Testimony of Abigail M. Allen, on Behalf of Coauthors

Submitted to the U.S. House Committee on Financial Services, Subcommittee on Capital Markets

Hearing Title: "Reassessing Sarbanes-Oxley: The Cost of Compliance in Today's Capital Markets"

June 25, 2025

Introduction

Chairman Wagner, Vice-Chairman Garbarino, Ranking Member Sherman, and Members of the House Subcommittee on Capital Markets:

Thank you for the opportunity to testify today. My name is Abigail Allen. I am a tenured, associate professor at Brigham Young University. I am also a certified public accountant and hold a Doctorate in Business Administration. I am pleased to provide testimony on behalf of myself as well as my research coauthors, Professors Kristen Valentine PhD (University of Georgia) and Melissa Lewis-Western PhD (Brigham Young University) based on our academic research examining the costs and benefits of financial regulation for public companies.

We appreciate the Subcommittee's interest in re-examining the relative costs and benefits of the Sarbanes-Oxley Act (SOX) in today's capital markets. We also appreciate past initiatives -such as the 2012 JOBS act, and recent SEC rulings- which acknowledge that the costs and benefits of SOX are not equally borne across all firms. A common thread across these regulatory exemptions has been a size-based litmus test intended to reduce the *direct* costs associated with compliance.

Our research demonstrates the existence of important *indirect* costs to financial regulation that may manifest independently from firm size.[1] Specifically, we provide evidence that SOX 404(b), which requires an independent audit of a company's internal controls, may adversely affect both investments in, as well as outcomes for, innovation at young life-cycle stage firms. This is because, in addition to direct implementation costs, SOX imposes top-down governance and control systems which may encumber the decentralized flexible environment required for exploratory innovation. Our findings show that after the implementation of SOX 404(b)—the portion of SOX that requires an audit of internal controls—young life-cycle stage firms invest less in research and development. They also shift toward safer, more

[1] The Innovation and Reporting Consequences of Financial Regulation for Young Life-Cycle Firms, Journal of Accounting Research 60(1), March 2022.

narrowly focused innovation strategies that are less likely to produce broadly applicable breakthroughs.

At the same time, we are unable to find evidence that these firms experience the intended benefits of SOX 404(b) in terms of improved financial reporting. For example, we do not observe meaningful improvements in restatement rates, accrual quality or future performance for young life-cycle stage firms. In contrast, our findings are consistent with other academic studies showing that more mature firms do benefit from the financial reporting improvements that 404(b) aims to deliver.

This raises an important question for policy makers: How should regulators balance the benefits of strong financial reporting oversight with the need to support innovation and growth? Our results do not afford a solution but do highlight the importance of considering a company's developmental stage, in addition to firm size, when assessing the broader consequences and benefits of financial regulation.

To support your deliberations, our written testimony articulates key findings from our own research and briefly summarizes related academic studies. We also present a framework that may assist the subcommittee in assessing the trade-offs between regulatory strategies focused on prevention of financial misreporting versus those focused on remediation, as well as the potential value of targeted exemptions.

Quoting Former SEC chair Mary Jo White (2016) we believe that effective capital markets regulation must satisfy the core mandate to "protect investors" while also "facilitate[ing] capital formation [through] rules and regulatory actions [that] create an environment that foster[s] innovation and growth."[2]

We hope that our testimony is helpful to you in deliberating how to best facilitate these important objectives.

Summary of Our Key Research Findings

Our study examines the differential impact of SOX 404(b) compliance for young life-cycle stage firms relative to more mature firms who implement 404(b) as well as to young life-cycle stage firms exempt from SOX 404(b) provisions.

We define young life-cycle firms as those whose strategic growth priorities require significant capital investments financed through debt or equity issuances and whose operations are not yet profitable. These firms make large investments in R&D, pursue an innovation strategy focused on creating new markets and ideas (termed explorative innovation) and are, accordingly, important for economy-wide growth.

