INSEAD The Business School for the World®

Working Paper

2023/56/TOM

Managerial Flexibility, Capacity Investment, and Inventory Levels

Karca D. Aral
Syracuse University, kdaral@syr.edu

Erasmo Giambona
Syracuse University, egiambon@syr.edu

Luk N. Van Wassenhove
INSEAD, luk.van-wassenhove@insead.edu

Forthcoming in *Production and Operations Management*

July 18, 2023

We study the effect of managerial time-horizon on two key operations decisions: inventory levels and capacity investment. On the one hand, we can expect operations decisions concerning capacity and inventory levels to be unaffected by any potential frictions between shareholders and managers, given that in theory they are both optimizable to meet the target service levels. On the other hand, expanding operations capacity requires significant financial resources, takes a long time to come to fruition, and faces demand uncertainty, hence investing in operations capacity may be deemed as prohibitively risky by short-term oriented executives facing shareholder pressure for higher earnings-per-share. For identification, we exploit a quasi-natural experiment (the staggered adoption of constituency statutes) that alleviated managerial short-termism by providing legal protection to executives adopting a long-term approach in their corporate decisions. Using a difference-in-differences design, we find that, after the reforms, inventory and capacity investment increased by 5.2% and 15.4%, respectively, for treated firms relative to control firms. We also find that these increases are gradual and persist over time, suggesting that they are structural in nature. We further show that the effect of the reforms on inventory levels and capacity investment are stronger for firms with ex-ante higher level of managerial short-termism, such as firms with low institutional ownership. Performance also increases relatively more for affected firms with higher ex-ante managerial short-termism. Our results pass a battery of robustness and validity tests. Interestingly, while constituency statutes are intended to protect executives from short-term oriented shareholder sanctions, our findings suggest that these statutes ultimately benefited not only executives, but also potentially the long-term interest of shareholders.

Keywords: Inventory Level; Capacity Investment; Staggered Difference in Differences; Managerial Time Horizon; Quasi-natural Experiments.
JEL classifications: G02; G30; G32; M14; M40.

We are grateful for extensive comments and suggestions from 2023 MSOM iForm SIG participants, Ludo Van der Heyden, and Marshall Fisher. We thank Professors Altonji, Elder, and Taber for kindly sharing the Stata code needed to obtain their estimator. Karca Aral and Erasmo Giambona acknowledge financial support from the Whitman Innovation Analytics Roadmap Grant, Syracuse University. Karca Aral also acknowledges financial support from The Robert H. Brethen Operations Management Institute, Syracuse University. Contact author: Erasmo Giambona, Syracuse University, 721 University Avenue, Syracuse, NY 13244-2450, USA.

1. Introduction

Managerial short-termism is defined as a managerial preference for cutting long-term investments to meet short-term performance targets (Porter, 1992). Theoretically, it is well established that stock market scrutiny forces managers concerned with their career prospects to focus on short-term performance (e.g., Narayanan, 1985; Stein, 1989; Bolton et al., 2006). There is also evidence that short-termism leads executives to cut investments (e.g., Poterba and Summers, 1995; Asker, Farre-Mensa, and Ljungqvist, 2015; Ladika and Sautner, 2020) in order to meet short-term earnings-per-share and dividend payment targets. In a survey setting, Graham, Harvey, and Rajgopal (2005) similarly find that executives would bypass positive net present value investments to meet analysts' consensus earnings, with a staggering 78% admitting that they would sacrifice long-term value to reach earnings-per-share targets. This is because cutting investments increases earnings by reducing depreciation expenses, leading to an increase in the earnings-per-share (EPS) ratio (by increasing its numerator). Additionally, lowering investments frees up cash that firms can use to repurchase their own shares outstanding, which leads to a higher EPS ratio, by reducing its denominator (e.g., Asker, Farre-Mensa, and Ljungqvist, 2015; Almeida, Fos, and Kronlund, 2016).

While these studies suggest that managerial short-termism might adversely affect firms' long-term performance, its effects on operations decisions are underexplored. In this paper, we study empirically whether and how reducing managerial short-termism affects two key operations decisions: capacity investment and inventory levels. On the one hand, we can expect operations decisions concerning capacity and inventory levels to be unaffected by any potential frictions between shareholders and managers, given that in theory they are both optimizable to meet the target service levels. On the other hand, expanding operations capacity requires significant financial resources, takes a long time to come to fruition, and faces demand uncertainty (see, for example, Van Mieghem, 2003, for a review), hence investing in operations capacity may be deemed as prohibitively risky by short-term oriented executives facing shareholder pressure for higher earnings-per-share. Further, managerial short termism could suppress inventory levels directly as short-term oriented managers may underinvest in inventory to signal low demand uncertainty to shareholders (Lai and Xiao, 2018), or indirectly due to capacity constraints. Consequently, if years of ongoing managerial short-termism have caused chronic operational underinvestment, capacity constraints, suboptimal inventory levels, and underserved demand, then we can expect both capacity investment and inventory levels to increase following a reduction in managerial short-termism. Which of these two forces would prevail in shaping a firm's capacity investment and inventory levels following a reduction in managerial short-termism is an empirical question.

To investigate this question, in this study, we exploit the quasi-natural experimental setting provided by the staggered adoption of constituency statutes by 35 U.S. states over the period 1983-2007 (Springer, 1999;

McDonnell, 2004; Standley, 2012). As we discuss in detail in Section 3, these statutes give executives significant flexibility in making decisions in the long-term interest of the corporation, by effectively limiting the risk of lawsuits against managers from short-term oriented shareholders (e.g., Keay, 2013). Therefore, constituency statutes provide an ideal setting to study the effect of a reduction in managerial short-termism on inventory levels and capacity investment.

In a staggered difference-in-difference setting, we find that inventory increased for firms incorporated in constituency states (treated firms) relative to firms not incorporated in constituency states (control firms) by about 5.2% in the years following the reforms. We find the increase in inventory to be gradual and to persist at a sizable rate over the long run. We similarly find that capacity investment increased by 15.4% for treated firms relative to control firms post reforms. Capacity investment, too, increases gradually and persists over the long term. These findings are consistent with the logic that expanding capacity takes time in practice, leading to a gradual relaxation of capacity constraints. Overall, our findings suggest that the reduction of managerial short-termism induced by constituency statutes allowed firms to expand capacity investment and inventory levels, alleviating chronic operational underinvestment and capacity constraints.

We take the issue of how potential alternative mechanisms induced by the reform could affect inventory levels and capacity investment results very seriously. All our regressions include a variety of control variables and fixed effects. This effectively allows us to compare the inventory and capacity investment of treated firms and control firms potentially affected by the same industry- and geography-wide economic and regulatory shocks, with the only difference being that treated firms are incorporated in constituency statute states, while control firms are incorporated in non-constituency statute states. Notably, our findings cannot be explained by a violation of the parallel trend assumption. Further, our results pass a battery of robustness and validity tests. Altogether, our main specifications and the numerous robustness and validity tests indicate that potential alternative mechanisms through which constituency statutes could affect inventory levels and capacity investment cannot explain our results.

Our argument is that our findings are driven by a reduction in managerial short-termism. In further support of this channel, we find that our inventory and capacity investment results are stronger when pre-reform managerial short-termism is higher. Following the literature, we measure pre-reform managerial short-termism based on whether the firm has institutional investors among its owners. Unlike retail shareholders (individuals directly owning share of public firms), institutional investors (e.g., mutual funds, pension funds, hedge funds, and other similar investors), have been recognized to have a longer-term approach and a better understanding of business dynamics (Aghion, Van Reenen, and Zingales, 2013; Eng and Shackell, 2001; Francis and Smith, 1995). This is because institutional investors have the infrastructure and human resources (e.g., business analysts) to better evaluate long-term corporate decisions. The literature has also

argued that the sophistication of institutional investors allows them to monitor and discipline executives, ensuring that managers will not underinvest (Monks and Minow, 1995). Therefore, in firms where institutional investors hold a relatively smaller share, executives are more likely to be affected by short-termism. Consequently, an increase in managerial time horizons should affect firms with low institutional ownership more, leading to a comparatively larger increase in inventory and capacity investment for these firms. In line with this prediction, our moderator tests reveal that inventory levels increased by 13.1% for firms with low pre-reform institutional ownership, relative to 3.6% for firms with high pre-reform institutional ownership following the adoption of constituency statutes. Similarly, we find that capacity investment increased by 2.9 percentage points for treated firms with low pre-reform institutional ownership relative to 0.8 percentage points for treated firms with high pre-reform institutional ownership following the reforms. This 0.029 increase for the treated firms is a 37% increase compared to the sample average of 0.078 at the base line, indicating that the effect is economically very sizable.

In our next test, we exploit pre-reform heterogeneity across firms in terms of inventory levels at the baseline. Arguably, companies with inventory levels lower than their industry peers are more likely to have been affected by managerial short termism and, as a result, they should increase inventory more relative to their industry counterparts with higher inventory levels following the reform-induced increase in long-termism. In line with this argument, we find a significantly larger increase in inventory levels following the reform for firms with pre-reform lower inventory than their industry peers. We likewise find a significantly larger increase in capacity investment for firms with pre-reform lower capacity investment than their industry counterparts.

Importantly, our findings indicate that sales and performance increased post reform especially for firms that are ex-ante more likely to benefit from higher managerial flexibility. These results have important implications for executives and policymakers. Given the benefits of managerial flexibility, policy makers can consider additional regulatory tools to increase managerial flexibility perhaps at a federal level. Relatedly, states without constituency statutes should consider adopting them. At a corporate level, managers should intensify communication efforts on how specific operational decisions and investments would be beneficial to the company. In fact, such examples already exist. In “investor calls” executives could discuss, explain, and substantiate their managerial decisions. Currently, these calls are mostly in a question & answer format where the investors retrospectively interrogate the executives on past decisions. During such calls, executives can instead take a more proactive role, and take the initiative to clearly demonstrate and advocate for future operational investment plans. In the same vein, executives can use various media channels (e.g., blogging, social media, open letters, etc.) to help shape retail investors’ attitude towards operational investments that may create future value. Relatedly, when appointing high

ranking executives, corporate boards can offer a higher level of job security for the prospective executives by contractually acknowledging the risky nature of long-term value-generating operational investment decisions.

The paper is organized as follows. Section 2 describes our institutional setting. A review of other related literature is in Section 3. Section 4 describes data and empirical design. Our main results and robustness tests are presented in Section 5. Section 6 concludes. An Online Appendix includes robustness tests and discusses them in detail.

2. Institutional Setting

In the United States, officers and directors have a fiduciary duty to act in the best interest of shareholders (e.g., Shleifer and Vishny, 1997), and shareholders can pursue legal actions against executives if managerial actions are not deemed in line with this duty. Historically, courts throughout the United States have embraced this view. In the landmark case *Dodge vs. Ford Motor Co.*, the Dodge brothers, minority shareholders in the Ford Motor Company, sued Henry Ford, the company's president, and majority shareholder, for his long-term plans to increase operational investments, expand capacity, and inventory levels. The Michigan Supreme Court ultimately decided in favor of the Dodge brothers and ordered Ford to use the retained capital to pay extra dividends to shareholders instead of implementing capacity investments.

