on the mechanism through which the burdens to being public affect investment, the effect may vary depending on the investment type. Our primary investment measure used in Section 4 combines capital and R&D expenditures. Here, we separately examine the effect of the JOBS Act's de-burdening provisions on these two types of investment.

If the de-burdening provisions are enhancing investment due to the relaxation of information or agency frictions, existing literature provides several reasons why one may expect the effects to be more significant for R&D as opposed to capital investment. First, R&D is typically more informationally sensitive. Ferreira, Manso, and Silva (2012) and Aggarwal and Hsu (2013) argue that this informational sensitivity generates a negative relation between the profitability of innovation and the level of mandated disclosure. Second, R&D is particularly vulnerable to demands to meet quarterly earnings, because it is a long-run investment for which the expenditures immediately hit the income statement. Aghion, Van Reenen, and Zingales (2013) summarize these ideas stating "the pressure for quarterly results may induce a short-term focus (Porter 1992) and the risk of being fired (Kaplan and Minton 2012) might dissuade risk-averse managers from innovation."

Table 7 replicates our main results from Table 4, partitioning the dependent variable by investment type. Columns 1 and 2 show that the JOBS Act's de-burdening provisions have no statistically significant effect on the capital expenditures of newly public firms. This null result is similar using the full sample (column 1), the propensity score matched sample (column 2), or a sample that restricts the sample to firms with below \$150 million in public float (unreported).

In columns 3 and 4, we examine the effect of the de-burdening provisions on R&D expenditures. We find that non-SRCs increase their post-IPO R&D expenditure relative to SRCs following the passage of JOBS. In our full sample specification in Column 3, the point estimate of 0.022 suggests that non-SRCs increase R&D relative to lagged assets by 2.2 percentage points. Columns 4 and 5 yield similar estimates after restricting the sample to propensity score matched observations and firms that conduct some level of



R&D, respectively. Within the R&D sample used in Column 5, the standard deviation in quarterly R&D expenditures is 5% so the coefficient estimate of 0.018 represents an approximate 0.36 standard deviation increase in R&D expenditures.

The evidence in this section suggests that the burdens to being public are an economically important driver behind the established result that going public inhibits innovation (see e.g., Bernstein, 2015). The fact that the effect of the de-burdening provisions is concentrated in R&D as opposed to capital investments supports the possibility that the reason the burdens to being public affect investment is because they exacerbate information and agency frictions. However, these findings do little to rule out other alternatives.

## 5.2. *The Burdens to being Public and Investment Efficiency*

If the investment decline triggered by the burdens to being public is driven by frictions, such as a diversion of managerial attention away from investment toward quarterly reporting or increased disclosure costs, then we expect relaxed burdens to not only increase investment, but also increase investment efficiency. In contrast, we would expect investment efficiency to decline as firms are de-burdened if the investment increase we observe is due to a weakening of internal controls, which lead to overinvestment (Jensen 1986, Cheng, Dhaliwal, and Zhang 2013, Dambra 2018).<sup>23</sup>

We begin by examining how investment efficiency changes for benefactors of the de-burdening provisions of the JOBS Act. We interact our empirical proxy for investment opportunities, *MTB*, with our indicator variables, *JOBS IPO* and *Non-SRC*.<sup>24</sup> Specifically, we estimate the following empirical model:

$$Investment_{iq} = \beta_1 Non-SRC_{iq} + \beta_2 (JOBS IPO_i \times Non-SRC_{iq}) + \beta_3 (JOBS IPO_i \times Non-SRC_{iq} \times MTB_{iq}) + \sum Controls\beta + FES + \varepsilon_{iq} \quad (3)$$

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<sup>23</sup> To the extent that the de-burdening provisions impair managers' information sets, this can also lead to overinvestment problems (e.g., McNichols and Stubben 2008).

<sup>24</sup> This empirical design follows the format as in Badertscher, Shroff, and White (2013) and Bloom, Bond, and Reenan (2007). Sales growth is another common proxy for an investment opportunity set, but leads to extreme observations (reduces our sample) since many IPO firms have very small (no) revenue.

The coefficient on  $\beta_3$  captures how the sensitivity of investment to investment opportunities differentially changes following the JOBS Act for firms that are treated by the de-burdening provisions. To the extent that fewer burdens allow managers to more freely pursue positive NPV projects, we expect  $\beta_3$  to be positive. However, to the extent that the de-burdening provisions result in overinvestment, we expect a negative coefficient on  $\beta_3$ . Similar to equation 1, we control for firm size, public float, cash flows, and our full complement of fixed effects. In addition, we control for all of the double interactions between *Non-SRC*, *JOBS IPO*, and *MTB*.

Our regression results for equation 3 are presented in Table 8. We find for both our full sample results in Column 1 and our PSM results in Column 3 that the coefficient on the triple interaction is positive and statistically significant. Column 2 also shows that the coefficient is of similar magnitude after restricting the sample to firms with below \$150 million in public float, although the effect is statistically insignificant at conventional levels, with a t-statistic of 1.61.

In Columns 4 through 6, we replicate the analysis using R&D expenditure as the dependent variable. Across all three columns the *JOBS IPO*  $\times$  *Non-SRC*  $\times$  *MTB* triple interaction is positive and statistically significant, with t-statistics ranging from 1.90 to 2.61. In unreported tests, we find no such significant relations when using capital expenditures as the dependent variable. These findings suggest that not only do the de-burdening provisions increase post-IPO R&D, but they also enhance R&D efficiency. Again, these findings are consistent with increased informational or agency frictions being one reason that the burdens to being public deter innovative investment among newly public firms.

### 5.3. *Other Potential Mechanisms*

Although our empirical setting is well suited to identify how the JOBS Act's de-burdening provisions affect investment, we can only provide circumstantial evidence on the underlying mechanism. Perhaps the most direct explanation is that, by lowering the costs associated with being public, firms will have more money available to invest. Iliev (2010) estimates that the auditor attestation component of SOX, which the JOBS Act relaxes, increases direct audit fees by approximately \$700,000 per year. Survey

evidence in Financial Executives International (2005), puts the first year SOX compliance costs at approximately \$4 million, after factoring in internal and external labor costs. Ken Moch, CEO of Chimerix, a successful post-JOBS Act EGC, noted that without the SOX opt-out, “biotech companies would be transferring hard-earned cash from research and clinical development to compliance” (Herper 2013). However, the direct compliance costs associated with relaxing the burdens put in place by SOX seems unlikely to explain the entire investment decline we observe.

The manner in which the JOBS Act reduces the burdens to being public extends beyond the relaxation of compliance requirements put in place by SOX. Liazos (2012) discusses the costs associated with the executive disclosure requirements relaxed by the JOBS Act, which he argues are significant because executive contracts were not established by a compensation committee and are therefore challenging and time-consuming to rationalize ex-post. Iliev and Vitanova (2018) discuss the potential for the say-on-executive pay vote, which is not required for post-JOBS Act EGCs, to divert managerial attention from investment toward shareholder lobbying. Not only is the labor associated with burdens costly, but to the extent that it occupies the CEOs time, it may have the unintended consequence of distracting the CEO from investment activities. Indeed, according to a survey conducted by the IPO Task Force (2011), one of the biggest challenges to being a public company is the reallocation of CEOs time to reporting and compliance rather than building their company.

The evidence in Section 5.1. that the de-burdening provisions affect R&D, but not capital, expenditures coupled with the increased investment efficiency is consistent with the burdens to being public making managers more fixated on quarterly numbers as opposed to long-term investment. Relative to capital expenditures, R&D expenditures hit the income statement more quickly and the benefits to R&D are more long-run. Thus, managers focused on immediate earnings can benefit from foregoing R&D (see e.g., Dechow and Sloan, 1991; Baber, Fairfield, Haggard, 1991; Bushee, 1998; Bens, Nagar, Skinner, and Wong, 2003).