[2] Speech by former SEC Chair Mary Jo White in March of 2016: https://www.sec.gov/news/speech/chair-white-silicon-valley-initiative-3-31-16.html#_ftn.

Importantly, while often thought of as small startups, young life-cycle firms are frequently large firms and/or high-growth firms that generate substantial innovation and employment opportunities despite having negative operating cash flows. For example, in our event implementation year, young life cycle firms have an average market capitalization of $564M.

Our empirical evidence indicates that:

1. SOX 404(b) negatively impacts both the quality and quantity of innovation produced by young life-cycle stage firms. These firms spend less on R&D and produce fewer patents following 404(b) implementation.
2. Innovation declines are not simply a product of direct implementation costs. After accounting for the magnitude of a company's investment in R&D spending, we demonstrate changes in the type of innovation pursued by young life-cycle stage firms. Our results suggest that this occurs because SOX imposes an organizational culture mismatched to the pursuit of explorative innovation. After SOX 404(b) implementation, young life-cycle stage firms produce patents that prompt less follow-on innovation and are used by a narrower set of future technologies. Moreover, the portfolio of inventions pursued by young life-cycle firms shifts toward safer, lower-risk projects, concentrated in a narrower range of technological fields.
3. Across a battery of tests, we fail to detect evidence of improved financial reporting quality for young life-cycle firms resultant from SOX 404(b) implementation nor do we observe any market-based evidence that other offsetting benefits may compensate for lost innovation.
4. By contrast, our results suggest that mature firms are both less likely to suffer consequences to innovation and more likely to realize improvements to financial reporting quality following SOX.

Understanding the Mechanism:

Our research highlights two primary channels through which financial regulation hinders innovation and explains why the intended benefits to financial reporting regulation are less likely to manifest for young life-cycle stage firms.[3]

Resource diversion – the idea that a dollar spent on compliance is a dollar diverted from alternative investment is often explicitly contemplated by regulators and motivates the existence of size-based regulatory exemptions. Young life-cycle firms are cash constrained relative to their more mature counterparts. Thus, the impact of

[3] For a more detailed treatment of each of these channels including references to related academic research refer to our full paper: The Innovation and Reporting Consequences of Financial Regulation for Young Life-Cycle Firms, Journal of Accounting Research 60(1), March 2022.

SOX 404b compliance costs will have a greater downward effect on the R&D spending and patent outputs of young life-cycle firms relative to their more mature and less cash constrained counterparts.

A key objective of SOX was to ***improve financial reporting quality***. Realized benefits of improved financial reporting quality may outweigh the resource diversion costs to innovation by increasing firms' access to capital. Specifically, financial regulation aims to increase the transparency and accuracy of financial reporting by addressing both the risk of intentional (i.e., fraud) and unintentional (error driven) misstatements. In support of this view, a substantial body of academic research documents a positive relation between financial regulation (or related governance changes), financial reporting quality and investment.

In the context of young life cycle firms, however, the intended benefits of improved financial reporting quality under SOX 404(b) are less likely to manifest for two reasons. First, young life-cycle stage firms have limited free cash flow and more concentrated ownership structures, reducing the agency conflicts that financial regulation aims to mitigate. Second, because a larger portion of young life-cycle firms' valuation stems from intangible investments which are not included on their balance sheet, improving the quality of traditional financial reports may not provide significant benefit to these firms.

Consistent with these differences, our research suggests that young life-cycle stage firms experience more negative consequences for innovation without receiving corresponding financial reporting benefits from the implementation of SOX 404(b).

Innovation hindrance captures the idea that internal controls regulation may impose an organizational environment which is less conducive to explorative innovation. Innovation requires companies to invest in long-term risky projects (e.g., R&D) that often require substantial coordination and are facilitated by a decentralized decision-making process that emphasizes strategic objectives rather than financial controls. Essentially, innovation-fostering environments encourage employees to focus on longer-term strategic objectives that lead to innovation rather than on short-term quantifiable performance. This structure facilitates innovation by allowing the employee to make decisions quickly and independently, and by encouraging longer-term focus and risk taking. Because numerous aspects of financial regulation aim to increase centralization of decision making and formalization of rules, processes, and communications, they may negatively impact both the quality and quantity of explorative innovation.