Things started to change with the states' adoption of constituency statutes, which allow corporate executives of companies incorporated in constituency states to explicitly account for the long-term interest of the corporation, effectively limiting the risk of lawsuits and minimizing other personal costs for executives making long-term decisions. Pennsylvania was the first state to adopt a constituency statute in 1983. Ohio and Kentucky and Illinois followed Pennsylvania in 1984 and 1985, respectively, and several other states followed shortly thereafter. As of today, 35 U.S. states have adopted constituency statutes.[1] These reforms impact firms incorporated in any of the 35 states.

As an example, Section 1715.a(2) of Pennsylvania's constituency statute states that:

[1] The states with a constituency statute, which combined have a stock market capitalization of about $4 trillion at the end of our sample period (compared to about $9 trillion for the firms in non-constituency states), includes several of the top 10 U.S. states by GDP, such as Texas, New York, Florida, Illinois, and Pennsylvania. The states without a constituency statute include Delaware and California, where about 60% of firms are located. Overall, these figures suggest that an important portion of the U.S. economy was impacted by these reforms.

> "The bord of directors (…) may, in considering the best interests of the corporation, consider (…) the long-term interests of the corporation, including benefits that may accrue to the corporation from its long-term plans."

Remarkably, the language used in the constituency statutes of other states is very similar to Pennsylvania's, giving directors significant flexibility in making long-term decisions in the interest of shareholders and legally protecting them from the actions of short-term oriented shareholders (e.g., Keay, 2013).[2]

Further, these statutes also allow directors to consider the interests of other stakeholders including customers, suppliers, employees, and the community, in addition to the interest of shareholders. For the case of Pennsylvania, Section 1715.a(1) states that "the board of directors (…) may (…) consider (…) the effects of any action upon any or all groups affected by such action, including shareholders, employees, suppliers, customers and creditors of the corporation, and upon communities in which offices or other establishments of the corporation are located." How does this flexibility to consider non-equity stakeholders affect operations decisions? Magill, Quinzii, and Rochet (2015) show that, unless the firm adopts a stakeholder-oriented model, stakeholders reduce relation specific investments into the corporation making failures more likely (see, also, for example, Davis, Schoorman, and Donaldson, 1997; Freeman, Wicks, and Parmar, 2004; Hart and Zingales, 2017). A stakeholder-oriented firm internalizes the potential negative externalities on stakeholders, sets business decisions that incorporate the long-term interest of all stakeholders, and, in this way, contributes to the long-term success of the firm. The stakeholder model of the firm naturally requires a long-term approach to corporate decisions in which the firm internalizes the interest of stakeholders and builds trustworthy and long-lasting relationships (e.g., Magill, Quinzii, and Rochet, 2015; Teece, Pisano, and Shuen, 1997; Russo and Fouts, 1997; Wang and Bansal, 2012).[3] The stakeholder model, therefore, fosters managerial long-termism. Overall, constituency statutes favor managerial long-termism both directly by allowing executives to account for the long-term interest of the corporation, and indirectly by encouraging managers to incorporate the long-term interest of all stakeholders in their corporate decisions.

Our analysis reveals that there is heterogeneity as to how firms are impacted by constituency statutes across states and which constituency groups are covered (Springer, 1999; McDonnell, 2004; Standley, 2012). For 29 of the 35 states that have passed constituency statutes, the protection granted by the statutes applies to both public and private firms and is automatically effective, without any actions required from the firm. In Connecticut, South Dakota, Tennessee, and Vermont, constituency statutes apply only to public firms.

[2] Only the constituency statutes of Louisiana, Main, Missouri, Tennessee, and Wisconsin do not explicitly refer to the long-term interest of the corporation.

[3] In contrast, the corporate model of shareholder primacy (Friedman, 1970; Jensen and Meckling 1976) often directs managerial focus on short-term profitability in practice, even if this comes at the expense of other stakeholders.

Further, firms incorporated in Georgia and Tennessee need to explicitly include constituency statute provisions in their corporate charters for the statutes to be effective, while firms from Pennsylvania can opt out from constituency statutes (Springer, 1999). Because our sample includes only publicly listed firms, this analysis suggests that, for nearly all the affected states (32 of 35 states), constituency statutes automatically increased the protection granted to executives without any actions required from the firm.[4]

Altogether, constituency statutes alleviate shareholder pressures on short-term performance, allowing executives to account for the long-term interest of the corporation. This shift to a longer-term perspective is possible thanks to the flexibility and legal protection provided to managers by the constituency statutes. To the extent that the focus on the long-term interest of the corporation leads to better firm performance (which our evidence in Table 6 indicates to be the case), executives have an incentive to implement constituency statutes. This occurs because, ultimately, better performance is directly beneficial to executives, for example, in terms of job stability, as validated by the evidence that executives are less likely to be fired after the reforms.[5] In this study, we will exploit the quasi-natural experiment setup provided by the staggered adoption of constituency statutes, to study the effect of the shift in managerial time horizon on two key operations outcomes: inventory levels and capacity investment.

3. Other Related Literature

In this section, we provide a brief overview of other related literature. The empirical literature on inventory performance has considered, among other things, trends and performance in inventory policies (Rajagopalan and Malhotra, 2001; Chen, Frank, and Wu, 2005, 2007; Hendricks and Singhal, 2009; Alan, Gao, and Gaur, 2014), as well as the effects on inventory of product and retailer characteristics (Rajagopalan, 2013), market conditions (Rumyantsev and Netessine, 2007; Kesavan, Kushwaha, and Gaur, 2016), compensation issues (Wu and Lai, 2021), global sourcing (Han, Dresner, and Windle, 2008; Jain, Girotra, and Netessine, 2014), industry competition (Olivares and Cachon, 2009), and product flexibility (Olivares and Cachon, 2010). The common denominator of these studies is that they rely on empirical designs not suited to directly establish causality.

Behavioral inventory management literature has studied the effect of various behavioral biases and attitudes on inventory decisions (for a recent review, see Donohue, Ozer, and Zheng, 2020; for a recent paper, see Ma, Hao, and Aloysius, 2021). Notably, this literature has so far not considered managerial short-termism. The role of agency problems between managers and shareholders in operations decisions has been

[4] Further details and roboustness analyses concerning states' adoption of constituency statutes can be found in the Online Appendix.
[5] Table A.4, Online Appendix.

considered in a few theory studies focusing on the role of inventory and capacity investment in signaling (e.g., Lai, Xiao, and Yang, 2012; Schmidt, et al., 2015; Lai and Xiao, 2018; Liu and Schmidt, 2022).

We complement these streams of literature by studying the causal relation between managerial short-termism and strategic operations decisions. To our best knowledge, our paper is the first to do so in a quasi-natural experimental setting.

Following the call for more empirical research in operations management (Fisher, Olivares, and Staats, 2020; Terwiesch et al., 2020) and the importance of establishing causality (Ho et al., 2017), an increasing number of papers in operations management literature relies on quasi-natural experiments for identification. This literature has focused on, for example, the effect of regulation on waste reduction (Dhanorkar and Muthulingam, 2020), inventory variety and sales in the automobile industry (Cachon, Gallino, and Olivares, 2019), buyer's financial strength and sourcing strategy (Aral, Giambona, and Wang, 2021), the quality of delivery services and sales/product variety (Cui, Li, and Li, 2020), guest preferences and lodging prices (Cui, Orhun, and Hu, 2020), online matching platforms and waste reduction (Dhanorkar, 2019), pandemic shocks and vaccine market structure (Adbi et al., 2019). We contribute to this literature with a quasi-natural experiment in the context of operations strategy.

Our experimental setup is similar to that of Flammer and Kacperczyk (2016) and Gao, Li, and Ma (2021), who document an increase in patents and a reduction in the cost of debt following the staggered adoption of constituency statutes, respectively. In our empirical design, we exploit the effect of reform-induced increase in executives' legal protection from the actions of shareholders and the associated reduction in managerial short termism on inventory levels and capacity investment. Our findings provide evidence that managerial time horizon and flexibility are important determinants of a firm's operational structure.

4. Data and Methodology

We obtain our data from the following sources. Firm-level financial data are from COMPUSTAT; Institutional ownership data are from the Thomson Reuters 13-F Database; information on business combination laws and bank deregulation laws is from Bertrand and Mullainathan (2003) and Amore, Schneider, and Zaldokas (2013), respectively; and forced CEO turnover data are from Peters and Wagner (2014) and Jenter and Kanaan (2015).

Information on states that have adopted constituency statutes was obtained from LexisNexis, Justia, news agencies, state websites, and previous studies.[6] Figure 1 shows the states that have adopted a constituency

[6] These studies include, among others, Wallman (1991), Orts (1992), Von Stange (1994), Tyler (1994), Springer (1999), Adams and Matheson (2002).

statute, together with the adoption year. Pennsylvania was the first state to pass a constituency statute, in 1983. Ohio and Kentucky and Illinois followed Pennsylvania in 1984 and 1985, respectively, and several other states followed shortly thereafter. To date, 35 U.S. states have adopted constituency statutes, the most recent being Nebraska, in 2007. As we discuss in the robustness section, the passage of the statutes is unrelated to state government political affiliations or the state's economic conditions. Financial data are from COMPUSTAT, from 1979, five years prior to Pennsylvania's 1983 constituency statute, to 2012, five years after the adoption of Nebraska's 2007 constituency statute.

[Figure 1]

Table 1 presents descriptive statistics for the main variables used in the study for the combined sample, the treated firms (firms incorporated in constituency statute states), and the control firms (firms not incorporated in constituency statute states). Detailed variable definitions and descriptive statistics for the additional variables used in the paper are presented in the Online Appendix. Our sample includes firms from a variety of industries, including agriculture (0.3% of the sample), mining (3.4%), construction (1.4%), manufacturing (48.2%), transportation (11.2%), wholesale (5.2%), retail (10.7%), and services (19.6%). We exclude banks and financial institutions. There is heterogeneity in terms of inventory holdings across industries, but, for all the industries in our sample, inventories play a significant role: agriculture (inventory/lagged assets, 18.0%), mining (4.7%), construction (33.7%), manufacturing (22.1%), transportation (3.5%), wholesale (33.7%), retail (31.1%), and services (5.1%). The sample includes firms that go public at any point during the sample period, while firms that go bankrupt naturally exit the sample.

For the average firm, the natural logarithm of inventory is 3.040, or nearly $21 million (obtained by exponentiating 3.040). Average capacity investment, the ratio of capital expenditures (investment in property, plant, & equipment) to lagged assets, is 7.8%. On average, about 22% of our firm–year observations are in constituency statute states. The variable *Size*, proxied by the natural logarithm of book assets, is 5.493, or nearly $243 million. The variable *Cost of Sales*, the natural logarithm of the cost of goods sold, which is traditionally used in the operations management literature as a proxy for current demand, is 5.081, or almost $161 million. The average firm in the combined sample also has significant growth prospects, as proxied by Tobin's *q* (the ratio of the market value of assets to the book value of assets), a measure commonly used to capture expected growth in demand and investment. To be specific, an average growth prospects ratio, *Growth Prospects*, of 1.822 for the combined sample indicates that the capital market evaluates expected investment and demand growth to lead to nearly double the book value of the firm's assets. Relatedly, a gross margin, *Gross Margin*, of 0.329 indicates that the average firm in the combined sample generates significant profits after accounting for the cost of goods sold. *Capital Intensity* (e.g., Gaur, Fisher, and Raman, 2005), the ratio of the fixed assets to assets, and *Cash*, the ratio of cash reserves to assets, are about 33% and 14%, respectively.