To provide direct evidence on this mechanism, we next examine the extent that the JOBS Act's de-burdening provisions mitigate managers' distraction with earnings expectations. For this analysis we use the same difference-in-differences regression from Equation 1 with *MOB Ind.*, defined as an indicator variable equal to 1 when a firm meets or beats by \$0.01 the consensus analyst EPS forecast for the quarter, and 0 otherwise, as the dependent variable.<sup>25</sup> We intend for this proxy to capture the propensity of managers to fixate on achieving an earnings target through managing earnings, cutting positive NPV projects, or modifying analyst expectations, rather than focusing on efficient value-enhancing investment.

Column 1 of Table 9 reports our results on how the JOBS Act affected the propensity of firms to meet or beat analyst earnings forecasts. The positive and statistically significant coefficient on Non-SRC indicates that prior to the passage of the JOBS Act, Non-SRCs were more likely than SRCs to just meet or beat an analysts' earnings forecast. The negative and significant *JOBS IPO*  $\times$  *Non-SRC* interaction indicates that this is no longer the case after the passage of the JOBS Act (coeff. = -0.171, p-value < 0.01). Thus, we find that the propensity to just meet or beat analyst expectations decreases by an economically significant 17.1% after the implementation of the JOBS Act. Similar to our previous tables, our results are qualitatively similar when we restrict the sample to a public float less than \$150 million in Column 2 and when we limit our sample to our PSM matched observations in Column 3.

In our final analyses we more broadly examine whether managerial preoccupation with shareholder demands is a likely driver of the post-JOBS Act increase in post-IPO investment. Theory suggests that managerial distraction can be induced via increased pressure from the public firm's shareholders. For example, Stein (1988; 1989) and Fishman and Hagerty (1989) argue that the managers of public firms may be distracted with short-term incentives to boost earnings (even at the expense of long-term performance) to appease investors. Hermalin and Weisbach (2012) Fisman, Khurana, Rhodes-Kropf, and Yim (2013),

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<sup>25</sup> Note that we deploy a linear regression model even though *MOB Ind.* is binary in order to include our full complement of fixed effects into our regression model and to avoid an incidental parameters problem (Greene 2004).

and Edmans, Heinle, and Huang (2016) further argue that reforms empowering shareholders or increasing mandatory disclosure or governance requirements can exacerbate these types of agency problems.

To investigate this idea, we test whether the effect of the burdens to being public on investment depends on whether the issuing firm has dual-class shares. This test is motivated by the idea that if managerial distraction via public reporting and governance mandates leads to our findings, then we expect the effect of de-burdening provisions to be less significant for firms with dual-class shares because their CEOs have less incentive to cater to shareholder demands. To examine this, we augment our main analysis by interacting the *JOBS IPO*  $\times$  *Non-SRC* interaction with *Dual*, an indicator variable equal to 1 if the issuing firm has multiple classes of shares and 0 otherwise, according to data provided on Jay Ritter's website, and used in Loughran and Ritter (2004). Similar to our previous specification we report the total investment results in columns 1 to 3, followed by our R&D only results in columns 4 to 6. The *JOBS IPO*  $\times$  *Non-SRC* interaction remains positively significant as in our previous analyses, but the *JOBS IPO*  $\times$  *Non-SRC*  $\times$  *Dual* triple interaction is negative across the columns and statistically significant in columns 3, 5, and 6, offsetting the effect of the JOBS Act's de-burdening provisions on investment for firms with multiple share classes. Unreported tests reveal no significant triple interaction using capital expenditures as the dependent variable. Taken together, these findings provide some evidence that that the JOBS Act's de-burdening provisions do not appear to have a significant effect on the investment policy of dual-class firms, for which presumable shareholder-executive interactions are less of a distraction for CEOs.

Overall, our evidence suggests that a likely contributor to the negative relation between the burdens to being public and post-IPO investment is that the reporting requirements and governance mandates imposed on public firms make managers more preoccupied with non-investment activities. However, determining how much of the post-IPO investment increase is due to reduced managerial distraction compared to, for example, reduced compliance costs or other channels (see e.g., Kang, Liu, and Qi, 2010), is beyond the scope of this paper.

## **6. Conclusion**

In this paper, we explore how mandatory disclosure and governance mandates affect the investment of newly public firms. To do so, we conduct a policy experiment surrounding the JOBS Act, which reduces mandated financial and executive disclosure, auditing requirements, and shareholder say-on-pay for a subset of newly public firms.

We find that newly public firms that are treated with these reduced burdens to being public increase both the level and efficiency of post-IPO investment relative to a control sample already privy to such exemptions. This investment reduction is concentrated in innovative investments. Existing literature offers many potential explanations for this negative relation between the burdens to being public and post-IPO investment. The magnitude of the post-IPO investment decline makes it unlikely that it is entirely explained by compliance costs crowding out investment. An important driver of the investment decline appears to be that the burdens to being public divert managerial focus to non-investment activities, such as catering to quarterly benchmarks.

Our findings should be of interest to policy-makers as the SEC considers further regulatory changes to stimulate the investment and innovation of public firms. In particular, existing evidence suggests that the JOBS Act's de-burdening provisions increases informational asymmetry for newly public firms, but does little to increase the attractiveness of going public (e.g., Dambra et al. 2015, Barth et al. 2017, Chaplinsky et al. 2017). We document increased investment and investment efficiency as two important longer-run benefits to these provisions. Our results are particularly timely given the recent expansion of the de-burdening provisions to firms with public floats of up to \$250 million (SEC 2018). An intriguing avenue for future research is to determine the specific de-burdening provisions that are most responsible for these benefits.

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## Appendix A

### JOBS Act provisions under the “IPO on-ramp” for Emerging Growth Companies (EGCs)

	<i>Pre-JOBS Act</i>	<i>Post-JOBS Act available to EGCs</i>	<i>Post-JOBS Act available to SRCs</i>
<b>PRE-IPO PROVISIONS:</b>			
<i>Confidential filing</i>	No confidential filing for U.S. issuers.	Emerging growth companies (EGCs) may submit draft IPO registration statements to the SEC for confidential review (to go public, registration statements and any amendments must be publicly filed with SEC no later than 21 days before the road show).	New provision under the JOBS Act.
<i>Testing-the-waters</i>	Written and oral communications regarding the offering prior to filing the registration statement is generally prohibited. During offering, written communications other than prospectus generally prohibited.	EGCs, either before or after filing a registration statement, may test-the-waters by engaging in oral or written communications with Qualified Institutional Buyers and individual accredited investors to determine interest in an offering.	New provision under the JOBS Act.
<i>Analyst IPO Involvement</i>	<ul style="list-style-type: none"> <li>• Research reports by offering participants in connection with the offering may be considered prospectuses and offers for purposes of Section 12 liability and Section 5 “gun jumping” restrictions of the Securities Act of 1933.</li> <li>• Research reports and public appearances by managers and co-managers are prohibited by FINRA rules for up to 40 days after the date of the offering and within 15 days before or after the expiration of lock-up provisions, subject to certain exceptions.</li> <li>• FINRA rules include extensive restrictions on the ability of research</li> </ul>	<ul style="list-style-type: none"> <li>• Research reports by offering participants in connection with offerings for common equity securities are not considered prospectuses or offers for purposes of Section 12 liability and Section 5 “gun jumping” restrictions of the Securities Act of 1933.</li> <li>• FINRA rules prohibiting publication of research reports and public appearances do not apply to those by offering participants following the IPO or prior to the expiration of lock-up provisions.</li> <li>• SEC and FINRA rules may not restrict investment bankers from arranging for communications between research analysts and potential investors or research analysts from participating in communications with management in</li> </ul>	New provision under the JOBS Act.

