

Regulating Markets: Evidence from the PCAOB

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Abstract

How do regulators act to regulate markets? This study presents an economic framework with descriptive evidence. I argue that regulators, constrained by their powers and resources, utilize a regulatory portfolio across stakeholders and policy tools to influence markets. Analyzing the full spectrum of its activities, I find that the PCAOB employs diverse tools to target the entire financial reporting ecosystem, including auditors, audit committees, investors, preparers, and the public, rather than solely regulating auditors. Moreover, the PCAOB actively manages its regulatory portfolio by selecting specific activities. Overall, my findings suggest that regulators operate in a market-oriented and endogenous manner.

Keywords: regulators; market ecosystem; stakeholders; policy tools; PCAOB; audit market; regulatory publications

JEL classification: D73; D78; M41; M42; M48; K42; L51

This study is developed based on my professional experience and policy research at the Accounting and Financial Reporting Council (AFRC) of Hong Kong. I benefit from the insights and comments provided by AFRC regulatory staff and policymakers. The views expressed in this study are mine and do not necessarily reflect those of the AFRC or its staff. All errors are my own.

Regulating Markets: Evidence from PCAOB

Our financial reporting ecosystem has many participants ... Investors and the public rely on the rigor of each of these participants' responsibilities. However, we cannot ignore our interconnectedness, and, in some cases, our symbiosis.

—Kara Stein, PCAOB member¹

1. Introduction

Anyone who invests, raises funds, or participates in capital markets is likely aware of regulators. While they play a key role in shaping market outcomes, their operations are not well understood by outsiders. Academic research in economics, finance, accounting, and law has documented numerous market consequences, either intended or unintended, of financial regulation. Yet, there is surprisingly little evidence on the full range of a regulator's activities that could shed light on how these consequences arise (Leuz and Wysocki 2016; Amiram et al. 2018).² This study aims to fill that gap.

To provide this evidence, I first present a general, nonmathematical economic analysis of financial regulators, followed by an in-depth examination of a specific regulatory agency, the Public Company Accounting Oversight Board (PCAOB).³ My goal is twofold: economic theory in Section 2 aims to provide policymakers, regulators, and practitioners with a simple unified framework for understanding the interplay among agenda-setting, regulatory, compliance, market, and advocacy activities, thereby improving the design of regulatory

¹ Speech at the 2023 Audit Committee Summit, available at <https://pcaobus.org/news-events/speeches/speech-detail/furthering-our-special-relationship>.

² A key task of regulation research is to understand how regulators translate regulation on the books into regulation in action (Coffee 2007). While there are literature reviews on the regulations of securities, consumer finance, disclosure, financial reporting, and auditing (Campbell et al. 2011; Defond and Zhang 2014; Leuz and Wysocki 2016; Amiram et al. 2018; Mahoney 2021), I am not aware of any review that specifically focuses on regulators. As a first attempt, this study reviews the literature on regulators (see Section 3) and shows that existing research either concentrates solely on a single regulatory function or on the impact on regulated industries. This limited coverage does not adequately reveal how regulators operate in the real world. Therefore, this study aims to examine the full range of publicly disclosed activities of a regulator.

³ In the economic theory section, I focus on securities regulators in the implementation of disclosure, reporting, and standard-setting regulation, rather than on banking and insurance regulators, which additionally implement prudential regulation, competition regulation, and price and rate regulation (Labonte 2020). In the empirical analysis section, I examine the PCAOB, which regulates a single audit market that serves securities markets. The PCAOB's focus on a single market enables me to clearly identify and describe the market ecosystem and its stakeholders.

structures and policies. Meanwhile, the descriptive evidence on the PCAOB in Section 4 seeks to offer academics a big-picture view and some institutional details of regulators' operations in practice, many of which have not been well studied, as shown in Section 3.⁴ Thus, this study responds to the calls for policy and practice-oriented research from Leuz (2018), Rajgopal (2021), and Clor-Proell et al. (2025).