[Table 1]

Notably, a visual inspection of Table 1 suggests that treated and control firms are generally comparable, at least in economic terms, with respect to *Growth Prospects*, 1.802 versus 1.828; *Gross Margin*, 0.336 versus 0.327; and *Capital Intensity*, 0.322 versus 0.326. There are differences, however, between treated and control firms in terms of *Size*, 5.602 (or $271 million) versus 5.463 (or $235 million) and *Cost of Sales*, 5.278 (or $196 million) versus 5.06 (or $152 million).[7]

To test the effect of constituency statute reforms on inventory, we estimate the following staggered difference-in-differences model:

$$Log\ of\ Inventory_{i,t} = \beta_1 (Constituency\ Statute)_{i,t} + \boldsymbol{Controls}_{i,t-1}\gamma + y_i + s_i \times z_t + h_i \times z_t + \varepsilon_{i,t} \quad (1)$$

where *Log of Inventory*$_{i,t}$ is the natural logarithm of the inventory of firm *i* in year *t*. We also estimate Eq. (1) using *Capacity Investment*, the ratio of capital expenditures (investment in property, plant, & equipment) to lagged assets, as the dependent variable. *Constituency Statute*$_{i,t}$ is an indicator for firms incorporated in a constituency statute state in the year the statute was adopted and the following years, and zero for any previous years. The indicator is always equal to zero for firms incorporated in states that have not passed a constituency statute. The advantage of using the natural logarithm of inventory in our setting is that the coefficient on *Constituency Statute* can conveniently be interpreted as the percentage change in inventory following the reforms. The staggered difference-in-differences approach is a more general version of the standard difference-in-differences approach, where firms in the control group are allowed to enter the treated group if they receive the treatment at a later stage during the experiment sample period (for a discussion on generalized difference-in-differences estimations, see Athey and Imbens, 2006, and de Chaisemartin and D'Haultfœuille, 2017). One potential concern with any staggered difference-in-differences design is that the later constituency statute adoptions are at least in part anticipated. In this case, the identified effect could be the average treatment effect on the treated rather than the average treatment effect or a combination of the two effects. Although this concern is potentially mitigated in our setting by the fact that several states never adopted constituency statutes and the robustness test based on the Callaway and Sant'Anna's (2021) estimator (discussed in the robustness section and the Online Appendix), the reader should keep this caveat in mind while interpreting our findings.[8]

[7] As we discuss in the Online Appendix, the standardized difference test (Rubin, 2001; Imbens and Wooldridge, 2009), suggests that economic differences between treated and control firms are not necessarily sizable.
[8] We are grateful to an anonymous referee for suggesting this argument.

Our interest is in the coefficient on *Constituency Statute*, our staggered difference-in-differences estimate, which measures the percentage change in inventory and capacity investment for firms incorporated in constituency states relative to firms incorporated in states that never passed a constituency statute during our sample period or that passed a constituency statute in a later year relative to the reference firms and only for the period when the constituency statute was not yet in effect. The selection of control variables, $\boldsymbol{Controls}_{i,t-1}$, follows standard practice in the operations management literature (e.g., Gaur, Fisher, and Raman, 2005; Rumyantev and Netessine, 2007; Kesavan, Gaur, and Raman, 2010; Jain, Girotra, and Netessine, 2014). Our base model includes *Size*, to account for firm size; *Cost of Sales*, a common measure of current demand in empirical tests of the standard newsvendor model; *Growth Prospects*, a proxy for expected growth in demand; *Gross Margin*, to control for the newsvendor model's prediction that firms with higher margins hold more inventory; *Capital Intensity*, to account for the effect of capacity on inventory; and *Cash*, which measures cash on hand that firms can quickly direct toward inventory purchases. Explanatory variables are lagged one period.

In addition, all our regressions include firm fixed effects, $\boldsymbol{y}_i$; two-digit SIC industry–year fixed effects, $\mathbf{s}_i \times \mathbf{z}_t$; and headquarters–year fixed effects, $\mathbf{h}_i \times \mathbf{z}_t$. Firm fixed effects ensure that we are effectively controlling for all possible time-invariant firm characteristics, while the year fixed effects control for nationwide economic and regulatory changes. Standard errors are double clustered at the state of incorporation–year level. Importantly, the inclusion of industry–year and headquarters–year fixed effects in all our regressions further implies that we are comparing the inventory policies of treated firms and control firms operating in the same industry and in the same location and hence potentially affected by the same industry- and geography-wide economic and regulatory shocks with the only difference being that treated firms are incorporated in constituency statute states, while the control firms are incorporated in non-constituency statute states.[9] The stringency of our regression model specification further makes it more likely that treated and control firms, which, by the empirical design, operate in the same industry and state, share similar supply and customer bases, and hence mitigates the concern that our results are potentially driven by differential shocks to sourcing activities and customer base.

[9] Headquarters and incorporation states coincide for about 30% of our firms. Our results are robust if we do not include headquarters–year fixed effects or if we drop from the sample firms with the same headquarters and incorporation states (refer to Online Appendix).

5. Results

5.1. Constituency Statutes, Inventory, and Capacity Investment

Table 2 reports results from the estimation of our base staggered difference-in-differences inventory model, Eq. (1). Across the first six estimations in Table 2, the coefficient on *Constituency Statute*, our variable of interest, is positive, statistically significant at the 1% level, and economically sizable. Starting from column 1, specification with only size as a control, we see the coefficient of 0.054, which suggests that inventory increased by about 5.4% for firms incorporated in constituency states relative to control firms in the years following the reforms.

[Table 2]

Constituency statutes could also lead to an increase in inventory by stimulating, for example, sales, growth prospects, or operating margins. For this reason, in columns 2 to 6, we re-estimate our inventory model by adding incrementally several variables to control for sales, growth prospects, gross margin, capital intensity, and cash. Focusing on column 6, specification with all control variables, we find that inventory levels increase with current demand and expected demand growth (the significantly positive coefficients for *Cost of Sales* and *Growth Prospects*, respectively) and gross margins (the significantly positive coefficient for *Gross Margin*). We further find that *Capital Intensity* (*Cash*) enters the estimation with a significantly negative coefficient indicating a potential substitution between production capacity (cash) and inventory levels (e.g., Gaur, Fisher, and Raman, 2005; Kesavan, Gaur, and Raman, 2010).

Most importantly, we notice that *Constituency Statute* enters the estimation in column 6 with a coefficient of 0.052, statistically significant at the 1% level, which is only slightly smaller than the coefficient of 0.054 in column 1, indicating that even after controlling for potential additional mechanisms through which constituency statutes could affect inventory levels, we find that inventory increased sizably, or by about 5.2%, for the treated firms. Overall, the evidence in Table 2, columns 1-6, suggests that inventory levels increased sizably for treated firms following a reduction in managerial short-termism with the adoption of constituency statutes.

Further, in column 7, we estimate Eq. (1) by adding the following indicators: *Constituency Statute* [t = 0] to *Constituency Statute* [t = 3], which are dummies for the year of the reform and for each of the three years after the reform, respectively. *Constituency Statute* [t = 4+] is an indicator for year 4 after the treatment and following years. This specification allows us to estimate how inventory increases over time. The coefficient on *Constituency Statute* [t = 0] suggests that inventory increased by 2.6% for treated firms relative to control firms in the year of the reform, but the effect is statistically insignificant. Inventory increases by 3.7% (marginally significant at the 10% level) in the year following the reform, coefficient on *Constituency Statute* [t = 1], continues to increase gradually by 4.3% and 4.8% (both statistically significant at the 1%

level) in the two years and three years after the reform, coefficients on *Constituency Statute* [t = 2] and *Constituency Statute* [t = 3], respectively, before reaching 6.4%, statistically significant at the 1% level, in year 4 after the treatment and following years, *Constituency Statute* [t = 4+]. Also, the evidence in column 7 suggests that the increase in inventory is gradual and persists over the long horizon, suggesting a structural change.

Assessing the Validity of the Experimental Design: The Parallel Trend Assumption. A key assumption of any difference-in-differences estimation is that the outcome variable for treated, and control firms follow parallel trends prior to the treatment. In our setting, the parallel trends assumption requires that, prior to the constituency statute reforms, the inventory of treated and control firms follows parallel trends. A violation of this assumption could be problematic, because it would suggest that a trend specific to the treated firms, rather than the reforms, is the reason that their inventory increased. To assess this assumption formally, we estimate Eq. (1) by adding the following indicators: *Constituency Statute* [t = -4] to *Constituency Statute* [t = 3], which are dummies for the four years prior to the treatment to the three years after the treatment, and zero otherwise. *Constituency Statute* [t = 4+] is an indicator for year 4 after the treatment and following years (e.g., Autor, 2003; Gormley and Matsa, 2011). These indicators are always equal to zero for firms incorporated in states that have not passed a constituency statute. In the absence of pre-constituency statute reform trends, we should find the pre-reform indicators, *Constituency Statute* [t = -4] to *Constituency Statute* [t = -1], to be statistically nonsignificant. Table 3, column 1, reports the results from these estimations.

[Table 3]

A simple visual inspection of Table 3, column 1, shows that none of the pre-reform indicators are statistically significant. In line with the parallel trend assumption, these findings suggest that there is no indication of an increase in inventory for the treated firms relative to the control firms prior to the adoption of constituency statutes. However, each of the post-reform indicators is significantly positive. The coefficient on *Constituency Statute* [t = 0] indicates that the increase in inventory is about 3.4% (statistically significant at the 10% level) in the year of the reform. The increase becomes a very sizable 4.5% (statistically significant at the 5% level) the year after the reform (*Constituency Statute* [t = 1]), continually increasing in the following two years, with the coefficients *Constituency Statute* [t = 2] and *Constituency Statute* [t = 3] both statistically significant at the 1% level, suggesting that the inventory of treated firms increased by about 5.1% and 5.5% two and three years after the reform, respectively. Finally, the coefficient of *Constituency Statute* [t = 4+], statistically significant at the 1% level, suggests that inventory increased by about 7.1% for treated firms relative to control firms four years after the treatment and the following years. Figure 2 plots the coefficients on the indicator variables from Table 3, column 1, together with 95% confidence intervals and visually shows no indication of any pre-reform trends in inventory for treated firms relative to control firms. In column 2, we report results from estimating a regression model similar to

column 1 without including the variable *Constituency Statute* [t = 0], which is a dummy variable equal to 1 in the year the constituency statute is passed and zero otherwise. This serves as a robustness test for using also t=0 as a baseline, while maintaining the same number of observations as in column 1. In column 3, we further report results from estimating a variant of the model in column 2 adding the variable *Constituency Statute* [t < -4], which is a dummy variable equal to 1 for the years prior to t=-4 and zero otherwise. We find no indication of a violation of parallel trends in these additional estimations. Altogether, the evidence in Table 3 and Figure 2 suggests that the parallel trend assumption holds in our settings, contributing to validating our empirical design.