We theorize that young life cycle stage firms are more vulnerable to innovation hindrance from SOX 404(b) based on their higher propensity to engage in explorative innovation directed at new products and customers. Explorative innovation thrives in an environment that promotes non-routine problem solving and deviance from existing knowledge or processing. To the extent that young life-cycle firms' explorative innovative activities require a creative environment where investigation and failure can quickly occur, increased centralization of decisions and elevated controls are likely to hinder the exploration process, thereby reducing the quality and quantity of explorative innovation.

By contrast, mature firms often leverage existing technology and firm product lines to achieve incremental improvements for its existing customer base, known as "exploitative innovation". As exploitative innovation relies on existing processes and structure, centralization of control and formalized processes, rules and communication channels may serve to increase exploitative innovation. Thus, compared to their younger counterparts, mature life-cycle firms are less likely to suffer innovation consequences from financial regulation.

Our results confirm that SOX 404(b) impedes the innovation activities of young life-cycle stage firms. The decline in innovation extends beyond reductions in R&D spending that may reflect a direct reallocation of resources toward SOX 404(b) compliance. Consistent with the view that internal control mandates reshape the innovation environment, we find evidence that following the implementation of SOX404(b), young life-cycle firms not only produce fewer patents, but the patents they do generate are less risky, concentrated in fewer technological domains and lead to less future innovation with narrower application.

Summary of Prior research examining costs and benefits of SOX

A substantial body of academic research has examined the costs and benefits associated with SOX. In their 2014 multidisciplinary review, Coates and Srinivasan (2014) evaluated the consequences of SOX by analyzing over 120 studies spanning the fields of law, accounting, and finance. Below we provide a brief summary of key findings from their review as well as for selected publications which post-date that review. Our objective in providing this summary is to highlight the potential tradeoffs that may be relevant to the subcommittee in contemplating regulatory changes.

Key Costs and Benefits of SOX for public firms

An inherent difficulty in measuring the net impact of any regulation is that the effects of regulation are rarely uniform across firms. Additionally, while academic research may often illuminate individual effects – it is difficult for a single study to examine all

of the costs and benefits collectively in a manner that would allow for a comprehensive cost benefit evaluation. Reflecting this difficulty, Coates and Srinivasan (2014) conclude that the mixed evidence from academic studies does not support a definitive assessment of the law's overall net impact. Specifically, while direct compliance costs – particularly during initial implementation – are more easily measured, they note that indirect costs like changes in firm behavior or market dynamics are harder to quantity. Likewise, the benefits of SOX – such as enhanced investor confidence and improved financial reporting are more difficult to measure.

The following table summarizes the key categories of costs and benefits to public companies from implementing SOX that have been documented by prior research as summarized by Coates and Srinivasan (2014) and subsequent writings, alongside citations to selected illustrative studies.[4]

Table 1: Key types of Costs and Benefits to SOX as documented by prior research.

Costs to Companies	Benefits to Companies
Direct Implementation Costs • Coates 2007, • Cox 2013, • Alexander, Bauguess, Bernile, Lee, and Marietta-Westberg 2013.	**Lower Rates of Restatements** Illustrative References: • Burks 2010, • Burks 2011, • Hennes, Leone, and Miller 2008.
Direct Litigation Costs Illustrative References: • Brochet and Srinivasan 2013, • Linck, Netter, and Yang 2009.	**Higher-quality Financial Information** Illustrative References: • Cohen, Dey, and Lys 2008, • Ge, Koester, and McVay 2017, • Feng, Li, and McVay 2009.
Indirect Costs from Changes in Investments Illustrative References: • Albuquerque and Zhu 2013, • Allen, Lewis-Western, and Valentine 2022, • Bargeron, Lehn, and Zutter 2010, • Greenspan 2003, • Kang, Liu, and Qi 2010.	**Improved Audit Quality** Illustrative References: • DeFond and Lennox 2011, • DeFond and Zhang 2013.