Specifically, I propose a framework consisting of three dimensions of regulatory activities: target stakeholders, policy tools, and regulatory functions. Within this framework, I analyze why merely making and enforcing rules is insufficient, what other policy options are available to regulators, and how they develop and manage a regulatory portfolio. Applying this framework, I examine 86 publicly disclosed activities undertaken by the PCAOB during 2022/23, a period when it was most closely aligned with its mission to protect investors.⁵ My findings are summarized in three main points.

First, regulators need to extend their influence beyond regulated firms if their missions are oriented toward market outcomes, which are jointly determined by regulated firms and interconnected markets alike. In the setting of the PCAOB, the market supply of high-quality audits depends not only on auditors but also on preparers, audit committees, and investors, all of which are relevant to the PCAOB's mission. Consistent with the idea, I find that the PCAOB allocates only half of its public efforts to auditors, while the other half is directed toward other stakeholders, primarily investors and the general public, with a smaller yet non-trivial focus on audit committees. This dispersed focus suggests that the PCAOB targets the entire financial reporting ecosystem.

⁴ Qualitative, fact-rich, descriptive evidence can provide insights into the nature and scope of detailed regulatory activities, answering the "how" question in ways that quantitative evidence cannot.

⁵ I can only examine public activities because the undisclosed actions of regulators are not systematically observable. However, this limitation should not affect the validity of my findings. My goal is to investigate how regulators influence markets, which likely occurs in public due to the necessary visibility, rather than to explore how they exert their legal powers, which can take place in private. Additionally, focusing on public activities allows me to observe stakeholders' feedback.

Second, regulators can influence stakeholders through various policy tools, some of which do not require statutory authority. These tools include command and control, economic incentives, education and assistance, consultation, and public relations. A notable tool is the education and assistance tool, also known as soft regulation. This tool leverages the impact of command and control to address issues outside the regulators' jurisdiction or not yet covered by existing rules. This tool also transforms information into informed decision-making and efficient markets, thereby strengthening the disclosure-based economic incentives tool. I find that over one-fifth of PCAOB activities fall under this tool, guiding auditors toward desirable behaviors and assisting investors and audit committees in selecting auditors. Another influential tool is public relations, carried out by the leadership function. Unlike tools that directly shape market outcomes, the public relations tool is used to expand the boundaries of regulatory activities. I find that the PCAOB's leadership proactively engages with the public to garner their support and influence their opinions. However, there is limited evidence on these two tools in the academic literature.

Third, regulators actively manage their regulatory portfolio to achieve operational efficiency. I observe that the PCAOB concentrates on select key themes that are most relevant to investors, such as technology and talent, quality control, and market transparency. To address these priorities, it employs a mix of policies and cross-functional collaboration to create synergies. For example, as leadership understands investor demand for greater market transparency and prioritizes this issue, multiple teams take action using various tools: the rulemaking team reviews the implementation of disclosure rules, the inspection team assists audit committees in acquiring information and enhances the auditor search database, and the enforcement team penalizes auditors who fail to comply with disclosure requirements. These selected yet coordinated activities demonstrate that the PCAOB neither overextends nor leaves available policy options on the shelf. Instead, it strategically utilizes its resources to

achieve an overall impact on the market. Therefore, when evaluating the role of a regulator, it is necessary to consider all its activities rather than focusing solely on individual functions, specific policy tools, or the effects on single stakeholder groups.

Overall, my findings suggest that regulatory outcomes do not occur in a vacuum but are shaped by regulators who are themselves actors within the market ecosystem. To achieve effective market outcomes, regulators develop a regulatory portfolio that targets various stakeholders, employs diverse policy tools, and fulfills multiple functions. To pursue cost efficiency, they identify strategic priorities and select specific activities. Given these characteristics, regulation appears to be an endogenous component of the economic system rather than a static, exogenous institutional force.