[Figure 2]

As we have discussed in the Introduction, constituency statutes allow executives to be less concerned with short-term earnings-per-share targets, giving them more flexibility to invest in capacity. We expect therefore capacity investment to increase with the reform-induced decrease in short-termism. To test this expectation, we re-estimate Eq. (1) using capacity investment as a dependent variable. Table 4 reports results from these estimations. The coefficient of 0.012 on *Constituency Statute*, statistically significant at the 1% level, in Table 4, column 1, indicates that capacity investment increased by a sizable 15.4% (obtained by dividing 0.012 by the mean investment of 0.078 for the treated firms reported in Table 1) for treated firms relative to control firms in the years following the adoption of constituency states. Overall, the findings in Tables 2 and 4 suggest that the reduction of managerial short-termism induced by constituency statutes allowed firms to expand capacity investment and inventory levels.

[Table 4]

To account for the effect of alternative channels (for example, the change in innovation documented in Flammer and Kacperczyk, 2016), in Table 4, column 2, we re-estimate our capacity investment model controlling for R&D and growth prospects. Similarly, we control for number of employees and their compensation. Further, in column 3, we control for the firm's environmental, social, and governance (ESG) score from the MSCI ESG KLD database. Because the MSCI ESG KLD methodology has changed in 2010, we end the sample period in 2009 in this test. The score is based on the seven following categories: 1) community, 2) governance, 3) employee considerations, 4) diversity, 5) product quality and safety, 6) environment, and 7) human rights. Instead of using the raw ESG score, which can be biased if the number of categories vary by year, we use the adjusted ESG score based on Deng, Kang, and Low (2013), which gives equal weight to the seven categories.

Notably, the coefficient on *Constituency Statute* decreases modestly from 0.012 (or from 15.4%, obtained by dividing 0.012 by 0.078) to 0.011 (or to 14.1%, obtained by dividing 0.011 by 0.078) in column 2 after controlling for several additional channels through which constituency statutes could affect capacity

investment. The coefficient decreases a bit further but remains economically sizable at 0.009 (or to 12%, obtained by dividing 0.009 by 0.078) in column 3 after controlling for the increase in ESG orientation induced by the reforms. The estimation in Table 4, column 4, shows that the increase in capacity investment is insignificant in the year of the reform, but grows gradually starting with the year after the reform (as firms complete and expense different phases of capacity expansion) and continues to grow steadily in year 2 and 3, before reaching an effect of 0.013, statistically significant at the 1% level, in year 4 after the treatment and following years, *Constituency Statute* [t = 4+]. Hence, the evidence in column 4 suggests that the increase in capacity investment is gradual and persists over the long horizon.

Given that expanding capacity requires significant financial resources, takes a long time to come to fruition, and faces demand uncertainty (see, for example, Van Mieghem, 2003, for a review), investing in capacity may be deemed as prohibitively risky by short-term oriented executives facing shareholder pressure for higher earnings-per-share. Consequently, executives may underinvest in capacity leading to suboptimal capacity constraints. When short-termism goes down because of constituency statutes, firms incorporated in constituency statute states increase capacity investment at a sizable, albeit gradual, rate that persists over the long term as indicated by the evidence in Table 4, column 4. We also re-estimate the model in column 4 by adding *Constituency Statute* [t = -4] to *Constituency Statute* [t = -1], which are dummies for the four years prior to the treatment to one year prior to the treatment, and zero otherwise. The evidence in Table 3, columns 4-6, and Figure 3 mitigates the concern that the capacity investment results could be attributable to a violation of the parallel trend assumption.

Overall, the combined evidence in Tables 2 and 4 suggests that inventory levels and capacity investment increased significantly following a reduction in managerial short-termism with constituency statutes, alleviating ongoing operational underinvestment. These changes are gradual and persist over time, supporting the view that they are structural in nature.

Our main argument is that the increase in inventory levels and capacity investment are driven by a reduction in managerial short-termism. Therefore, we should expect our inventory and capacity investment results to be stronger when pre-reform managerial short-termism is higher, because arguably in this case the benefits of a shift to long-termism are stronger. Following the literature, we measure pre-reform managerial short-termism based on whether the firm has institutional investors among its owners. Unlike retail shareholders (individuals directly owning share of public firms), mutual funds, pension funds, hedge funds, and other similar investors (collectively known as institutional investors), have been recognized to have a longer-term approach and a better understanding of business dynamics (Aghion, Van Reenen, and Zingales, 2013; Eng and Shackell, 2001; Francis and Smith, 1995). This is because institutional investors have the infrastructure and human resources (e.g., business analysts) to better evaluate long-term corporate decisions. The

literature has also argued that the sophistication of institutional investors allows them to monitor and discipline executives, ensuring that managers will not underinvest (Monks and Minow, 1995). Therefore, in firms where institutional investors hold a relatively smaller share, executives are more likely to be affected by short-termism. Consequently, an increase in managerial time horizons should affect firms with low institutional ownership more, leading to a comparatively larger increase in inventory and capacity investment for these firms.

In Table 5, columns 1-2, we re-estimate our base inventory model in Table 2 by adding the interaction of *Constituency Statute* with *Low Inst. Ownership*, where *Low Inst. Ownership* is an indicator for firms with institutional ownership (percentage of institutional equity holdings as reported in the 13-F filings in the Thomson Reuters 13-F Database) below the industry bottom quartile in the year before the statute was adopted. The coefficient on *Constituency Statute* in Table 5, column 2, suggests that inventory increased by about 3.6%, statistically significant at the 1% level, for treated firms with high institutional ownership after the reform. The overall increase in inventory for treated firms with low institutional ownership was a much more sizable 13.1% (sum of the coefficient on the interaction term and the coefficient on the indicator *Constituency Statute*, 9.5% + 3.6%), statistically significant at the 1% level. Figure 4 displays these effects. Table 5, column 6, similarly shows that capacity investment increased by 0.029 for firms in constituency states with low institutional ownership (sum of the coefficient on the interaction term and the coefficient on the indicator *Constituency Statute*, 0.021 + 0.008) relative to treated firms with high institutional ownership (coefficient on the indicator *Constituency Statute*, 0.008). This 0.029 increase for the treated firms is a 37% increase compared to the sample average of 0.078 at the base line, indicating that the effect is economically very sizable. In support of our argument above, the evidence in columns 2 and 6 suggests that constituency statutes lead to a higher increase in inventory and capacity investment for firms with low institutional ownership.

[Table 5]

[Figure 4]

In our next test, we exploit pre-reform heterogeneity across firms in terms of inventory levels and capacity investment at the baseline. Arguably, companies with inventory levels (capacity investment) lower than their industry peers are more likely to have been affected by managerial short termism and, as a result, they should increase inventory (capacity investment) more relative to their industry counterparts with high inventory levels (capacity investment) following a reduction in short termism with constituency statutes. To perform these tests, we add the interaction of *Constituency Statute* with *Low Inventory (Low Capacity Investment)*, where *Low Inventory* (*Low Capacity Investment*) is an indicator for firms with inventory (capacity investment) below the industry bottom quartile in the year before the statute was adopted. The

coefficient on *Constituency Statute* in Table 5, column 4, suggests that inventory increased by about 4.1%, statistically significant at the 1% level, for treated firms with high inventory after the reform. Notably, the overall increase in inventory for treated firms with low pre-reform inventory was significantly larger, at 14.2% (sum of the coefficient on the interaction term and the coefficient on the indicator *Constituency Statute*, 10.1% + 4.1%), statistically significant at the 1% level. Figure 3 displays these effects. Similarly, Table 5, column 8, shows that capacity investment increased by 4.2 percentage points for firms in constituency states with low pre-reform capacity investment (sum of the coefficient on the interaction term and the coefficient on the indicator *Constituency Statute*, 0.034 + 0.008), relative to 0.008 for treated firms with high pre-reform capacity investment. Altogether, the evidence in Table 5 contribute to validate the logic of our empirical design by showing that the increase in inventory and capacity investment following the reform-induced increase in long-termism are larger when firms are more likely to face ex-ante higher levels of short-termism.

Next, we analyze whether higher flexibility leads to better performance. To perform this analysis, we start by identifying firms with inventory below the industry bottom quartile in the year prior to the reforms as those are potentially affected more by managerial short-termism. As documented in Table 5, low inventory firms are those that increase inventory significantly more following the reforms. If these increases are beneficial, we should also find that performance increases relatively more for these firms. The evidence in Table 6 confirms this expectation. In particular, we find that sales increased by a sizable 4.8% (the sum of the coefficients on Constituency Statute × Low Inventory plus Constituency Statute, 3.5%+1.3%) for treated firms with low pre-reform inventory, compared with 1.3% for treated firms with high pre-reform inventory. We similarly find that operating margin increased by 2.8 (2.2+0.6) percentage points (or about 7% compared to the sample average), statistically significant at the 1% level, for constituency statute firms with low pre-reform inventory, compared with 1.3% for constituency statute firms with high pre-reform inventory. We further find that return on equity, which measures profitability from the perspective of equity holders, increased by 11.2 (8.2+3.0) percentage points, again statistically significant at the 1% level, for treated firms with low inventory, compared with 3.0 percentage points for treated firms with high inventory. Overall, these findings suggest that the post reform increase in inventory was beneficial particularly to treated firms that were more likely to be affected by managerial short-termism prior to the reform, possibly because higher inventory allowed these firms to increase service levels and serve a higher demand.

[Table 6]

5.2. Robustness Analysis: Ruling Out Alternative Explanations

One could be concerned that the adoption of constituency statutes is not exogenous to inventory and capacity investment, in which case differences between treated and control firms, as opposed to constituency statute–induced changes in customer driven decisions, could bias our findings. In this section,

we discuss a battery of tests, in the spirit of Bertrand and Mullainathan (2003) and Flammer and Kacperczyk (2016), performed to mitigate this concern. We start by reiterating that all our regressions control for time-varying firm fundamentals, time-invariant firm characteristics with firm fixed effects, and nationwide economic and regulatory conditions with year fixed effects. Importantly, all our regressions also include industry–year and headquarters–year fixed effects.

The results of our parallel trend test also contribute to mitigating the concern that constituency statutes could be endogenous to inventory and capacity investment. In fact, if, for example, constituency statutes are passed when the economy is growing and firms increase inventory, then we should find that inventory started to increase for treated firms prior to the reform. As discussed above, we find no evidence of pre-reform trends in inventory for treated firms. In the Online Appendix, we also formally test whether the adoption of constituency statutes is affected by the state government's political affiliation and the state's economic conditions.

In the Online Appendix, we discuss in detail a battery of additional tests that allow us to rule out that an increase in innovation, growth prospects, sales, and other potential alternative mechanisms, through which constituency statutes could affect inventory levels and capacity investment, could be the reason for the increase in inventory levels and capacity investment documented in the paper. In particular, we assess the robustness of our results to a) the consideration of additional control variables (e.g., R&D), b) potential bias attributable to unobservables, using the estimator developed by Altonji, Elder, and Taber (2005), c) the role of alternative regulatory changes and different adoption years for constituency statutes,[10] d) excluding firms incorporated in states that do not refer to the long-term interest of the corporation, e) bias potentially introduced by violation of the so-called Stable Unit Treatment Value Assumption (SUTVA), f) the use of different inventory measures (e.g., inventory days, finished goods inventory, inflation adjusted inventory, industry-normalized inventory), g) accounting for the endogeneity of cost of sales and gross margin in the inventory model Kesavan, Gaur, and Raman (2010), h) matching treated and control firms, using the Abadie–Imbens (2006) nearest-neighborhood matching estimator and propensity score matching, j) and potential survivorship bias. Notably, we find no change in inventory and investment when the event time is randomly assigned (placebo tests).