[4] References in this table are for illustrative purposes and capture only a subset of the large body of academic writings examining each of these costs/benefits. For a fuller listing of related research refer to Coates and Srinivasan (2014).

Researchers have also attempted to measure the net costs/benefits of regulation to companies as perceived by investors through analyses of market data. For example, several early studies examined investor reactions to key legislative dates surrounding the passage of SOX, with mixed findings.[5] Conceptually, these estimates will account for investors' collective wisdom with respect to firm value but are unlikely to capture positive market-wide benefits such as enhanced trust in the capital markets overall.

Another method to judge firms' own perceived costs of SOX compliance is to identify how much of their market valuation firms are willing to sacrifice in order to avoid having to comply with SOX. More recently, researchers have estimated the net economic costs imposed by financial regulation by examining firms' tendency to manage their public float downward to avoid exceeding the $75 million and $700 million regulatory market capitalization thresholds. Firms revealed preferences to stay below regulatory thresholds suggest *net* compliance costs of 1.8% of a companies' market capitalization for firms around the initial $75M SOX 404(b) threshold and 1.8% for firms around the $700M emerging growth company (EGC) threshold created by the 2012 JOBS act.[6] These negative net cost estimates can provide useful inputs for regulatory comparison against potential broader market or social benefits, though again, firms' own assessments are unlikely to consider the importance of any market-wide benefits.

The influence of SOX on the composition of US public firms

A persistent concern among policymakers and market participants is that the increased costs associated with SOX compliance may have negative implications for participation of firms in U.S. capital markets. Specifically, the high costs associated with being a public company may discourage companies from pursuing initial public offerings (IPOs) or may induce higher rates of going private or deregistering securities from US stock exchanges (hereafter delisting) amongst already public firms. Below we highlight some academic literature which explores these concerns.

Do SOX requirements increase rates of public firm delisting?

Empirical studies consistently find that smaller, less liquid firms with lower-quality financial reporting were more likely to delist in the years following SOX.[7] While these patterns raise valid concerns about the cost burden for smaller firms, they also

[5] See for example Zhang (2007), Leuz (2007), Jain and Rezaee (2006), Iliev (2010).

[6] Specifically, Ewen, Xiao, and Xu (2024) utilize firms strategic bunching just beneath regulatory exemption thresholds to infer the implied costs of regulation. Translated into doll, annual regulatory costs of $0.132M associated with SOX 404 compliance and accelerated filing and of $0.87 million per year associated with losing EGC benefits (pg. 13).

[7] Engel, Hayes, and Wang (2007); Kamar, Karaca-Mandic, and Talley (2009); Leuz, Triantis and Wang (2008).

suggest that SOX may have initially improved the overall quality of firms remaining in public markets. The net social benefit or cost of these exits remains debated, but the evidence indicates that SOX may have prompted greater scrutiny of firms' suitability for continued public listing.

More recent research fails to find evidence that regulatory costs imposed by SOX continue to significantly influence firms going private decisions.[8] Researchers conjecture that this may be explained by the fact that some of the regulatory costs are irreversible after initial implementation.

Do Private Firms Forgo or Delay IPOs because of SOX?