Related literature. This is the first study, to my knowledge, examining the full range of publicly disclosed activities of a regulator. Using a stakeholder-tool-function framework, this study provides answers to *how* regulators implement regulations (Leuz and Wysocki 2016). It makes two contributions to the literature.

First, this study shows how regulators act to influence market outcomes. Financial regulators are designed to address market imperfections, but their market-oriented missions often exceed their statutory authorities, especially in highly interconnected markets. Unlike prior research on cross-regulator cooperation that mitigates jurisdictional constraints (Silver 2020), this study examines regulators' efforts within these constraints including influencing regulated firms in a non-coercive, collaborative manner, and influencing other market players. My findings from the PCAOB's activities feature the role of the education and assistance tool. On one hand, regulators proactively and preemptively guide industries through soft regulation on emerging issues, rather than being confined to reactive rulemaking

and enforcement after scandals (Hail et al. 2018).⁶ On the other hand, regulators assist consumers in lowering processing costs in addition to providing information, supporting the idea that disclosure alone does not guarantee economic incentives for industries (Zingales 2009; Campbell et al. 2011; Roychowdhury and Srinivasan 2019).⁷ Moreover, my findings highlight the role of the leadership function, which not only incorporates various stakeholder interests into regulatory activities but also, in turn, shapes public opinion. This demonstrates an endogenous relationship between regulators and markets in daily operations, which occurs more frequently and pervasively than those arising from major regulatory changes suggested by the literature. In general, it is evident that regulators undertake a package of actions in practice, some of which have not been included in theoretical models or structured databases (DuPont and Karpoff 2020). Researchers may need to consider all of these actions when assessing regulatory outcomes.

Second, this study shows how regulators seek operational efficiency. Prior studies indicate that to allocate limited resources, regulators prioritize new rules and areas of concern that offer greater benefits (Bonsall et al. 2024; Holzman et al. 2024), while avoiding costly actions (Jia 2025). In contrast to analyses focusing on enforcement activities, I examine activity selection across all functions, tools, and stakeholders within the regulatory portfolio. This broader coverage enables us to gain a better understanding of regulators' effort allocation decisions. My findings confirm and extend prior studies: while concentrating on select key themes, the PCAOB synchronizes multiple functions, targets various stakeholders,

⁶ For rulemaking and enforcement, see, for example, Karpoff et al. (2008a), Kedia and Rajgopal (2011), and Campbell et al. (2023). Regarding soft regulation, Coffee (2007) indicates it is preferred in the UK. The Financial Conduct Authority (UK FCA) and the Financial Reporting Council (UK FRC) adopt a "comply or explain" approach in many rules and often provide guidance and advice to regulated firms before imposing penalties.

⁷ For firm disclosure, see a review by Leuz and Wysocki (2016); for regulatory disclosure, for example, Duro et al. (2019), Johnson (2020), Shroff (2020), Hutton et al. (2022), and Guo and Tian (2024).

and employs diverse applicable tools. This operational strategy is new to the literature, and future research could explore its efficiency.

Policy implications. This study offers new insights to policymakers regarding effective audit regulation and optimal regulatory structure. First, this study demonstrates that the effectiveness of audit regulation does not solely depend on auditors in the audit market. Echoing Coffee (2019), who argues that the deep problem in the audit market is the insufficient demand for high-quality audits, I frame this problem as inefficiencies spreading across interconnected markets. Specifically, in an inefficient upstream market, preparers tend to provide low-quality pre-audit financial statements, while in an inefficient downstream market, audit committees have little incentive to demand high audit quality on behalf of investors.⁸ Consequently, without influencing the two markets, the imperfections in the audit market cannot be effectively addressed. My analysis supports Coffee’s recommendations, which include enhancing the decision usefulness and public accessibility of information about audit quality, informing and regulating audit committees, and increasing investor involvement in auditor selection. The framework I propose further suggests that where these measures cannot be mandated—which is quite likely—regulators may still consider soft regulation and stakeholder engagement to change the game.