	analysts and investment bankers to interact.	the presence of investment bankers; rules are otherwise unaffected.	
<b>DE-BURDENING PROVISIONS (providing scaled disclosure and opt-outs of previous or future regulations):</b>			
<i>Reduced financial statement disclosure</i>	<ul style="list-style-type: none"> <li>• Three years of audited financial statements in IPO registration statement.</li> <li>• Five years of selected financial data in IPO registration statement, subsequent registration statements and periodic reports.</li> </ul>	<ul style="list-style-type: none"> <li>• Two years of audited financial statements in IPO registration statement.</li> <li>• Two years of selected financial data in IPO registration statement. Selected financial data in subsequent registration statements limited to earlier audited period presented in IPO registration statement.</li> </ul>	Available to SRCs under Regulation S-K.
<i>Reduced compensation disclosure</i>	Compensation, discussion and analysis section and compensation disclosure for five named executive officers in IPO registration statement and subsequent annual reports.	No compensation, discussion and analysis section. Compensation disclosure for three named executive officers in IPO registration statement and subsequent annual reports.	Available to SRCs under Regulation S-K.
<i>Auditor attestation opt-out</i>	Management assessment and auditor attestation of internal control over financial reporting beginning with second 10-K following IPO.	Only management assessment of internal control over financial reporting beginning with second 10-K following IPO.	Available to SRCs under Regulation S-K.
<i>Future GAAP accounting or PCAOB auditing standards opt-out</i>	Must comply with applicable new or revised financial accounting standards.	Not required to comply with any new or revised financial accounting or auditing standards (cannot selectively comply).	New provision under the JOBS Act.
<i>Executive compensation vote opt-outs</i>	Must hold non-binding advisory shareholder votes on executive compensation (specifically, Say-on-Pay, Say-on-Frequency, or Say-on-Golden Parachute vote required by the Dodd-Frank Act and SEC rules).	Exempt from holding non-binding advisory shareholder votes on executive compensation (specifically, Say-on-Pay, Say-on-Frequency, or Say-on-Golden Parachute vote).	SRCs were exempted from Say-on-Pay through January 21, 2013.

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Derived from Goodwin Procter LLP publication: “JOBS ACT: A New IPO Playing Field for Emerging Growth Companies” and Dambra, Field, and Gustafson (2015).  
[http://www.goodwinprocter.com/Publications/Newsletters/Client-Alert/2012/~/\\_/media/E7463DA9940544CF83D8715CC1E67A98.pdf](http://www.goodwinprocter.com/Publications/Newsletters/Client-Alert/2012/~/_/media/E7463DA9940544CF83D8715CC1E67A98.pdf)

**Appendix B**  
**Variable Descriptions**

<b>Variable</b>	<b>Definition (source)</b>
<i>Investment</i>	The sum of quarterly capital expenditures and research development scaled by lagged quarterly assets (Compustat).
<i>Capital Expenditure</i>	Quarterly capital expenditures scaled by lagged quarterly assets (Compustat).
<i>R&amp;D Expenditure</i>	Quarterly research development scaled by lagged quarterly assets (Compustat).
<i>JOBS IPO</i>	An indicator variable equal to 1 if an issuer's IPO date occurs after December 8, 2011, and 0 otherwise.
<i>Market-to-Book</i>	The market value of equity + book assets – stockholders' equity scaled by book assets (Compustat).
<i>Op. Cash Flow</i>	Quarterly cash flows from operations scaled by lagged quarterly assets (Compustat).
<i>Ln(Proceeds)</i>	The natural log of IPO proceeds (SDC).
<i>Non-SRC</i>	An indicator variable equal to 1 if the issuer is eligible for small reporting company (SRC) status under SEC regulations and 0 otherwise. The regulations required that an SRC have a public float of less than \$75 million. Following Chaplinsky, Hanley, and Moon (2017), we use the company's IPO proceeds to calculate an issuer's public float for the firm-quarters immediately following an IPO. We use IPO proceeds until the issuer publicly issues a 10-Q for their second fiscal quarter, which determines EGC for the following year, consistent with SEC regulation. For the quarters following the year in which a firm first publicly disclosed their second fiscal year float, we hand collect the public float from firms' annual reports (SDC, hand collection).
<i>Lag Ln(Float)</i>	The natural log of an issuers' float as determined above (SDC, hand collection).
<i>Ln(Assets)</i>	The natural log of the firm's lagged quarterly assets (Compustat).
<i>MOB Ind.</i>	An indicator variable equal to 1 if an issuer's actual EPS either exactly meets the consensus analyst forecast or beats analyst consensus EPS by \$0.01, and 0 otherwise. We restrict the analyst consensus to be no more than 30 days following the end of the quarter (I/B/E/S Summary).
<i>Venture IPO</i>	An indicator variable equal to 1 when the issuer is owned by a venture capitalist firm at the time of the IPO, and 0 otherwise (SDC).
<i>Hi-Tech IPO</i>	An indicator variable equal to 1 when an issuer is classified as a high-tech firm, and 0 otherwise (SDC).
<i>Biotech IPO</i>	An indicator variable equal to 1 when an issuer has a Global Industry Standard (GICS) code equal to 352010 "Biotechnology", and 0 otherwise (Compustat).
<i>Ln(Revenue)</i>	The natural log of 1+ the firm's quarterly revenues (Compustat).
<i>Dual</i>	An indicator variable equal to 1 if an IPO issuer has multiple classes of shares, and 0 otherwise (Jay Ritter's webpage).