Initial research examining the impact of SOX on firms' IPO decisions yielded mixed results. Early evidence argued that declining IPO rates amongst small firms were an effect of SOX.[9] Subsequent research, however, demonstrated that the declining IPO rates were due to pre-existing trends and not SOX itself. Furthermore, declining IPO rates were largely unaffected by the 2012 JOBS act exemptions.[10] Consistent with the idea that SOX increased the quality of publicly listed firms, there is evidence suggesting that IPO pricing improved after SOX, implying a lower cost of capital for firms that choose to go public.[11]

More recent research finds evidence that regulatory compliance costs can have significant effects for firm IPO decisions. The authors of a recent study estimate that a one-standard deviation increase in regulatory costs is associated with a 6.5% decrease in IPO likelihood. Notwithstanding, this same study estimates that the effects of SOX specifically have been limited relative to other concurrent trends. By their estimates, removing SOX might change the annual IPO volume by only 0.01% because many IPO candidates will fall below existing SOX exemption thresholds.[12]

Placing our study into the context of prior research

Our results point to life-cycle stage as an important factor to consider when assessing the costs and benefits of financial regulation. Specifically, we observe that SOX did not lead to improvements in the quality of financial information for firms in the early stages of their life cycle. In contrast, more mature firms experienced a decline in financial restatement rates, suggesting improved reporting accuracy. Our findings further demonstrate that SOX has distinct negative effects on innovation for firms in the early stages of their life cycle which are distinct from the effects of firm size.

[8] Ewens, Xiao and Xu (2024).
[9] IPO Task Force 2011, Bova, Minutti, Richardson and Vyas (2013).
[10] Gao, Ritter and Zhu (2013), Doidge Karolyi and Stulz (2013).
[11] Johnson and Madura (2009).
[12] Ewens, Xiao and Xu (2024).

Descriptively, we also find that firms in the early stages of their life cycle are more likely to delist following SOX compared to more mature firms.[13]

Overall, these results underscore the importance of considering a company's developmental stage when evaluating the broader consequences of financial regulation on firm outcomes.

Policy Implications

A clear takeaway from our research is that the impact of SOX on financial reporting quality and innovation is not uniform. Instead, it varies based on firm-specific characteristics, particularly life-cycle stage which are not fully captured by existing size-based exemption thresholds. To provide context, we examine public firms incorporated in the U.S. with available data to determine their life-cycle stage during recent years (2020 to 2024). These data suggest that on average one one-fifth of current public firms are young-life cycle stage.[14]

The following summary statistics from 2020-2024 show the proportion of these young life-cycle stage firms that would not qualify for exemption from SOX 404(b) based on current cutoffs for non-accelerated filer status.

[13] Delisting is not the focus of our paper and unlike our primary tests establishing the effects of SOX for innovation, our evidence on delisting should not be interpreted as implying a causal relationship. Notwithstanding, we believe these results provide an important counter-perspective to prior literature. While prior research suggests that delisting is more prevalent amongst firms with weak disclosure practices or poor management, our findings suggest a different narrative: for young, innovation-focused firms—often operating with limited resources—exiting the public market may be the most viable strategy for preserving their ability to invest in long-term innovation.

[14] Out of 23,550 firm-year observations covering the 5-year window of 2020-2024, 20.34% (4,790) firm-years are classified as young life-cycle firms while the remaining 79.66% (18,760) are in other life-cycle stages.

Table 2: Young Life-Cycle Firms by Filing Status 2020-2024

Status	**Public Float**	**Annual Revenue**	**Percentage**
Smaller Reporting Company (SRC) and Non-Accelerated Filer	Less than $75M	Any	40.10%
	$75M to less than $700M	Less than $100M	26.10%
Total % of young life-cycle stage firms exempted from 404(b)			**66.20%**
SRC and Accelerated Filer	$75M to less than $250M	$100M or more	3.76%
Accelerated Filer (not SRC)	$250M to less than $700M	$100M or more	5.11%
Large Accelerated Filer (not SRC)	$700M or more	Any	24.92%
Total % of young life-cycle stage firms <u>not</u> exempted from 404(b)			**34.8%**

Our research suggests innovation consequences for young life-cycle stage firms not exempted from SOX 404(b) do not appear to be offset by improvements to financial reporting quality. However, as highlighted in our review of prior literature, there are also a host of additional indirect costs and benefits to regulation which may vary across firm types and are relevant to any policy discussion of net effects.