Second, this study informs the policy debate on the proposed consolidation of the PCAOB into the SEC. Republican lawmakers advocate for consolidation to achieve cost efficiency and reduce duplicate regulation, while opponents raise concerns about the SEC’s resource constraints and competing priorities.⁹ My comparison of regulatory portfolios

⁸ Analytical studies model strategic behaviors across interconnected markets, including relationships among preparers, auditors, and regulators (Ewert and Wagenhofer 2019) or analysts (Chan and Liu 2022).

⁹ For the SEC’s budget constraints, see Ege (2020) and Gunny and Hermis (2020). For the PCAOB’s budget sufficiency, see Blann et al. (2023). For the proposed consolidation, see the Wall Street Journal article titled “Audit Watchdog Created After Enron Might Be Dismantled. Its Defenders Duel With GOP,” available at <https://www.wsj.com/articles/audit-watchdog-created-after-enron-might-be-dismantled-its-defenders-duel-with-gop-05e9f81e>.

among sectoral, integrated, and hybrid regulators in Section 4.4 reveals considerations beyond the existing arguments. My findings suggest that the primary advantage of SEC-run audit oversight is the synergies within the financial reporting ecosystem that the SEC's jurisdiction fully encompasses.¹⁰ In contrast, the primary advantage of PCAOB oversight and UK FRC-style oversight lies in their leadership's exclusive focus on financial reporting and audit issues, ensuring these matters receive high priority on the public agenda. Regardless of which regulatory structure is chosen, it is important to note that each has its own shortcomings in certain aspects.

2. Economics of Regulators

2.1 Market imperfections and interconnectedness

To analyze how to regulate a market, we must first understand the economic rationale for regulation. Regulation is desirable in the presence of market imperfections (Pigou 1920; Mahoney 2021). For instance, in cases of agency problems, information asymmetry, and externalities, principals cannot monitor agents' actions, buyers cannot verify sellers' information, and payers cannot prevent the public from accessing private benefits. As a consequence, the quality and quantity of goods and services provided in the market fall below efficient levels (Samuelson 1954; Leland 1979). Policymakers suppose that a benevolent and omniscient regulator can mitigate, if not resolve, these market imperfections by monitoring agents on behalf of principals, verifying sellers' information on behalf of buyers, and providing public goods for society.

¹⁰ A negative example of an integrated regulator is the Australian Securities and Investments Commission (ASIC), which asserted to prioritize financial reporting quality over audit quality, leading to a reduction in audit oversight. An ASIC veteran attributed this shift to a misunderstanding of regulatory responsibilities by leadership, advocating for creating a hybrid regulator that specializes in overseeing the financial reporting ecosystem. Unlike their US counterparts, Australian lawmakers argued that ASIC's broad jurisdiction hinders its ability to effectively fulfill its mandate and proposed splitting ASIC. See the Australian Financial Review articles titled "ASIC's ex-chief accountant slams its big four audit reprieve," available at <https://www.afr.com/politics/federal/asic-s-ex-chief-accountant-slams-audit-reprieve-for-big-four-20240408-p5fi34>, and "Call for 'toothless tiger' ASIC to be split in two," available at <https://www.afr.com/politics/federal/call-for-toothless-tiger-asic-to-be-split-in-two-20240703-p5jqgg>.

In the United States, Congress created the SEC to regulate securities markets and the PCAOB to regulate the audit market. The SEC has broad jurisdiction over public companies, mutual funds, investment advisors, broker-dealers, and exchanges, with the mission to protect investors, maintain fair, orderly, and efficient markets, and facilitate capital formation. By contrast, the PCAOB has a narrower jurisdiction over auditors of public companies and broker-dealers, with a focused mission to protect investors and further the public interest in the preparation of informative, accurate, and independent audit reports. Both regulators share a common goal of ensuring investors have access to high-quality audited financial statements.