One of the potential limitations with staggered difference-in-difference estimators is treatment heterogeneity across years where using firms that are treated in later years as control units in the earlier part of the sample period could bias the estimates. This concern is present if treatment effects change over time

[10] In the Online Appendix, we discuss the legislative history of the 35 constituency statutes including adoption year and the year (if any) the statute was amended, repealed, or came into effect (which involves only 7 of the 35 states). In our main tests, we identify the treatment year accounting for amendments and other changes. As we discuss in the Online Appendix, our results are robust if we use the year when the statute was first adopted as the event year.

(de Chaisemartin and D'Haultfœuille, 2020; Callaway and Sant'Anna, 2021; Baker, Larcker, and Wang, 2022). Cengiz et al. (2019) propose a treatment heterogeneity estimator based on stacked regressions preventing past treated firms from being used as part of the control group. Callaway and Sant'Anna (2021) further develop a treatment heterogentity estimator ensuring that only never-treated firms are used as comparison units, mitigating the concern that results could potentially be biased by using firms that are treated in later years as control units. As we discuss in the Online Appendix, our results are robust to using the treatment heterogeneity estimator developed to deal with the potential limitations of staggered difference-in-difference estimators. For our moderator analysis, we further find that our results are robust if we define low/high institutional ownership within low/high groups based on firm size and operating performance.

Overall, the stringency of our main empirical design and the numerous robustness tests performed strongly indicate that potential alternative mechanisms cannot explain our inventory and capacity investment results.

6. Conclusion

Because expanding capacity requires significant financial resources, takes a long time to come to fruition, and faces demand uncertainty (e.g., Van Mieghem, 2003), investing in capacity may be deemed as prohibitively risky by executives facing shareholder pressure for higher earnings-per-share. If years of ongoing managerial short-termism have caused operational underinvestment, capacity constraints, suboptimal inventory levels, and underserved demand, we could expect both capacity investment and inventory levels to increase following a reduction in managerial short-termism.

In this paper, we assess this conjecture empirically by exploiting the quasi-natural experimental setting provided by the staggered adoption of constituency statutes by 35 U.S. states over the period 1984-2007 (Springer, 1999; McDonnell, 2004; Standley, 2012). Using a staggered difference-in-differences approach, we find that, after the reforms, firms incorporated in constituency states (treated firms) increased inventory and capacity investment by 5.2% and 15.4%, respectively, relative to firms not incorporated in constituency states (control firms). We also find that these increases are gradual and persist over time, suggesting that these changes are structural in nature. We further show that the effect of constituency statutes on inventory levels and capacity investment are stronger for firms with ex-ante higher level of managerial short-termism, such as firms with low institutional ownership, which arguably benefit more from the shift to long-termism spurred by constituency statutes.

Importantly, we also find that performance increased post reform especially for firms that are ex-ante more likely to benefit from higher flexibility. Notably, while constituency statutes were intended to grant

managerial flexibility and legal protection to executives making long-term decisions, our empirical findings suggest that constituency statutes, by alleviating short-term stock market pressures, ultimately benefited not only executives, but also potentially the long-term interest of shareholders. This suggests that policy makers can consider additional regulatory tools to increase managerial long-termism perhaps at a federal level. Relatedly, states without constituency statutes should consider adopting them.

Given the benefits of managerial flexibility, executives could consider policies to intensify communication efforts on how specific operational decisions and investments would be beneficial for the company. In fact, such examples already exist. In "investor calls" executives have the opportunity to discuss, explain, and substantiate their managerial decisions. Currently, these calls are mostly in a question & answer format where the investors retrospectively interrogate the executives on past decisions. During such calls, executives can instead take a more proactive role, and take the initiative to clearly demonstrate and advocate for future operational investment plans. Similarly, executives can use various channels (e.g., open letters to shareholders, blogging, social media, press releases, etc.) to help reshape retail investors' attitudes towards operational investments that may create value in the long run. In this vein, in his first 1997 annual shareholder letter, Amazon founder and former CEO Jeff Bezos highlighted Amazon's focus on generating long-term value for its shareholders by making bold investment decisions "*in light of long-term market leadership considerations rather than short-term profitability considerations or short-term Wall Street reactions*" (Bezos, 1997). In the same letter, Jeff Bezos encourages shareholders to look past short-term, stating that Amazon's goal is maximizing the present value of future cash flows and long-term firm value. Bezos points to on-going investments in operational infrastructure that enable expanding the company's customer base while offering high service levels as a requirement for the long-term success of the company. In his own words: "*Our goal remains to continue to solidify and extend our brand and customer base. This requires sustained investment in systems and infrastructure to support outstanding customer convenience, selection, and service while we grow.*"[11] Remarkably, all of Amazon's subsequent annual shareholder letters refer to and attach Bezos's original 1997 letter reiterating Amazon's long-term focus.

Similarly, "*long-term value creation*" for shareholders is repeatedly highlighted in the Walt Disney's 2022 letters to shareholders by the chairman and the members of the board as well as in the company's proxy statements (Walt Disney, 2022). In Walmart's case, transparency and intensified communication allowed the company to invest in a major omni-channel initiative in early 2010s to create long-term shareholder value. In the words of Walmart's former CFO Brett Biggs "*being transparent allows [Walmart CEO Doug*

[11] Following the 1997 letter, in 1998, Amazon doubled its distribution capacity and increased inventory from $9 million to $30 million (Bezos, 1998). The 1998 letter specifies increasing distribution capacity and expanding product offerings as business goals for 1999.

McMillon] to say to investors, 'Here is something we plan to do for a period. You might not like the shortterm impact, but here's why you'll be happy at the other end'." (Sneader et al., 2020). A number of other companies (including, for example, Coca-Cola, General Electric, Unilever, and Pfizer) explicitly moved away from providing quarterly earnings guidance in order to focus on long-term value creation (Kotsantonis et al., 2015). In 2009, Unilever's CEO Paul Polman announced that the company would no longer provide earnings guidance in order to become more longer-term oriented, stating "*We need to ensure that we focus on creating the long-term value in today's climate*" (Kotsantonis et al., 2015).

Relatedly, when appointing high ranking executives, corporate boards can offer a higher level of job security for the prospective executives by contractually acknowledging the risky nature of long-term value-generating operational investment decisions and implement incentive plans that reward longer-term performance. For example, in 2021, The Walt Disney Company announced removing adjusted EPS as a financial metric in executive performance measures in order to motivate executives to focus on long-term shareholder value (Walt Disney, 2022).

Our findings offer several opportunities for future research. First, our empirical design can be used to study how specific operational policies related, for instance, to trade credit, strategic sourcing, or corporate social involvement may be impacted by short-termism. Second, researchers could rely on a similar empirical strategy to study the effect of managerial horizons on operational risk related, for example, to supply chain disruption or supplier unreliability. Third, research could benefit from detailed data on quantity, pricing, maturity, and other terms of contract relationships involving firms and customers, to study how these terms change when firms adopt a longer-term perspective. Fourth, future research could study how changes in the relation between the board of directors and the CEO can affect inventory policies, production efficiency, and firm value. Fifth, it would be interesting to investigate how the dynamics of the relationships between the board, the CEO, and shareholders affect operational performance across sectors with a different emphasis on operational outcomes (e.g., banks vs. pharmaceutical firms, which could give different emphasis to operations and financing decisions). Sixth, future studies could more generally consider the effect of managerial flexibility on other operations decisions, including the supply base size or the types of contractual relationships with suppliers. Finally, the theoretical operations management literature could benefit from an increased focus on agency problems between managers and shareholders, which, as we show in our paper, can be important determinants of operations decisions.

References

Abadie, A., and G. Imbens, 2006, Large Sample Properties of Matching Estimators for Average Treatment Effects, *Econometrica*, 74: 235–267.

Adams, E., and J. Matheson, 2002, A Statutory Model for Corporate Constituency Concerns, *Emory Law Journal*, 49, 1085-1135.

Adbi, A., C. Chatterjee, M. Drev, and A. Mishra, 2019, When the Big One Came: A Natural Experiment on Demand Shock and Market Structure in India's Influenza Vaccine Markets, *Production & Operations Management*, 28, 810-832.

Aghion P., J. Van Reenen, L. Zingales, 2013, Innovation and Institutional Ownership, *American Economic Review*, 103, 277–304.

Alan, Y., G.P. Gao, and V. Gaur, 2014, Does Inventory Productivity Predict Future Stock Returns? A Retailing Industry Perspective. *Management Science, 60*(10), pp.2416-2434.

Almeida, H., V. Fos, and M. Kronlund, 2016, The real effects of share repurchases, *Journal Financial Economics*, 119, 168-185.

Altonji, J., T. Elder, and C. Taber, 2005, Selection on Observed and Unobserved Variables: Assessing the Effectiveness of Catholic Schools, *Journal of Political Economy*, 113, 151-184.

Amore, M., C. Schneider, and A. Zaldokas, 2013, Credit Supply and Corporate Innovation, *Journal Financial Economics*, 109, 835–855.

Aral, K, E. Giambona, and Y. Wang, 2021, Buyer's Bankruptcy Risk, Sourcing Strategy, and Firm Value: Evidence from the Supplier Protection Act, *Management Science*, Forthcoming.

Asker, J., J. Farre-Mensa, and A. Ljungqvist, 2015, Corporate Investment and Stock Market Listing: A Puzzle? *Review of Financial Studies, 28*(2), 342–390.

Athey, S., and G. Imbens, 2006, Identification and Inference in Nonlinear Difference-in-Differences Models, *Econometrica*, 74, 431–497.

Autor, D., 2003, Outsourcing at Will: The Contribution of Unjust Dismissal Doctrine to the Growth of Employment Outsourcing, *Journal of Labor Economics*, 21, 1-42.

Bertrand, M., and S. Mullainathan. 2003, Enjoying the Quiet Life? Corporate Governance and Managerial Preferences, *Journal of Political Economy*, 111, 1043–1075.

Bezos, J.P., 1997, Annual Letter to Shareholders, *Amazon 1997 Annual Report*, Accessed June 15, 2023.

Bezos, J.P., 1998, Annual Letter to Shareholders, *Amazon 1998 Annual Report*, Accessed June 15, 2023.

Baker, A., D. Larcker, and C. Wang, 2022, How Much Should We Trust Staggered Difference-in-Differences Estimates? *Journal of Financial Economics*, 144(2), 370–395.

Bolton, P., J. Scheinkman, and W. Xiong, 2006, Executive compensation and short-termist behavior in speculative markets, *Review of Economic Studies*, 73, 577–610.

Cachon, G., S. Gallino, and M. Olivares, 2019, Does Adding Inventory Increase Sales? Evidence of a Scarcity Effect in U.S. Automobile Dealerships, *Management Science*, 65, 1469-1485.

Callaway, B., P. Sant'Anna, 2021, Difference-in-Differences with Multiple Time Periods, *Journal of Econometrics*, 225(2), 200–230.

Chen, H., M. Frank, and O. Wu, 2005, What Actually Happened to the Inventories of American Companies between 1981 and 2000? *Management Science*, 51: 1015-1031.

Chen, H., M. Frank, and O. Wu, 2007, U.S. Retail and Wholesale Inventory Performance from 1981 to 2004, *Manufacturing & Service Operations Management*, 9: 430-456.