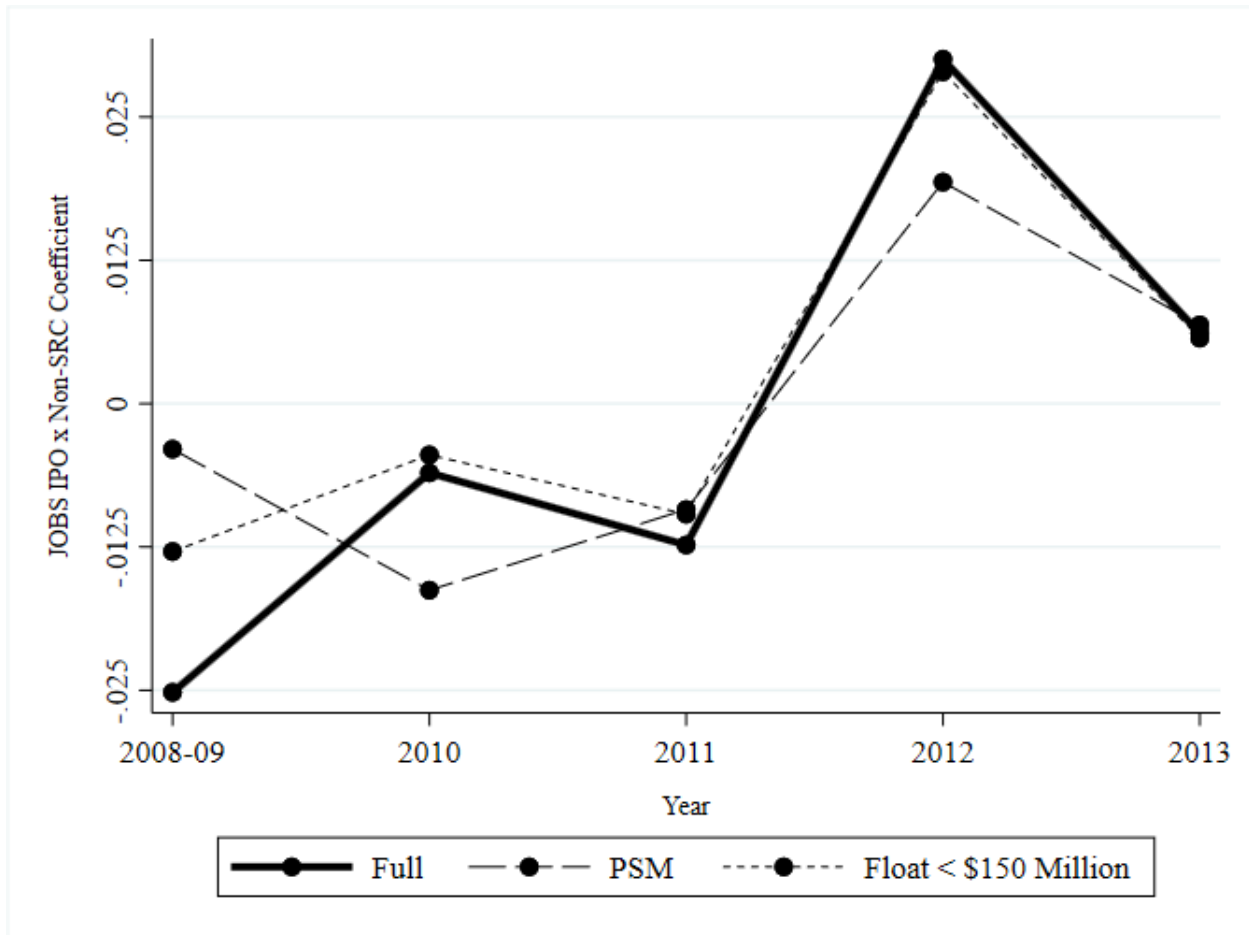
## Figure 1: Identification Strategy

This figure provides an illustration of our identification strategy. Firm quarters are categorized by their public float and their IPO date. We restrict our sample to the first full eight quarters following the IPO for issuers with revenues of less than \$1 billion. If their public float is less than \$75 million, then the firm is eligible for smaller reporting company (SRC) status. Following Chaplinsky et al. (2017), we use the company's IPO proceeds to calculate an issuer's public float for the firm-quarters immediately following an IPO. We use IPO proceeds until the issuer publicly issues a 10-Q for their second fiscal quarter, which determines EGC for the following year. For the quarters following the year in which a firm first publicly disclosed their second fiscal year float, we hand-collect the public float from firms' annual reports. Throughout our sample (i.e. pre- and post-JOBS Act), SRCs are exempted from the de-burdening provisions of the JOBS Act. If an observation has a public float  $\geq$  \$75 million (i.e., *Non-SRC* = 1), they only receive exemptions from the de-burdening provisions after the JOBS Act. Thus, our treated group in our difference-in-difference specification is the set of IPOs after the JOBS Act with floats  $\geq$  \$75 million. Similar to Chaplinsky et al. (2017), we conduct two separate propensity score matches (PSMs) matching Post-JOBS Act observations to Pre-JOBS Act observations with similar SRC eligibility. Specifically, we are matching post-JOBS Non-SRC observations to pre-JOBS Non-SRCs observations moving across the top row (quadrant I to quadrant II). We conduct a similar match with SRC observations in the bottom row (quadrant III to quadrant IV). To assign propensity scores, we run a logit with *JOBS IPO* as the dependent variable and investment determinants as independent variables (*Lag Ln(Assets)*, *Op. Cash Flow*, *MTB*, and *Lag Ln(Float)*) for SRCs and Non-SRCs separately. We use 1-to-1 matching without replacement using calipers.

		IPO Issue Date		Status
		Post-JOBS Act ( <i>JOBS IPO</i> = 1)	Pre-JOBS Act ( <i>JOBS IPO</i> = 0)	
Public Float	$\geq$ \$75 Million ( <i>Non-SRC</i> = 1)	Non-SRC (I)	Non-SRC (II)	Non-SRCs are exempted from de-burdening provisions <i>only after the JOBS Act</i> .
	< \$75 Million ( <i>Non-SRC</i> = 0)	SRC (III)	SRC (IV)	SRCs are exempted from de-burdening provisions pre- and post-JOBS Act.

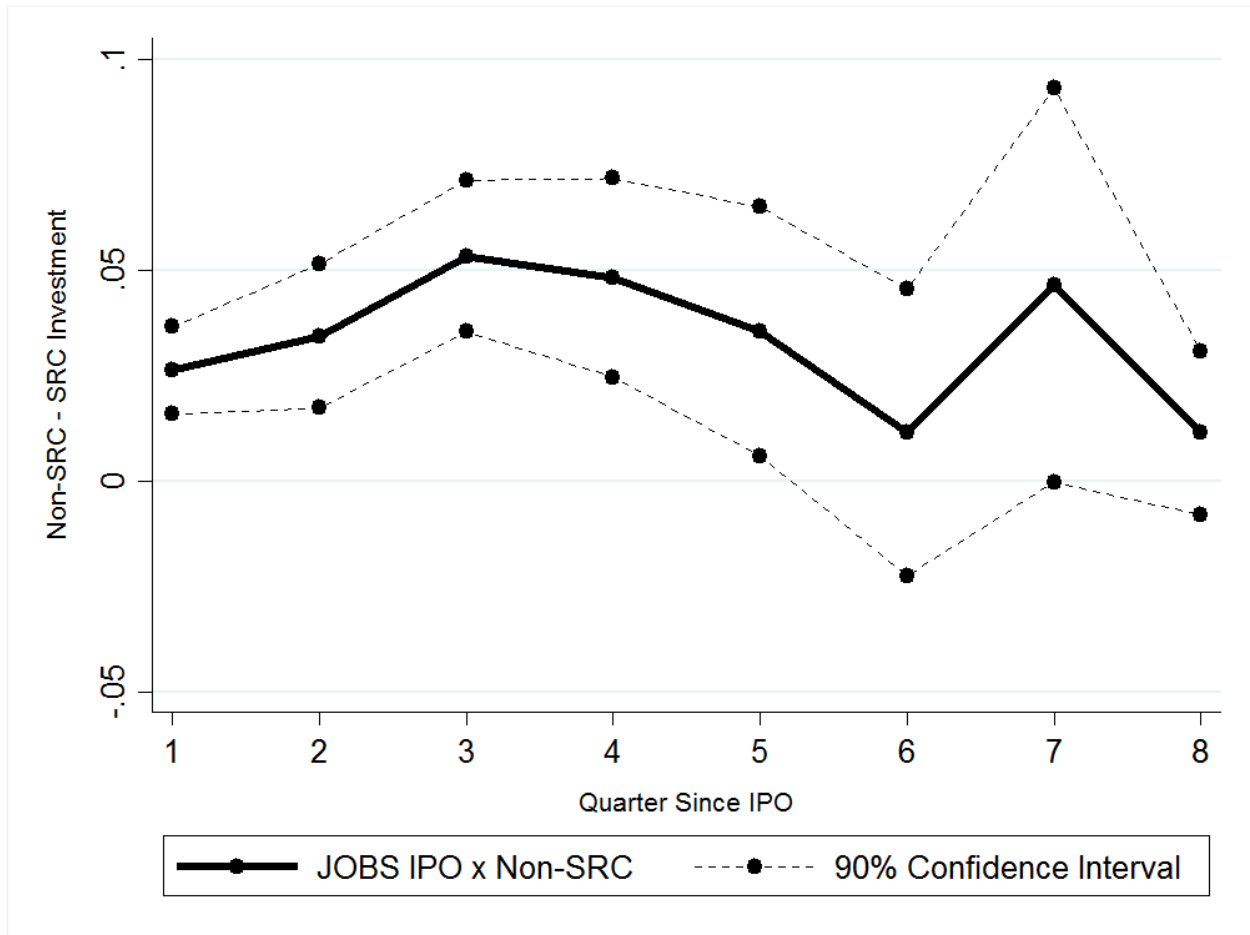
**Figure 2: Parallel Trend Analysis**

Each line presents coefficient estimates for *Non-SRC* (i.e., an indicator variable for over \$75 million in public float) interacted with indicators for each year, where the dependent variable is investment, defined as quarterly capital plus research and development expenditures scaled by beginning of quarter assets. The solid line uses the full sample and a specification identical to that in Column 3 of Table 4, except that we remove the *JOBS IPO* indicator and interact *Non-SRC* with indicators for each calendar year. We group years 2008 and 2009 because of the small sample of IPO issuers during this period. The long dashed lines represent the coefficient estimates from our propensity scored matched regression. The short dash lines represent the coefficient estimate from our model whereby we restrict our sample to those firms with public floats less than \$150 million.



**Figure 3: JOBS IPO  $\times$  Non-SRC Coefficient by Quarter since IPO**

This solid line presents coefficient estimates for the *JOBS IPO*  $\times$  *Non-SRC* interaction, where the dependent variable is investment, defined as quarterly capital plus research and development expenditures scaled by beginning of quarter assets. The specification is identical to that in Column 3 of Table 4, except that our regression samples are restricted to one observation per firm grouped by the post-IPO quarter when each observation occurred. Thus, we run eight separate regressions. The x-axis plots the interaction coefficients for each quarter sample following the IPO. The sample sizes for each quarterly regression range from 315 in quarter one to 284 in quarter eight. The dashed line presents 90% confidence intervals on estimated coefficient.