While the presence of a regulator should theoretically lead to a more efficient market equilibrium, its effectiveness in the real world is shaped by complex factors. One key factor is market interconnectedness: no single market operates in isolation; it is part of the larger economy. This means that a regulator's efforts to influence market outcomes often need to extend beyond its limited and specific jurisdiction. In the setting of the PCAOB, audit quality does not arise from the partial equilibrium of the audit market. Instead, it is determined by a general equilibrium among several interconnected markets, including the stock market, which demands audits and supplies pre-audited financial statements; the labor market, which supplies talent; and foreign audit markets, which supply component audits, among others. It also involves the audit nonmarket, which demands public goods derived from audits, such as trust and confidence.¹¹ This interconnectedness poses a difficult problem for the PCAOB: How can it act to ensure a market supply of high-quality audits?

I argue that the PCAOB needs to influence all players in the market ecosystem to achieve this goal. To illustrate this idea, I present the financial reporting ecosystem in Figure

¹¹ See, for example, Defond and Zhang (2014), Donovan et al. (2014), Gipper et al. (2020), Docimo et al. (2021), and Lee et al. (2022).

1. The production and use of financial reports involve five stakeholder groups, listed from the upstream (industries) to downstream markets (consumers):

- Financial statement preparers;
- Auditors, who verify financial statements and are regulated by the PCAOB;
- Audit committees, which oversee financial statement preparation and audits;
- Investors, who are the end users of audited financial statements and the ultimate beneficiaries of audit regulation; and
- The general public, including all the above stakeholders.

[Insert Figure 1 here]

In this ecosystem, the audit market serves as the midstream market, with the financial statement market upstream and the corporate governance market downstream, both components of the stock market. Clearly, by regulating auditors, the PCAOB can enhance audit quality and make it more observable in the audit market. However, auditors alone do not guarantee high-quality audits if the upstream financial statement market has too many low-quality preparers or high-risk audit clients. Similarly, observable audit quality does not ensure that auditors are selected based on quality if the downstream corporate governance market fails to align the interests of audit committees with those of investors. In either case, the PCAOB's efforts within the audit market appear insufficient to achieve the intended regulatory outcomes. Moreover, the general public's non-market demands for high-quality audits cannot be addressed within the audit market either. For these reasons, it is in the PCAOB's interest to influence stakeholders beyond the audit market.

2.2 Policy options: carrot, stick, and sermon

To influence different stakeholders, regulators can consider various policy options, some of which are possible to employ beyond their jurisdiction. Drawing from the literature on law and policy science, I identify five types of policy tools available to financial

regulators.¹² The first three tools correspond to the three behavior-shaping mechanisms proposed by DuPont and Karpoff (2020), functioning through legal liability, market-based discipline, and capacity building and cultural influence, respectively:

- (1) **Command and control** (“sticks”). This tool uses laws, rules, standards, and enforcement mechanisms to compel the compliance behaviors of regulated firms.
- (2) **Economic incentives** (“carrots”). This tool incentivizes target stakeholders for socially desirable behaviors through economic rewards.
- (3) **Education and assistance** (“sermons”). This tool provides information and know-how, and encourages certain voluntary and aspirational behaviors through intellectual or moral appeals.

Specifically, command and control is the traditional regulatory mechanism (Mahoney 2021). While coercive and generally effective, it is limited to targeting regulated firms within the jurisdiction and incurs significant time and staffing costs for regulators. In contrast, economic incentives leverage market forces to achieve regulatory goals more cost-efficiently (Shleifer 2005). Their impacts are broader than that of command and control and may spill over into interconnected markets. Unlike direct tax incentives and subsidies in product markets, economic incentives in financial markets are created indirectly through mandatory disclosure. Mandatory disclosure provides information to counterparties and helps build reputational capital for well-behaved firms.