Cui, Y., Y. Orhun, and M. Hu, 2020, Shared Lodging and Customer Preference: Theory and Empirical Evidence from Airbnb, https://ssrn.com/abstract=3136138.

Cui, R., M. Li, Q. Li, 2020, Value of High-Quality Logistics: Evidence from a Clash Between SF Express and Alibaba, *Management Science*, 66, 3799-4358.

Davis, J., F. Schoorman, and L. Donaldson, 1997, Toward a Stewardship Theory of Management, *Academy of Management Review*, 22, 20-47.

Cengiz, D., A. Dube, A. Lindner, and B. Zipperer, 2019, The Effect of Minimum Wages on Low-Wage Jobs, *Quarterly Journal of Economics 134* (3): 1405-1454.

de Chaisemartin, C., and X. D'Haultfœuille, 2017, Fuzzy Differences-in-Differences, *Review of Economic Studies*, 85, 999–1028.

de Chaisemartin, C., and X. D'Haultfœuille, 2020, Two-Way Fixed Effects Estimators with Heterogeneous Treatment Effects, *American Economic Review* 110 (9): 2964-2996.

Dhanorkar S., 2019, Environmental Benefits of Internet-enabled C2C Closed Loop Supply Chains: A Quasi-Experimental Study of Craigslist, *Management Science*, 65: 459-954.

Dhanorkar S., and S. Muthulingam, 2020, Do E-Waste Laws Create Behavioral Spillovers? Quasi-Experimental Evidence from California, *Production & Operations Management*, 29: 1738-1766.
Donohue K., Ö. Özer, and Y. Zheng, 2020, Behavioral Operations: Past, Present, and Future, *Manufacturing & Service Operations Management*, 22(1), 191-202.
Eng, L., and M. Shackell, 2001, The Implications of Long-Term Performance Plans and Institutional Ownership for Firms' Research and Development (R&D) Investments, *Journal of Accounting, Auditing & Finance*, 16, 117-139.
Fisher, M., M. Olivares, and B. Staats, 2020, Why Empirical Research Is Good for Operations Management, and What Is Good Empirical Operations Management? *Manufacturing & Service Operations Management*, 22, 170-178.
Flammer, C. and A. Kacperczyk, 2016, The Impact of Stakeholder Orientation on Innovation: Evidence from a Natural Experiment, *Management Science*, 62, 1982-2001.
Francis, J., and A. Smith, 1995, Agency costs and innovation some empirical evidence, *Journal of Accounting and Economics*, 19, 383-409.
Freeman, R., A. Wicks, and B. Parmar, 2004, Stakeholder Theory and The Corporate Objective Revisited, *Organization Science*, 15, 364-369.
Friedman, M., 1970, "Social Responsibility of Business," The New York Times, September 13, 1970; reprinted in *An Economist's Protest*, New Jersey: Thomas Horton and Co., 1972.
Gao, H, K. Li, and Y. Ma, 2021, Stakeholder Orientation and the Cost of Debt: Evidence from State-Level Adoption of Constituency Statutes, *Journal of Financial and Quantitative Analysis*, 56, 1908 - 1944.
Gaur, V., M. Fisher, and A. Raman, 2005, An Econometric Analysis of Inventory Turnover Performance in Retail Services, *Management Science*, 51, 181-194.
Gormley, T., and D. Matsa, 2011, Growing Out of Trouble? Corporate Responses to Liability Risk, *Review of Financial Studies*, 24, 2781-2821.
Graham, J., C. Harvey, and S. Rajgopal, 2005, The Economic Implications of Corporate Financial Reporting, *Journal of Accounting Economics*, 40, 3–73.
Han C, M. Dresner, and R. Windle, 2008, Impact of Global Sourcing and Exports on U.S. Manufacturing Inventories, *International Journal of Physical Distribution & Logistics Management*, 38: 475-494.
Hart, O., and L. Zingales, 2017, Companies Should Maximize Shareholder Welfare not Market Value, *Journal of Law, Finance, and Accounting*, 2, 247–274.
Hendricks, K., and V. Singhal, 2009, Demand-Supply Mismatches and Stock Market Reaction: Evidence from Excess Inventory Announcements, *Manufacturing & Service Operations Management*, 11: 509-524.
Ho, T.H., N. Lim, S. Reza, and X. Xia, 2017, OM Forum—Causal Inference Models in Operations Management, *Manufacturing & Service Operations Management*, 19, 509-525.
Imbens, G., and J. Wooldridge, 2009, Recent Developments in the Econometrics of Program Evaluation, *Journal of Economic Literature*, 47, 5-86.
Jain, N., K. Girotra, and S. Netessine, 2014, Managing Global Sourcing: Inventory Performance, *Management Science*, 60, 1083-1350.
Jensen, M., and Meckling, W., 1976, Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure, *Journal of Financial Economics* 3, 305–360.
Jenter, D., and F. Kanaan, 2015, CEO Turnover and Relative Performance Evaluation, *Journal of Finance*, 70, 2155-2184.
Keay, A., 2013, The Enlightened Shareholder Value Principle and Corporate Governance, 1st ed., London, UK, Routledge.
Kesavan, S., T. Kushwaha, and V. Gaur, 2016. Do High and Low Inventory Turnover Retailers Respond Differently to Demand Shocks? *Manufacturing & Service Operations Management*, 18,198-215.
Kesavan, S., V. Gaur, and A. Raman, 2010, Do Inventory and Gross Margin Data Improve Sales Forecasts for U.S. Public Retailers? *Management Science*, 56, 1519-1533.
Kotsantonis, S., G. Serafeim, D. Saltzman, and S. Rao, 2015, Implementing Integrated Guidance - Case Studies in Communicating Value-Relevant Information, *KKS Advisors Insights*, Accessed June 13, 2023.
Ladika, T., and Z. Sautner, 2020, Managerial Short-Termism and Investment: Evidence from Accelerated Option Vesting, *Review of Finance*, 24(2), 305–344.
Lai, G., W. Xiao, J. Yang, 2012, Supply Chain Performance Under Market Valuation: An Operational Approach to Restore Efficiency, *Management Science*, 58, 1933–1951.
Lai, G., and W. Xiao, 2018, Inventory Decisions and Signals of Demand Uncertainty to Investors, *Manufacturing & Service Operations Management*, 20, 113-129.
Liu, X., and W. Schmidt, 2022, Operational Distortion: Compound Effects of Short-Termism and Competition, *Management Science*, 68(8), 5907-5923.

Ma, S., L. Hao, and J. Aloysius, 2021, Women are an Advantage in Supply Chain Collaboration and Efficiency, *Production & Operations Management*, 30, 1427-1441.
Magill, M., M. Quinzii, and JC. Rochet, 2015, A Theory of the Stakeholder Corporation, *Econometrica*, 83, 1685-1725.
McDonnell, B.H., 2004, Corporate Constituency Statutes and Employee Governance, Willian MitchellLaw Review, 30, 1227-1259.
Monks, R., and N. Minow, 1995, Corporate Governance, Cambridge, MA: Bleckwell.
Narayanan, M, 1985, Managerial incentives for short-term results, *Journal of Finance* 40, 1469-1484.
Olivares, M., and G. Cachon, 2009, Competing Retailers and Inventory: An Empirical Investigation of General Motors' Dealerships in Isolated Markets, *Management Science*, 55, 1586-1604.
Olivares, M., and G. Cachon, 2010, Drivers of Finished-Goods Inventory in the U.S. Automotive Industry, *Management Science*, 56, 202-216.
Orts, E.W., 1992, Beyond Shareholders: Interpreting Corporate Constituency Statutes, *George Washington Law Review* 61, 14-135.
Peters, F., and A. Wagner, 2014, The Executive Turnover Risk Premium, Journal of Finance, 69, 1529–1563.
Porter, M.E., 1992, Capital Choices: Changing the Way America Invests in Industry, *Journal of Applied Corporate Finance*, 5: 4-16.
Poterba, J., and L. Summers, 1995, A CEO survey of U.S. companies' time horizons and hurdle rates, *Sloan Management Review*, 37, 43–53.
Rajagopalan, S., 2013, Impact of Variety and Distribution System Characteristics on Inventory Levels at U.S. Retailers, *Manufacturing & Service Operations Management*, 15: 191-204.
Rajagopalan, S., and A. Malhotra, 2001, Have U.S. Manufacturing Inventories Really Decreased? An Empirical Study, *Manufacturing & Service Operations Management*, 3: 14-24.
Rubin, D., 2001, Using Propensity Scores to Help Design Observational Studies: Application to the Tobacco Litigation, *Health Services & Outcomes Research Methodology*, 2, 169-188.
Rumyantsev, S., and S. Netessine, 2007, What Can Be Learned from Classical Inventory Models? A Cross-industry Exploratory Investigation, *Manufacturing & Service Operations Management*, 9:409-429.
Russo, M., and P. Fouts, 1997, A Resource-Based Perspective on Corporate Environmental Performance and Profitability, *Academy of Management Journal*, 40, 534-559.
Schmidt, W., V. Gaur, R. Lai, and A. Raman., 2015, Signaling to Partially Informed Investors in the Newsvendor Model, *Production & Operations Management*, 24, 383-401.
Shleifer, A. and R. Vishny, 1997, A Survey of Corporate Governance, *Journal of Finance*, 52, 737-783.
Sneader, K., S. K. Williamson, T. Koller, V. Potter, and A. Babcock, 2020, Corporate Long-Term Behaviors: How CEOs and Boards Drive Sustained Value Creation, *McKinsey & Company Insights*, Accessed June 13, 2023.
Springer, J., 1999, Corporate Constituency Statutes: Hollow Hopes and False Fears, *Annual Survey of American Law*, 85-128.
Standley, N.E., 2012, Lessons Learned from the Capitulation of the Constituency Statute, *Elon Law Review*, 4, 209-233.
Stein, J., 1989, Efficient capital markets, inefficient firms: A model of myopic corporate behavior, *Quarterly Journal of Economics*, 104, 655–669.
Teece, D., G. Pisano, and A. Shuen, 1997, Dynamic Capabilities and Strategic Management, *Strategic Management Journal*, 18, 509-533.
Terwiesch, C., M. Olivares, B. Staats, and V. Gaur, 2020, A Review of Empirical Operations Management over the Last Two Decades, *Manufacturing & Service Operations Management*, 22, 645-867.
Tyler, R., 1994, Other Constituency Statutes, *Missouri Law Review*, 59, 373-426.
Wallman, S. M.H, 1991, The Proper Interpretation of Corporate Constituency Statutes and Formulation of Director Duties, *Stetson Law Review*, 21, 163-196.
Walt Disney, 2022, Notice of Annual Meeting of Shareholders and Proxy Statement, Accessed June 13, 2023.
Wu, Q., and G. Lai, 2021, The Effects of Stock-Based Incentives on Inventory Management, *Management Science*, Forthcoming.
Van Mieghem, J.A., 2003, Commissioned paper: Capacity management, investment, and hedging: Review and recent developments, *Manufacturing & Service Operations Management*, 5(4), 269-302.
Von Stange, G., 1994, Corporate Social Responsibility Through Constituency Statutes: Legend or Lie?, *Hofstra Labor and Employment Law Journal*, 11, 461-497.
Wang, T, and P. Bansal, 2012, Social Responsibility in New Ventures: Profiting from a Long-term Orientation, *Strategic Management Journal*, 33, 1135-1153.