**Table 1: Descriptive Statistics**

Panel A provides descriptive statistics for the variables used in our subsequent empirical analysis. Panel B provides a descriptive comparison of firm characteristics between Non-SRC eligible (i.e. Float  $\geq$  \$75M) and control (i.e. Float  $<$  \$75M) firms. For continuous (discrete) variables, \*, \*\*, and \*\*\* correspond to statistical significance at the 1%, 5%, and 10% levels, respectively, using difference in means tests (Fischer's Exact Tests). See Appendix B for variable definitions.

Panel A: Full Sample Descriptive Statistics

<b>Variable</b>	<b>N</b>	<b>Q1</b>	<b>Mean</b>	<b>Median</b>	<b>Q3</b>	<b><math>\sigma</math></b>
<i>Investment</i>	2,505	0.02	0.06	0.05	0.08	0.05
<i>Capital Expenditure</i>	2,505	0.00	0.02	0.01	0.02	0.03
<i>R&amp;D Expenditure</i>	2,505	0.00	0.04	0.03	0.06	0.05
<i>JOBS IPO</i>	2,505	0.00	0.53	1.00	1.00	0.50
<i>Non-SRC</i>	2,505	1.00	0.79	1.00	1.00	0.41
<i>Lag Assets</i>	2,505	113.07	412.60	198.84	469.47	542.75
<i>Op. Cash Flow</i>	2,505	-0.06	-0.01	0.01	0.04	0.08
<i>Market-to-book</i>	2,505	1.72	3.51	2.73	4.34	2.55
<i>Float</i>	2,505	85.00	299.20	161.49	346.45	409.91
<i>IPO Proceeds</i>	2,505	70.00	144.55	104.65	178.60	130.38
<i>Revenues</i>	2,505	9.55	65.74	39.32	90.09	78.27
<i>Venture IPO</i>	2,505	0.00	0.60	1.00	1.00	0.49
<i>Hi-Tech IPO</i>	2,505	0.00	0.65	1.00	1.00	0.48
<i>Biotech IPO</i>	2,505	0.00	0.16	0.00	0.00	0.37
<i>MOB</i>	2,440	0.00	0.15	0.00	0.00	0.36
<i>Dual</i>	2,505	0	0.1	0	0	0.3

Panel B: Descriptive Statistics Partitioned by Non-SRC and Control Status

<b>Variable</b>	<b>Control</b>		<b>Non-SRC</b>		<b>Difference</b>	
	<b>N</b>	<b>Mean</b>	<b>N</b>	<b>Mean</b>		
<i>Investment</i>	527	0.07	1,978	0.05	-0.02	***
<i>Capital Expenditure</i>	527	0.01	1,978	0.02	0.01	***
<i>R&amp;D Expenditure</i>	527	0.06	1,978	0.03	-0.03	***
<i>JOBS IPO</i>	527	0.54	1,978	0.53	-0.01	
<i>Lag Assets</i>	527	109.48	1,978	493.36	383.88	***
<i>Op. Cash Flow</i>	527	-0.07	1,978	0	0.07	***
<i>Market-to-book</i>	527	3.03	1,978	3.63	0.6	***
<i>Float</i>	527	45.28	1,978	366.86	321.58	***
<i>IPO Proceeds</i>	527	47.65	1,978	170.37	122.72	***
<i>Revenues</i>	527	23.08	1,978	77.11	54.03	***
<i>Venture IPO</i>	527	0.59	1,978	0.6	0.01	
<i>Hi-Tech IPO</i>	527	0.74	1,978	0.63	-0.11	***
<i>Biotech IPO</i>	527	0.27	1,978	0.14	-0.13	***
<i>MOB</i>	469	0.1	1,971	0.16	0.06	***
<i>Dual</i>	527	0.11	1,978	0.10	0.30	

**Table 2: Relative Characteristics of Non-SRC and Control Issuers Surrounding JOBS**

This table presents estimates from regressions of IPO issuer characteristics on an indicator for a firm that is Non-SRC (i.e., has \$75 million or greater in public float), an indicator for a JOBS Act IPO (i.e., after December 8, 2011) and their interaction. No control variables or fixed effects are included in the regression. The dependent variables are listed at the top of each column and are defined in Appendix B. T-statistics, computed using standard errors that are clustered at the firm and year-quarter levels, are presented in parentheses below the coefficient. \*, \*\*, and \*\*\* correspond to statistical significance at the 1%, 5%, and 10% levels, respectively.

## Panel A: Size of IPO Issuers

	(1) Ln(Proceeds)	(2) Ln(Assets)	(3) Ln(Revenue)
<i>JOBS IPO</i> × <i>Non-SRC</i>	-0.097 (-0.70)	-0.166 (-0.78)	-0.053 (-0.14)
<i>JOBS IPO</i>	-0.080 (-0.70)	-0.084 (-0.48)	-0.315 (-0.98)
<i>Non-SRC</i>	1.354*** (13.57)	1.466*** (9.51)	1.756*** (6.53)
<i>Constant</i>	3.811*** (48.63)	4.275*** (34.34)	2.006*** (8.34)
Adj. R-squared	0.507	0.333	0.237
# SRC Pre(Post)-JOBS	43 (53)	43 (53)	43 (53)
# Non-SRC Pre(Post)-JOBS	109 (121)	109 (121)	109 (121)
# Observations	326	326	326

## Panel B: Type of IPO Issuers

	(4) Venture IPO	(5) Hi-tech IPO	(6) Biotech IPO
<i>JOBS IPO</i> × <i>Non-SRC</i>	0.038 (0.32)	0.026 (0.24)	-0.037 (-0.38)
<i>JOBS IPO</i>	0.032 (0.33)	0.025 (0.29)	0.191** (2.13)
<i>Non-SRC</i>	-0.087 (-0.98)	-0.199** (-2.47)	-0.159** (-2.57)
<i>Constant</i>	0.628*** (8.47)	0.767*** (11.84)	0.186*** (3.12)
Adj. R-squared	-0.001	0.025	0.093
# SRC Pre(Post)-JOBS	43 (53)	43 (53)	43 (53)
# Non-SRC Pre(Post)-JOBS	109 (121)	109 (121)	109 (121)
# Observations	326	326	326

**Table 3: Propensity Score-Matched Descriptive Statistic Comparison**

This table provides descriptive statistics comparing the average differences in SRC eligible and SRC ineligible firm-quarters before and after the JOBS Act. Following Chaplinsky et al. (2017), we conduct two separate propensity score matches (PSM) for SRC-eligible and -ineligible firms. Our PSM characteristics are the independent variables in equation 1 (*Op. Cash Flow*, *Market-to-Book*, *Lag Ln(Assets)*, and *Lag Ln(Float)*) and the dependent variable is *JOBS IPO*. We use one-to-one PSM matching and require our matches to be within the same Fama French 12 industry along with a separate industry specifically for biotech firms (GICS = 352010). Following the prior literature, we require that the maximum caliper width on the PSM matched pairs to be equal to 0.20 of the standard deviation of the propensity scores from our logit models (Austin 2011). Panel A (B) provides the comparison of descriptive statistics for SRC ineligible (eligible) firms. The definitions of the below variables are provided in Appendix B. For continuous (discrete) variables, \*, \*\*, and \*\*\* correspond to statistical significance at the 1%, 5%, and 10% levels, respectively, using difference in means tests (Fischer's Exact Tests).