The goal of our written testimony is to clearly articulate the boundaries of our own knowledge informed by research and then allow the democratic process to make decisions about which benefits are worth attempting to achieve via legislation considering the associated costs. Consistent with sentiments expressed by the economist Thomas Sowell, in complex settings like the U.S. capital markets, we believe there are no right answers, only tradeoffs.[15]

In the next section we provide a framework that we hope will be useful to the subcommittee as it deliberates these important tradeoffs.

[15] Thomas Sowell, "A Conflict of Visions: Ideological Origins of Political Struggles" (1987)

Key Tradeoff: Prevention versus Remediation

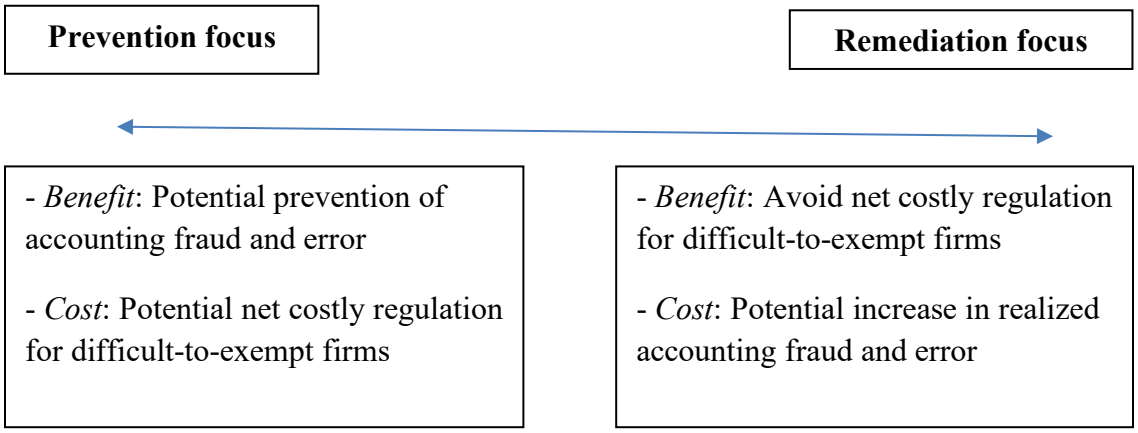
In our view, a key choice when considering adjustments to SOX is how much to emphasize ***prevention*** of accounting fraud and error relative to ***remediation*** in the event fraud and error occur. When functioning at its best, a system of governance and controls can prevent accounting fraud and error, engendering trust in the capital market system. But as our research and other studies have shown, a uniform focus on prevention may impose significant burdens on at least a subset of regulated firms for whom the costs do not outweigh the benefits.

On the other side of the spectrum, failure to prevent accounting fraud and error means that remediation steps become necessary. The loss of public trust in capital markets is difficult to quantify, and the extent to which fraud and error might increase if preventative systems are weakened is inherently uncertain.

This ambiguity complicates cost-benefit assessments for policymakers. A greater focus on remediation may help avoid imposing unnecessary costs on some firms, but also engenders greater risks related to systemic accounting fraud and error.

Importantly, these are not binary choices but points along a continuum, as illustrated in the following figure.

Figure 1: Benefits and Costs of Prevention-Focused versus Remediation-Focused Financial Regulation



Policy makers may choose different positions along this spectrum depending on the characteristics of specific groups of firms. For example, the JOBS act of 2012 established the Emerging Growth Company (EGC) designation, which exempts qualifying firms from SOX 404(b) for up to 5 years post IPO. The intent of such regulatory relief was to reduce compliance costs and encourage increased public

offerings and job creation. Similarly, the SEC's 2020 amendments to the definitions of accelerated and large accelerated filers introduced a carve-out for smaller reporting companies (SRCs) with less than $100 million in annual revenue, exempting them from SOX 404(b) even if they otherwise meet the public float criteria for accelerated filer status. These changes reflect a recognition that the costs of auditor attestation may outweigh the benefits for certain low-revenue firms, where the risk of material misstatement is lower.