Table 1 – Descriptive Statistics: Combined Sample, Treated Firms, and Control Firms

This table reports descriptive statistics for the main variables used in the study. Log of Inventory is the natural logarithm of inventory. Capacity Investment is the ratio of capacity investment to lagged total assets. Constituency Statute is an indicator for firms incorporated in a constituency statute state in the year the statute was adopted and the following years, and zero for any previous years. Size if the natural logarithm of book assets. Cost of Sales is the natural logarithm of cost of goods sold. Growth Prospects is the ratio of the market value to the book value of the firm. Gross Margin is the ratio of the difference between sales and cost of goods sold to sales. Capital Intensity is the ratio of property, plant, and equipment owned and leased to total assets. Cash is the ratio of cash and equivalents to book assets. The sample includes non-financial firms over the period 1979-2012. Data is from COMPUSTAT. Refer to Table A.1 for detailed variable definitions.

	Combined Sample			Constituency Statute: Yes			Constituency Statute: No		
Variables:	Mean	Median	Obs.	Mean	Median	Obs.	Mean	Median	Obs.
Log of Inventory	3.040	3.005	96,585	3.233	3.248	20,951	2.987	2.942	75,634
Capacity Investment	0.078	0.050	96,350	0.069	0.045	20,845	0.081	0.052	75,505
Constituency Statute	0.216	0.000	97,776	1.000	1.000	21,133	0.000	0.000	76,643
Size	5.493	5.258	97,776	5.602	5.398	21,133	5.463	5.225	76,643
Cost of Sales	5.081	4.892	97,776	5.277	5.182	21,133	5.026	4.818	76,643
Growth Prospects	1.822	1.338	97,776	1.802	1.360	21,133	1.828	1.332	76,643
Gross Margin	0.329	0.322	97,776	0.335	0.319	21,133	0.327	0.323	76,643
Capital Intensity	0.325	0.270	97,776	0.322	0.266	21,133	0.326	0.271	76,643
Cash	0.140	0.066	97,776	0.121	0.058	21,133	0.145	0.068	76,643

Table 2 – Inventory after the Introduction of Constituency Statutes

This table presents estimations from inventory regressions. Constituency Statute is an indicator for firms incorporated in a constituency statute state in the year the statute was adopted and the following years, and zero for any previous years. The indicator is always equal to zero for firms incorporated in states that have not passed a constituency statute. Constituency Statute [t = 0] to Constituency Statute [t = 3] are dummies for the year of the treatment and the 3 years after the treatment. Constituency Statute [t = 4+] is an indicator for year four after the treatment and following years. The indicators are always equal to zero for firms incorporated in states that have not passed a constituency statute. The sample includes non-financial firms over the period 1979-2012. Refer to Table A.1 for detailed variable definitions. Standard errors reported in parentheses are double-clustered at the state of incorporation-year level. Note: ***, ** and * indicate statistical significance at the 1%, 5%, and 10% (two-tail) test levels, respectively.

Dep. Variable:	Log of Inventory						
	Base Model						Short-Term and Long-Term Effects
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Constituency Statute	0.054***	0.049***	0.048***	0.048***	0.049***	0.052***	
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	
Constituency Statute [t = 4+]							0.064***
							(0.012)
Constituency Statute [t = 3]							0.048***
							(0.015)
Constituency Statute [t = 2]							0.043***
							(0.016)
Constituency Statute [t = 1]							0.037*
							(0.021)
Constituency Statute [t = 0]							0.026
							(0.016)
Size	0.605***	0.373***	0.380***	0.371***	0.366***	0.375***	0.375***
	(0.013)	(0.010)	(0.010)	(0.010)	(0.010)	(0.011)	(0.011)
Cost of Sales		0.300***	0.303***	0.313***	0.317***	0.298***	0.298***
		(0.014)	(0.014)	(0.014)	(0.014)	(0.015)	(0.015)
Growth Prospects			0.025***	0.026***	0.025***	0.029***	0.029***
			(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Gross Margin				0.049***	0.050***	0.045***	0.045***
				(0.007)	(0.007)	(0.008)	(0.008)
Capital Intensity					-0.199***	-0.336***	-0.336***
					(0.039)	(0.043)	(0.043)
Cash						-0.386***	-0.386***
						(0.028)	(0.028)
Industry × Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Headquarters × Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	91,343	91,343	91,343	91,343	91,343	91,343	91,343
R^2 (within)	0.299	0.329	0.332	0.333	0.334	0.337	0.337

Table 3 – Inventory and Capacity Investment before and after the Introduction of Constituency Statutes: Parallel-Trend Test

This table presents estimations from inventory and capacity investment regressions. Constituency Statute is an indicator for firms incorporated in a constituency statute state in the year the statute was adopted and the following years, and zero for any previous years. The indicator is always equal to zero for firms incorporated in states that have not passed a constituency statute. Constituency Statute [t = -4] to Constituency Statute [t = 3] are dummies for the four years prior to the treatment to the 3 years after the treatment. Constituency Statute [t = 4+] is an indicator for year four after the treatment and following years. The indicators are always equal to zero for firms incorporated in states that have not passed a constituency statute. Controls in columns 1-3 include Size, Cost of Sales, Growth Prospects, Gross Margin, Capital Intensity, and Cash. Controls in columns 4-6 include Size, R&D, Growth Prospects, Cost of Sales, Gross Margin, Employment, and Stock Compensation. The sample includes non-financial firms over the period 1979-2012. Refer to Table A.1 for detailed variable definitions. Standard errors reported in parentheses are double-clustered at the state of incorporation-year level. Note: ***, ** and * indicate statistical significance at the 1%, 5%, and 10% (two-tail) test levels, respectively.

Dep. Variable:	Log of Inventory			Capacity Investment		
	(1)	(2)	(3)	(4)	(5)	(6)
Constituency Statute [t = 4+]	0.071***	0.062***	0.063***	0.016***	0.014***	0.016***
	(0.015)	(0.013)	(0.013)	(0.004)	(0.003)	(0.004)
Constituency Statute [t = 3]	0.055***	0.046***	0.047***	0.012**	0.010**	0.011**
	(0.018)	(0.016)	(0.016)	(0.005)	(0.005)	(0.005)
Constituency Statute [t = 2]	0.051***	0.041**	0.042***	0.014**	0.012**	0.014**
	(0.018)	(0.016)	(0.016)	(0.006)	(0.006)	(0.006)
Constituency Statute [t = 1]	0.045**	0.035	0.036*	0.011**	0.009*	0.010*
	(0.023)	(0.021)	(0.021)	(0.005)	(0.005)	(0.005)
Constituency Statute [t = 0]	0.034*			0.007		
	(0.018)			(0.005)		
Constituency Statute [t = -1]	0.021	0.011	0.010	0.004	0.003	0.003
	(0.020)	(0.018)	(0.019)	(0.005)	(0.005)	(0.005)
Constituency Statute [t = -2]	0.016	0.007	0.005	0.005	0.003	0.004
	(0.018)	(0.016)	(0.017)	(0.005)	(0.005)	(0.005)
Constituency Statute [t = -3]	-0.006	-0.014	-0.016	0.006	0.004	0.005
	(0.018)	(0.017)	(0.017)	(0.005)	(0.004)	(0.004)
Constituency Statute [t = -4]	0.022	0.015	0.013	0.003	0.002	0.001
	(0.021)	(0.020)	(0.020)	(0.006)	(0.006)	(0.006)
Constituency Statute [t < -4]			0.031			0.008
			(0.025)			(0.006)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry × Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Headquarters × Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	91,343	91,343	91,343	89,748	89,748	89,748
R^2 (within)	0.337	0.337	0.337	0.067	0.067	0.067

Table 4 – Capacity Investment after the Introduction of Constituency Statutes

This table presents estimations from capacity investment regressions. Constituency Statute is an indicator for firms incorporated in a constituency statute state in the year the statute was adopted and the following years, and zero for any previous years. The indicator is always equal to zero for firms incorporated in states that have not passed a constituency statute. Constituency Statute [t = 0] to Constituency Statute [t = 3] are dummies for the year of the treatment and the 3 years after the treatment. Constituency Statute [t = 4+] is an indicator for year four after the treatment and following years. The indicators are always equal to zero for firms incorporated in states that have not passed a constituency statute. The sample includes non-financial firms over the period 1979-2012. Refer to Table A.1 for detailed variable definitions. Standard errors reported in parentheses are double-clustered at the state of incorporation-year level. Note: ***, ** and * indicate statistical significance at the 1%, 5%, and 10% (two-tail) test levels, respectively.

Dep. Variable:	Capacity Investment			
	(1)	(2)	(3)	(4)
Constituency Statute	0.012***	0.011***	0.009***	
	(0.003)	(0.003)	(0.004)	
Constituency Statute [t = 4+]				0.013***
				(0.003)
Constituency Statute [t = 3]				0.009**
				(0.004)
Constituency Statute [t = 2]				0.012**
				(0.005)
Constituency Statute [t = 1]				0.008*
				(0.005)
Constituency Statute [t = 0]				0.004
				(0.005)
Size	-0.042***	-0.033***	-0.018***	-0.033***
	(0.002)	(0.002)	(0.002)	(0.002)
R&D		-0.079***	-0.045***	-0.079***
		(0.013)	(0.008)	(0.013)
Growth Prospects		0.012***	0.005***	0.012***
		(0.003)	(0.001)	(0.003)
Cost of Sales		-0.017***	-0.005**	-0.017***
		(0.002)	(0.002)	(0.002)
Gross Margin		0.001	-0.001***	0.001
		(0.001)	(0.001)	(0.001)
Employment		0.019***	0.014***	0.019***
		(0.003)	(0.002)	(0.003)
Stock Compensation		0.155***	0.017	0.155***
		(0.057)	(0.021)	(0.057)
Adjusted ESG Score			0.002*	
			(0.001)	
Industry × Year Fixed Effects	Yes	Yes	Yes	Yes
Headquarters × Year Fixed Effects	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes
Obs.	91,180	89,748	16,416	89,748
R^2 (within)	0.040	0.067	0.079	0.067

Table 5 – Inventory and Capacity Investment after the Introduction of Constituency Statutes: Moderator Results

This table presents estimations from inventory and capacity investment regressions. Constituency Statute is an indicator for firms incorporated in a constituency statute state in the year the statute was adopted and the following years, and zero for any previous years. The indicator is always equal to zero for firms incorporated in states that have not passed a constituency statute. Low Inst. Ownership is an indicator for firms with Institutional Ownership below the industry 25th percentile in the year before the statute was adopted. Low Inventory (Capacity Investment) is an indicator for firms with inventory (capacity investment) below the industry 25th percentile in the year before the statute was adopted. Controls include Size, Cost of Sales, Growth Prospects, Gross Margin, Capital Intensity, and Cash in columns 1 – 4, and Size, R&D, Growth Prospects, Cost of Sales, Gross Margin, Employment, and Stock Compensation in columns 5 – 8. Estimations in columns 2 and 6 also include the continuous Institutional Ownership as control variable. The sample includes non-financial firms over the period 1979-2012. Refer to Table A.1 for detailed variable definitions. Standard errors reported in parentheses are double-clustered at the state of incorporation-year level. Note: ***, ** and * indicate statistical significance at the 1%, 5%, and 10% (two-tail) test levels, respectively.