## Panel A: Non-SRC Comparison

Variable	<i>JOBS IPO = 0</i>			<i>JOBS IPO = 1</i>			
	N	Mean	$\sigma$	N	Mean	$\sigma$	
<i>MTB</i>	639	3.598	2.718	639	3.496	2.281	
<i>Op. Cash Flow</i>	639	0.007	0.07	639	0.006	0.061	
<i>Lag Ln(Assets)</i>	639	5.738	1.025	639	5.788	0.901	
<i>Lag Ln(Float)</i>	639	5.538	0.84	639	5.541	0.825	
<i>Venture IPO</i>	639	0.579	0.494	639	0.592	0.492	
<i>Biotech IPO</i>	639	0.063	0.242	639	0.063	0.242	
<i>Lag Ln(Revenues)</i>	639	3.876	1.323	639	3.934	1.268	
<i>Ln(IPO Proceeds)</i>	639	5.01	0.673	639	4.885	0.563	***
<i>Hi-Tech IPO</i>	639	0.643	0.479	639	0.617	0.487	
<i>Dual Class</i>	639	0.089	0.285	639	0.108	0.311	

## Panel B: SRC Eligible Comparison

Variable	<i>JOBS IPO = 0</i>			<i>JOBS IPO = 1</i>			
	N	Mean	$\sigma$	N	Mean	$\sigma$	
<i>MTB</i>	135	3.145	2.844	135	2.983	2.064	
<i>Op. Cash Flow</i>	135	-0.074	0.108	135	-0.074	0.093	
<i>Lag Ln(Assets)</i>	135	4.278	1.06	135	4.155	0.891	
<i>Lag Ln(Float)</i>	135	3.714	0.552	135	3.718	0.512	
<i>Venture IPO</i>	135	0.607	0.49	135	0.689	0.465	
<i>Biotech IPO</i>	135	0.311	0.465	135	0.311	0.465	
<i>Lag Ln(Revenues)</i>	135	1.959	1.647	135	1.68	1.601	
<i>Ln(IPO Proceeds)</i>	135	3.775	0.659	135	3.626	0.66	*
<i>Hi-Tech IPO</i>	135	0.756	0.431	135	0.793	0.407	
<i>Dual Class</i>	135	0.089	0.286	135	0.104	0.306	

**Table 4: Post-IPO Investment and the Burdens to being Public**

This table regresses quarterly investment, defined as quarterly capital plus research and development expenditures scaled by beginning of quarter assets, on  $JOBS\ IPO \times Non-SRC$  where  $JOBS\ IPO$  indicates a firm going public after December 8, 2011, and  $Non-SRC$  indicates a firm with greater than or equal to \$75 million in public float. The sample contains up to eight observations per firm corresponding to the first eight full quarters that the firm is public. In all columns, we control for Fama-French 49 industry fixed effects plus a 50<sup>th</sup> separate biotech indicator. In all columns except for Column 1, we control for the natural log of lagged total assets and public float, contemporaneous market-to-book and operating cash flows, year-quarter fixed effects, and fixed effects for the firm's fiscal quarter and the number of quarters since the IPO. We also control for issue-year fixed effects so we suppress the coefficient estimates on the  $JOBS\ IPO$  indicator. See Appendix B for detailed variable definitions. T-statistics, computed using standard errors that are clustered at the firm and year-quarter levels, are presented in parentheses below the coefficient. \*, \*\*, and \*\*\* correspond to statistical significance at the 1%, 5%, and 10% levels, respectively.

	Full Sample (1)	Full Sample (2)	Float < \$150M (3)	PSM Sample (4)
	Quarterly Investment			
<b><i>JOBS IPO</i> × <i>Non-SRC</i></b>	0.027*** (2.96)	0.027*** (3.40)	0.024** (2.53)	0.028*** (2.82)
<i>Non-SRC</i>	-0.016** (-2.26)	-0.012* (-1.98)	-0.007 (-0.64)	-0.010 (-1.40)
<i>Lag Ln(Assets)</i>		-0.011*** (-4.07)	-0.007* (-1.72)	-0.013*** (-5.15)
<i>Op. Cash Flow</i>		-0.153*** (-4.86)	-0.195*** (-4.98)	-0.152*** (-3.52)
<i>MTB</i>		0.002*** (2.86)	0.004*** (3.91)	0.002** (2.28)
<i>Lag Ln(Float)</i>		0.008*** (3.05)	0.004 (0.49)	0.007** (2.54)
Issue Year FEs	YES	YES	YES	YES
FF49 + Biotech FEs	YES	YES	YES	YES
Year-Quarter FEs	NO	YES	YES	YES
Fiscal Quarter FEs	NO	YES	YES	YES
Quarter since IPO FEs	NO	YES	YES	YES
Adj. R-squared	0.363	0.442	0.491	0.500
# SRC Pre(Post)-JOBS	240 (287)	240 (287)	217 (250)	135 (135)
# Non-SRC Pre(Post)-JOBS	936 (1,042)	936 (1,042)	264 (339)	639 (639)
# Observations	2,505	2,505	1,070	1,548

**Table 5: Within Firm Post-IPO Investment Change and the Burdens to being Public**

This table regresses the post-IPO change in investment, defined as the difference between post-IPO annual capital plus research and development expenditures and the same sum prior to the IPO all scaled by pre-IPO assets, on  $JOBS\ IPO \times Proceeds \geq 75$  where  $JOBS\ IPO$  indicates a firm going public after December 8, 2011, and  $Proceeds \geq 75$  indicates a firm with IPO proceeds greater than or equal to \$75 million in public float. The sample contains up to two observations per firm corresponding to the first two years following the IPO. In Column 1, the sample is restricted to Non-SRCs. All Columns except for Column 1 control for issue year fixed effects (so we suppress the coefficient on  $JOBS\ IPO$ ). All columns include Fama-French 49 industry fixed effects plus a 50<sup>th</sup> separate biotech indicator, a control for pre-IPO investment (defined as capex plus R&D divided by total assets), and fixed effects for an indicator for whether a firm is in its first or second year after the IPO. In Columns 1 and 3 we also include the natural log of pre-IPO total assets, pre-IPO operating cash flows, sales growth, and the natural log of IPO proceeds as independent variables. T-statistics, computed using standard errors that are clustered at the firm level, are presented in parentheses below the coefficient. \*, \*\*, and \*\*\* correspond to statistical significance at the 1%, 5%, and 10% levels, respectively.

	Non-SRC (1)	Full Sample	
		(2)	(3)
	Post-IPO Change in Annual Investment		
<b><i>JOBS IPO</i> × <i>Proceeds</i> ≥ 75</b>		0.608***	0.514***
		(2.89)	(2.81)
<b><i>JOBS IPO</i></b>	0.387***		
	(2.94)		
<i>Proceeds</i> ≥ 75		0.175	-0.099
		(1.25)	(-0.59)
<i>Pre-IPO Investment</i>	0.061		-0.069
	(0.07)		(-0.17)
<i>Pre-IPO Ln(Assets)</i>	-0.494***		-0.431***
	(-6.66)		(-7.98)
<i>Pre-IPO Op. Cash Flow</i>	-0.232		-0.248
	(-1.19)		(-1.64)
<i>Pre-IPO Sales Growth</i>	-0.018		0.002
	(-0.62)		(0.09)
<i>Lag Ln(Float)</i>	0.742***		0.630***
	(4.50)		(5.46)
Issue Year FEs	NO	YES	YES
FF49 + Biotech FEs	YES	YES	YES
Years since IPO FEs	YES	YES	YES
Adj. R-squared	0.410	0.200	0.397
# Proceeds ≥ 75 Pre(Post)-JOBS	194 (196)	194 (196)	194 (196)
# Proceeds < 75 Pre(Post)-JOBS	0 (0)	63 (71)	63 (71)
# Observations	390	524	524