Regulatory exemptions are typically predicated on size-based thresholds. Our research highlights the importance of considering a company's stage of development —alongside its size— as a factor in regulatory cost-benefit analysis. However, we acknowledge that such designations may be more difficult to implement in practice than are size-based exemptions.

Additionally, an important consideration for any policy application of academic findings, including ours, is an understanding of how empirical results from prior periods may generalize to the present environment. We accordingly conclude our testimony below with a discussion of key factors that we believe warrant careful consideration as the subcommittee evaluates the implications of prior academic research for current policy making.

Key Considerations: Applying academic studies to regulatory deliberations.

Our testimony has highlighted a large volume of interdisciplinary research, including our own, which points to important costs and benefits that we believe are relevant to current policy conversations surrounding SOX. An important caveat is that the empirical evidence from most prior research is necessarily limited to a now historical timeframe. A key question is to what extent the documented costs and benefits of SOX remain relevant for policymakers evaluating prevention versus remediation strategies today.

In our view, theoretical insights from well-designed academic research are more likely to generalize than the specific cost-benefit estimates found in any single study. Additionally, we encourage policymakers to consider the following three factors that may nuance the applicability of research studying the implementation of SOX in the early 2000s to the U.S. capital markets today:

1) The pace of technological change,
2) changes in composition and characteristics of public firms, and
3) the impact of deregulation versus introducing new regulation.

First, ***technological advancements*** – particularly in financial reporting – have significantly transformed corporate accounting systems. When functioning well, automated accounting systems can be an important part of a system of internal controls that prevent or detect misstatements before financial statements are issued as well as increase the efficiency of the reporting system. At the same time, widespread automation of processes may heighten the potential risk of systemic errors. In manual systems, internal control failures may affect only a limited number of transactions. In contrast, failures in automated systems can propagate across large volumes of data. More research is needed to understand how these changes will influence the risk of financial reporting errors and the effectiveness of financial regulation relative to time periods with less access to technology.

Second, the ***composition and characteristics of publicly traded firms has evolved*** since the early 2000s alongside the broader U.S. economy. While academic studies typically report average effects for a population, group averages may obscure important differences across firm types. Academic research is effective at quantifying average effects for a particular population, but these effects may manifest differentially for individual firms. Likewise, how different firms respond to incentives may shift in response to a changing economic environment. Accordingly, as the global competitive landscape and nature of firms continues to evolve historical average effects may no longer reflect current realities.

Third, ***the costs associated with SOX implementation may not be fully reversible*** through deregulation. For incumbent public firms, the initial costs of establishing internal control audits have largely been absorbed, leaving only ongoing maintenance costs as potentially recoverable through deregulation. Moreover, if SOX induced persistent changes to corporate compliance culture which are detrimental to risk taking and innovation, that culture may persist even if regulatory requirements are relaxed, thereby limiting the potential benefits of repeal. However, newly public firms exempted from full SOX compliance could avoid initial implementation costs and may benefit from a regulatory approach that appropriately balances prevention and remediation.

Concluding remarks

Collectively, our research as well as that of prior scholars highlights the need for careful consideration of both the direct and indirect costs to regulation. We emphasize that the net benefits of regulation are often not distributed uniformly. In considering such tradeoffs we do not propose a solution, rather we advise strategic deliberation that weighs the costs and benefits from a prevention versus remediation focused policy depending on the nature of the firm.

We appreciate the opportunity to submit testimony and hope our understanding can help to frame the subcommittee's decision analysis and facilitate informed debate on the tradeoffs inherent in capital markets regulation. We are happy to provide additional testimony if we can be helpful to you in the future.