Dep. Variables:	Log of Inventory				Capacity Investment			
	Low v. High Inst. Ownership		**Low v. High Inventory**		**Low v. High Inst. Ownership**		**Low v. High Capacity Investment**	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Constituency Statute × Low Inst. Ownership	0.092*** (0.021)	0.095*** (0.021)			0.016*** (0.006)	0.021*** (0.006)		
Constituency Statute × Low Inventory			0.093*** (0.031)	0.101*** (0.018)				
Constituency Statute × Low Capacity Investment							0.033*** (0.008)	0.034*** (0.008)
Constituency Statute	0.038*** (0.011)	0.036*** (0.011)	0.043** (0.010)	0.041*** (0.010)	0.010*** (0.003)	0.008*** (0.003)	0.009*** (0.003)	0.008*** (0.003)
Low Inst. Ownership	Absorbed	Absorbed			Absorbed	Absorbed		
Low Inventory			Absorbed	Absorbed				
Low Capacity Investment							Absorbed	Absorbed
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry & Headquarters × Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	91,343	91,343	91,343	91,343	91,180	89,748	91,180	89,748
R^2 (within)	0.299	0.337	0.299	0.337	0.040	0.071	0.041	0.067

Table 6 – Performance after the Introduction of Constituency Statutes: Moderator Analysis by Pre-reform Inventory

This table presents estimations from performance regressions. Sales is the natural logarithm of sales, operating margin is the ratio of sales minus operating costs to sales, profitability is the ratio of net income to equity. Constituency Statute is an indicator for firms incorporated in a constituency statute state in the year the statute was adopted and the following years, and zero for any previous years. The indicator is always equal to zero for firms incorporated in states that have not passed a constituency statute. Low Inventory is an indicator for firms with inventory below the industry 25th percentile in the year before the statute was adopted. Controls include size, growth prospects, capital intensity, and cash. The sample includes non-financial firms over the period 1979-2012. Refer to Table A.1 for detailed variable definitions. Standard errors reported in parentheses are double-clustered at the state of incorporation-year level. Note: ***, ** and * indicate statistical significance at the 1%, 5%, and 10% (two-tail) test levels, respectively.

Dep. Variables:	Sales	Operating Margin	Profitability
Constituency Statute × Low Inventory	0.035** (0.014)	0.022*** (0.007)	0.082*** (0.027)
Constituency Statute	0.013** (0.006)	0.006* (0.003)	0.030* (0.018)
Low Inventory	Absorbed	Absorbed	Absorbed
Controls	Yes	Yes	Yes
Industry × Year Fixed Effects	Yes	Yes	Yes
Headquarters × Year Fixed Effects	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes
Obs.	92,098	92,048	91,519
R^2 (within)	0.732	0.188	0.080

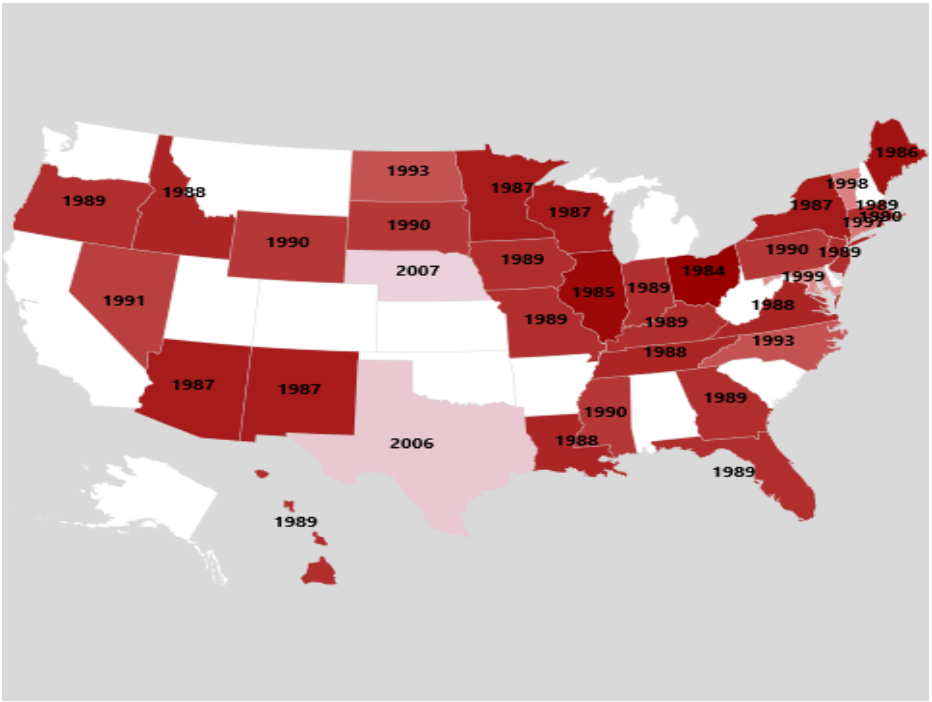

Figure 1 – States with a Constituency Statute by Year of Adoption. This figure reports the states that have adopted a constituency statute by year of adoption. Colored white are those states that have not adopted a constituency statute as of December 31, 2019.

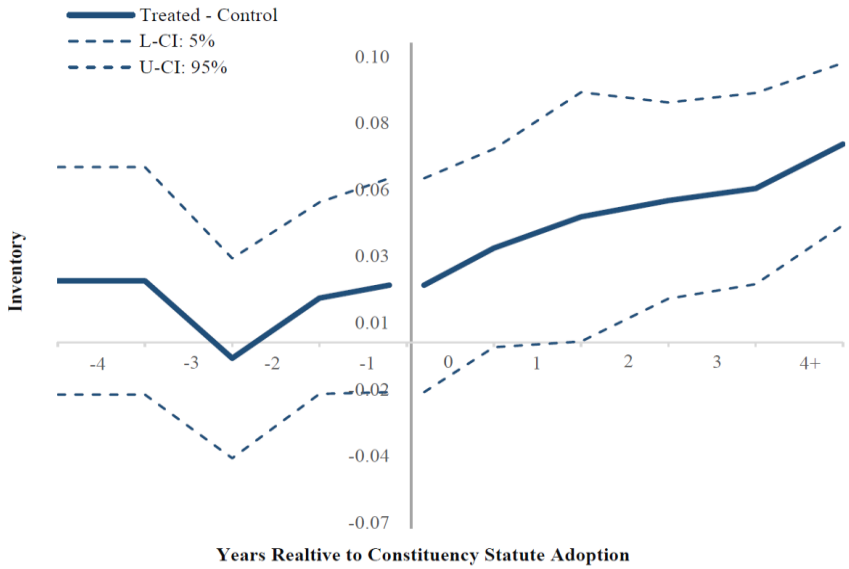

Figure 2 – Inventory around the Introduction of Constituency Statutes. This figure plots the coefficients on the interaction terms from Table 3, column 1. The coefficients indicate the change in inventory from 4 years prior to the treatment to 4+ years after the treatment. Year 0 is the year of the constituency statute adoption. Ninety-five-percent confidence intervals are also plotted.

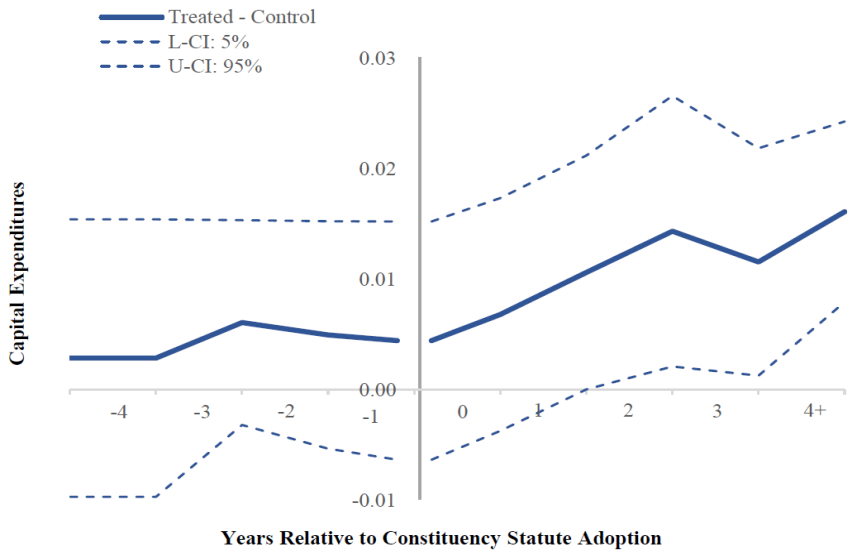

Figure 3 – Capacity Investment around the Introduction of Constituency Statutes. This figure plots the coefficients on the interaction terms from Table 3, column 4. The coefficients indicate the change in inventory from 4 years prior to the treatment to 4+ years after the treatment. Year 0 is the year of the constituency statute adoption. Ninety-five-percent confidence intervals are also plotted.

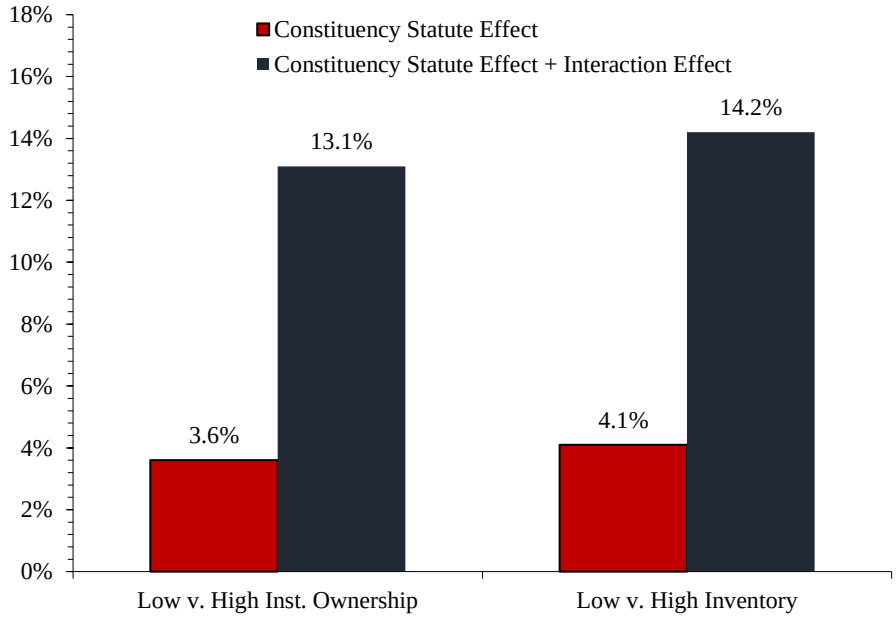

Figure 4 – Inventory after Constituency Statutes: Moderators. This figure shows the coefficients on Constituency Statute (red bars) from Table 5, columns 2 and 4, which measure the percentage change in inventory following the treatment for treated firms with high institutional ownership and high inventory, respectively. The blue bars are the sum of the coefficients on Constituency Statute and the interaction terms of Constituency Statute with Low Inst. Ownership and Low Inventory, from Table 5, columns 2 and 4, respectively. These sums measure the percentage change in inventory following the treatment for treated firms in low institutional ownership and low inventory, respectively, and are all statistically significant at the 1% (two-tail) test level.