**Table 6: Post-IPO Investment and De-burdening Provision Selection**

This table regresses investment, defined as quarterly capital plus research and development expenditures scaled by beginning of quarter assets, on indicator variables for whether a firm selected the various de-burdening provisions of the JOBS Act. Thus, the sample is restricted to firms filing to go public after the passage of the JOBS Act (i.e., JOBS IPOs). The sample contains up to eight observations per firm corresponding to the first eight full quarters that the firm is public. We control for the natural log of lagged total assets and public float as well as contemporaneous market-to-book and operating cash flows. See Appendix B for detailed variable definitions. We control for year-quarter fixed effects, issue year fixed effects, Fama-French 49 industry fixed effects plus a 50<sup>th</sup> separate biotech indicator, and fixed effects for the firm's fiscal quarter and the number of quarters since the IPO. T-statistics, computed using standard errors that are clustered at the firm and year-quarter levels, are presented in parentheses below the coefficient. \*, \*\*, and \*\*\* correspond to statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)
	Quarterly Investment				
<i>Attestation Opt-out</i>	<b>0.014**</b> (2.47)				
<i>Less Exec. Disclosure</i>		<b>0.017***</b> (3.33)			
<i>Say-on-Pay Opt-out</i>			<b>0.018***</b> (3.22)		
<i>Less Fin. Disclosure</i>				<b>-0.011</b> (-1.56)	
<i>Accounting Opt-out</i>					<b>0.001</b> (0.12)
<i>Lag Ln(Assets)</i>	-0.008 (-1.21)	-0.010 (-1.61)	-0.009 (-1.44)	-0.009 (-1.38)	-0.008 (-1.28)
<i>Op. Cash Flow</i>	-0.135** (-2.83)	-0.134** (-2.86)	-0.130** (-2.85)	-0.156** (-2.99)	-0.147** (-2.91)
<i>MTB</i>	0.002** (2.53)	0.002* (2.11)	0.002* (1.92)	0.002* (2.05)	0.002** (2.41)
<i>Lag Ln(Float)</i>	0.011*** (3.17)	0.012*** (3.22)	0.012*** (3.14)	0.011** (2.90)	0.012*** (3.52)
Issue Year FEs	YES	YES	YES	YES	YES
Year-Quarter FEs	YES	YES	YES	YES	YES
FF49 + Biotech FEs	YES	YES	YES	YES	YES
Fiscal Quarter FEs	YES	YES	YES	YES	YES
Quarter since IPO FEs	YES	YES	YES	YES	YES
Adj. R-squared	0.388	0.397	0.399	0.391	0.370
# Observations	830	830	830	762	830

**Table 7: Decomposing Investment into R&D and Capital Expenditures**

In Columns 1 and 2 this table regresses quarterly capital expenditures, defined as quarterly capital expenditures scaled by beginning of quarter assets, on  $JOBS\ IPO \times Non-SRC$  where  $JOBS\ IPO$  indicates a firm going public after December 8, 2011, and  $Non-SRC$  indicates a firm with greater than or equal to \$75 million in public float. In Columns 3 and 4, the dependent variable is quarterly R&D expenditures, defined as quarterly R&D expenditures scaled by beginning of quarter assets. The sample contains up to eight observations per firm corresponding to the first eight full quarters that the firm is public. In all columns, we control for Fama-French 49 industry fixed effects plus a 50<sup>th</sup> separate biotech indicator. In all columns, we control for the natural log of lagged total assets and public float, contemporaneous market-to-book and operating cash flows, year-quarter fixed effects, and fixed effects for the firm's fiscal quarter and the number of quarters since the IPO. We also control for issue-year fixed effects so we suppress the coefficient estimates on the  $JOBS\ IPO$  indicator. Columns 2 and 4 restrict the sample to our propensity score matched observations, while column 5 restricts the sample to firms with non-zero R&D expenditures. See Appendix B for detailed variable definitions. T-statistics, computed using standard errors that are clustered at the firm and year-quarter levels, are presented in parentheses below the coefficient. \*, \*\*, and \*\*\* correspond to statistical significance at the 1%, 5%, and 10% levels, respectively.

	Full Sample (1)	PSM Sample (2)	Full Sample (3)	PSM Sample (4)	R&D Sample (5)
	Capital Expenditure		R&D Expenditure		
<b><i>JOBS IPO</i> × <i>Non-SRC</i></b>	0.004 (1.07)	0.000 (0.06)	0.022*** (3.10)	0.026*** (2.81)	0.018** (2.20)
<i>Non-SRC</i>	-0.002 (-0.61)	0.001 (0.34)	-0.009 (-1.52)	-0.010 (-1.51)	-0.007 (-0.91)
<i>Lag Ln(Assets)</i>	-0.002 (-0.94)	-0.002 (-1.29)	-0.010*** (-5.68)	-0.010*** (-5.49)	-0.013*** (-6.25)
<i>Op. Cash Flow</i>	0.035** (2.59)	0.036** (2.20)	-0.181*** (-6.74)	-0.178*** (-4.45)	-0.208*** (-6.35)
<i>MTB</i>	0.000 (1.31)	0.001 (1.68)	0.002*** (2.81)	0.001* (1.95)	0.002*** (3.12)
<i>Lag Ln(Float)</i>	0.004** (2.09)	0.003* (1.83)	0.004** (2.29)	0.003** (2.10)	0.005* (1.90)
Issue Year FEs	YES	YES	YES	YES	YES
FF49 + Biotech FEs	YES	YES	YES	YES	YES
Year-Quarter FEs	YES	YES	YES	YES	YES
Fiscal Quarter FEs	YES	YES	YES	YES	YES
Quarter since IPO FEs	YES	YES	YES	YES	YES
Adj. R-squared	0.409	0.447	0.630	0.659	0.561
# SRC Pre(Post)-JOBS	240 (287)	135 (135)	240 (287)	135 (135)	187 (238)
# Non-SRC Pre(Post)-JOBS	936 (1,042)	639 (639)	936 (1,042)	639 (639)	592 (749)
# Observations	2,505	1,548	2,505	1,548	1,764

**Table 8: Post-IPO Change in Investment Sensitivity**

In Columns 1 through 3, this table regresses quarterly investment, defined as quarterly capital plus research and development expenditures scaled by beginning of quarter assets, on  $JOBS\ IPO \times Non-SRC \times MTB$ , where  $JOBS\ IPO$  indicates a firm going public after December 8, 2011, and  $Non-SRC$  indicates an observation with greater than or equal to \$75 million in public float. In Columns 4 through 6 the dependent variable is quarterly R&D, defined as quarterly research and development expenditures scaled by beginning of quarter assets. The sample contains up to eight observations per firm corresponding to the first eight full quarters that the firm is public. We control for the natural log of lagged total assets and public float as well as operating cash flows and all double interactions. See Appendix B for detailed variable definitions. We control for year-quarter fixed effects, Fama-French 49 industry fixed effects plus a 50<sup>th</sup> separate biotech indicator, and fixed effects for the firm's fiscal quarter and the number of quarters since the IPO. We also include issue year fixed effects so we suppress the coefficient estimates on the  $JOBS\ IPO$  indicator. T-statistics, computed using standard errors that are clustered at the firm and year-quarter levels, are presented in parentheses below the coefficient. \*, \*\*, and \*\*\* correspond to statistical significance at the 1%, 5%, and 10% levels, respectively.

	Full Sample	< \$150 Million	PSM Sample	Full Sample	< \$150 Million	PSM Sample
	(1)	(2)	(3)	(4)	(5)	(6)
	Quarterly Investment			Quarterly R&D		
<b><math>JOBS\ IPO \times Non-SRC \times MTB</math></b>	0.005*	0.005	0.008**	0.005**	0.005*	0.007**
	(1.73)	(1.61)	(2.67)	(2.15)	(1.90)	(2.61)
$Non-SRC \times MTB$	-0.006**	-0.004	-0.006***	-0.005**	-0.004	-0.006***
	(-2.28)	(-1.30)	(-3.05)	(-2.59)	(-1.66)	(-3.48)
$Non-SRC$	0.006	0.003	0.008	0.008	0.005	0.008
	(0.63)	(0.24)	(0.91)	(1.06)	(0.41)	(1.09)
$JOBS\ IPO \times Non-SRC$	0.012	0.007	0.004	0.004	0.005	0.004
	(0.94)	(0.46)	(0.30)	(0.47)	(0.47)	(0.36)
$MTB$	0.007***	0.007***	0.008***	0.006***	0.005***	0.007***
	(3.18)	(3.08)	(5.15)	(2.98)	(2.84)	(4.88)
$JOBS\ IPO \times MTB$	-0.005*	-0.004*	-0.008***	-0.004	-0.004*	-0.006**
	(-1.96)	(-1.72)	(-3.53)	(-1.67)	(-1.81)	(-2.61)
$Lag\ Ln(Assets)$	-0.011***	-0.007*	-0.013***	-0.010***	-0.010***	-0.011***
	(-4.01)	(-1.71)	(-5.16)	(-5.77)	(-2.87)	(-5.66)
$Op.\ Cash\ Flow$	-0.145***	-0.191***	-0.136***	-0.172***	-0.198***	-0.160***
	(-4.57)	(-4.73)	(-3.10)	(-6.29)	(-5.64)	(-3.85)
$Lag\ Ln(Float)$	0.008***	0.005	0.008***	0.004***	0.006	0.004**
	(3.42)	(0.68)	(2.90)	(2.75)	(1.07)	(2.72)



Issue Year FEs	YES	YES	YES	YES	YES	YES
Year-Quarter FEs	YES	YES	YES	YES	YES	YES
FF49 + Biotech FEs	YES	YES	YES	YES	YES	YES
Fiscal Quarter FEs	YES	YES	YES	YES	YES	YES
Quarter since IPO FEs	YES	YES	YES	YES	YES	YES
Adj. R-squared	0.447	0.493	0.508	0.634	0.626	0.667
# SRC Pre(Post)-JOBS	240 (287)	217 (250)	135 (135)	240 (287)	217 (250)	135 (135)
# Non-SRC Pre(Post)-JOBS	936 (1,042)	264 (339)	639 (639)	936 (1,042)	264 (339)	639 (639)
# Observations	2,505	1,070	1,548	2,505	1,070	1,548

**Table 9: Post-IPO Change in Quarterly Managerial Short-termism**

This table regresses an empirical proxy for managerial short-termism on  $JOBS\ IPO \times Non-SRC$  where  $JOBS\ IPO$  indicates a firm going public after December 8, 2011, and  $Non-SRC$  indicates a firm with greater than \$75 or equal to million in public float. To be included in the sample the firm-quarter observation must have analyst coverage in I/B/E/S. We control for the natural log of lagged total assets and public float as well as contemporaneous market-to-book and operating cash flows. We control for year-quarter fixed effects, Fama-French 49 industry fixed effects plus a 50<sup>th</sup> separate biotech indicator, and fixed effects for the firm's fiscal quarter and the number of quarters since the IPO. We also include issue year fixed effects so we suppress the coefficient estimates on the  $JOBS\ IPO$  indicator. Our dependent variable is  $MOB\ Ind.$ , an indicator variable equal to 1 if an issuer's actual EPS either exactly meets the quarterly consensus analyst forecast, or beats average analyst consensus EPS by \$0.01. See Appendix B for detailed variable definitions. T-statistics computed using standard errors that are clustered at the firm and year-quarter levels are presented in parentheses below the coefficient. \*, \*\*, and \*\*\* correspond to statistical significance at the 1%, 5%, and 10% levels, respectively.

	Full Sample (1)	< \$150 Million (2)	PSM Sample (3)
	Quarterly MOB Indicator		
<b><math>JOBS\ IPO \times Non-SRC</math></b>	<b>-0.170***</b> <b>(-4.27)</b>	<b>-0.177***</b> <b>(-4.63)</b>	<b>-0.133**</b> <b>(-2.74)</b>
<i>Non-SRC</i>	0.118*** (3.00)	0.174*** (3.17)	0.101** (2.27)
<i>Lag Ln(Assets)</i>	-0.036* (-2.03)	-0.031 (-1.24)	-0.052** (-2.54)
<i>Op. Cash Flow</i>	0.319** (2.34)	0.575** (2.58)	0.401** (2.16)
<i>MTB</i>	-0.003 (-0.99)	-0.001 (-0.18)	-0.010 (-1.25)
<i>Lag Ln(Float)</i>	0.018 (0.80)	-0.045 (-0.85)	0.046* (1.97)
Issue Year FEs	YES	YES	YES
Year-Quarter FEs	YES	YES	YES
FF49 + Biotech FEs	YES	YES	YES
Fiscal Quarter FEs	YES	YES	YES
Quarter since IPO FEs	YES	YES	YES
Adj. R-squared	0.081	0.088	0.069
# SRC Pre(Post)-JOBS	220 (249)	197 (213)	121 (125)
# Non-SRC Pre(Post)-JOBS	933 (1,038)	264 (338)	637 (636)
# Observations	2,440	1,012	1,519

**Table 10: Dual-Class IPOs and the effect of the Burdens to being Public on Investment**

In Columns 1 through 3, this table regresses quarterly investment, defined as quarterly capital plus research and development expenditures scaled by beginning of quarter assets, on  $JOBS\ IPO \times Non-SRC \times Dual$ , where  $JOBS\ IPO$  indicates a firm going public after December 8, 2011, and  $Non-SRC$  indicates an observation with greater than or equal to \$75 million in public float, and  $Dual$  is an indicator for an IPO with dual class shares. In Columns 4 through 6 the dependent variable is quarterly R&D, defined as quarterly research and development expenditures scaled by beginning of quarter assets. The sample contains up to eight observations per firm corresponding to the first eight full quarters that the firm is public. We control for the natural log of lagged total assets and public float as well as operating cash flows and all double interactions. See Appendix B for detailed variable definitions. We control for year-quarter fixed effects, Fama-French 49 industry fixed effects plus a 50<sup>th</sup> separate biotech indicator, and fixed effects for the firm's fiscal quarter and the number of quarters since the IPO. We also include issue year fixed effects so we suppress the coefficient estimates on the  $JOBS\ IPO$  indicator. T-statistics, computed using standard errors that are clustered at the firm and year-quarter levels, are presented in parentheses below the coefficient. \*, \*\*, and \*\*\* correspond to statistical significance at the 1%, 5%, and 10% levels, respectively.

	Full Sample	< \$150 Million	PSM Sample	Full Sample	< \$150 Million	PSM Sample
	(1)	(2)	(3)	(4)	(5)	(6)
	Quarterly Investment			Quarterly R&D		
$JOBS\ IPO \times Non-SRC \times Dual$	-0.044 (-1.27)	-0.027 (-0.75)	-0.074*** (-3.04)	-0.020 (-1.29)	-0.030* (-1.71)	-0.041** (-2.66)
$Non-SRC \times Dual$	0.076*** (4.10)	0.038* (1.85)	0.082*** (4.08)	0.043*** (3.63)	0.041*** (3.03)	0.053*** (4.18)
$Non-SRC$	-0.013** (-2.23)	-0.005 (-0.48)	-0.013* (-1.76)	-0.009 (-1.63)	-0.005 (-0.47)	-0.012* (-1.71)
$JOBS\ IPO \times Non-SRC$	0.027*** (3.53)	0.022** (2.36)	0.031*** (3.08)	0.021*** (2.85)	0.021** (2.43)	0.027*** (2.84)
$Dual$	-0.056*** (-4.24)	-0.057*** (-4.38)	-0.060*** (-4.35)	-0.038*** (-3.91)	-0.048*** (-4.20)	-0.045*** (-4.45)
$JOBS\ IPO \times Dual$	0.017 (0.53)	0.039 (1.33)	0.045** (2.28)	0.014 (0.99)	0.039*** (2.77)	0.034** (2.54)
$Lag\ Ln(Assets)$	-0.012*** (-4.58)	-0.008* (-1.82)	-0.014*** (-5.64)	-0.010*** (-6.13)	-0.010*** (-3.01)	-0.011*** (-5.86)
$Op.\ Cash\ Flow$	-0.145*** (-4.57)	-0.191*** (-4.69)	-0.146*** (-3.37)	-0.177*** (-6.53)	-0.200*** (-5.69)	-0.175*** (-4.34)

<i>MTB</i>	0.002** (2.72)	0.004*** (3.96)	0.002** (2.18)	0.002*** (2.77)	0.003*** (3.01)	0.001* (1.85)
<i>Lag Ln(Float)</i>	0.007*** (2.87)	0.002 (0.24)	0.006** (2.64)	0.003** (2.10)	0.004 (0.58)	0.003** (2.27)
Issue Year FEs	YES	YES	YES	YES	YES	YES
Year-Quarter FEs	YES	YES	YES	YES	YES	YES
FF49 + Biotech FEs	YES	YES	YES	YES	YES	YES
Fiscal Quarter FEs	YES	YES	YES	YES	YES	YES
Quarter since IPO FEs	YES	YES	YES	YES	YES	YES
Adj. R-squared	0.453	0.494	0.509	0.633	0.624	0.662
# SRC Pre(Post)-JOBS	240 (287)	217 (250)	135 (135)	240 (287)	217 (250)	135 (135)
# Non-SRC Pre(Post)-JOBS	936 (1,042)	264 (339)	639 (639)	936 (1,042)	264 (339)	639 (639)
# Observations	2,505	1,070	1,548	2,505	1,070	1,548