The third tool, education and assistance, also known as soft regulation, complements the first two. On one hand, industry education amplifies and extends the effects of command and control. Regulators can guide regulated firms toward desirable behaviors through perceived enforcement power (Van Loo 2019). They can also advocate for best practices

¹² See, for example, reviews by Morgan and Yeung (2007) and Bemelmans-Videc, Rist, and Vedung (2011).

among firms outside their jurisdiction and make recommendations on emerging issues without facing legal challenges or incurring enforcement costs. On the other hand, consumer education and assistance strengthen the economic incentives tool. Disclosure alone may be ineffective if consumers do not understand the information or view it as irrelevant (Zingales 2009; Campbell et al. 2011; Roychowdhury and Srinivasan 2019). Regulators can improve information formats and educate consumers, thereby lowering their information processing costs and enhancing market efficiency.

In addition to shaping stakeholder behaviors, regulators seek input and support from stakeholders, which are essential for regulatory effectiveness, efficiency, and feasibility. Without understanding stakeholders' motives, costs, benefits, and needs, regulatory activities may be suboptimal and could even impose net costs on society. Without broad public support, regulators risk budget cuts and leadership changes, which are inevitable consequences of the political process. The following two tools help mitigate these issues:

- (4) **Consultation.** This tool seeks input from target stakeholders to ensure rules and standards are well-informed, effective, and publically accepted.
- (5) **Public relations.** This tool employs public statements, outreach, and mass media to raise public awareness and obtain support for regulatory decisions.

I plot the five tools in Figure 2 based on their impact on regulatory outcomes. The command and control tool and the economic incentives tool reflect a trade-off between effectiveness and efficiency, while the education and assistance tool projects the impacts of the two tools beyond the feasibility boundary. Additionally, the consultation tool brings the command and control tool closer to the feasibility boundary, and the public relations tool expands it. Given their different economic mechanisms, regulators may find it optimal to utilize all five tools, which are not mutually exclusive, as part of a portfolio.

[Insert Figure 2 here]

In real-world operations, the five policy tools are utilized in different ways by regulatory functions throughout the process. Based on Labonte (2020), I categorize the general regulatory process into four key functions:

- Rulemaking: Preventing undesirable outcomes ex-ante by setting expectations and standards for regulated firms.
- Monitoring/Inspection: Detecting and remedying deficiencies interim.
- Enforcement: Penalizing misconduct ex-post and deterring future reoccurrence.
- Leadership: Coordinating the above three regulatory functions.

In Figure 3, I use the PCAOB as an example to illustrate different tools employed by each function to target stakeholders. Specifically, rulemaking and enforcement exert command and control over auditors, while inspection focuses on educating them. Meanwhile, depending on the extent to which consumer groups (audit committees and investors) have access to adequate education and assistance, all three regulatory functions offer economic incentives to auditors and possibly to preparers. On the demand side, leadership and rulemaking involve broad consultation with all stakeholders, and leadership further engages in public relations efforts to garner support for the agency as a whole.

[Insert Figure 3 here]

Overall, stakeholders, policy tools, and regulatory functions create three dimensions of regulatory activities. This framework enables us to analyze regulators' decisions in developing a regulatory portfolio and selecting specific activities.

2.3 Regulator as an economic agent

How do regulators develop a regulatory portfolio and select activities? The answer lies in their objective function. Like industries and consumers, regulators are economic agents with self-interest objectives and constraints. They are not inherently benevolent or omniscient. Rather, they maximize their goals subject to their power and resource constraints

(Chen et al. 2025). This objective function has two implications for portfolio development and activity selection.

First, regulators do not necessarily represent the public interest and may deviate from stated missions. Their actual goals are strategic and involve a trade-off among the competing interests and ideologies of various stakeholders (Stigler 1971; Posner 1974). Also, their goals evolve with changes in administration that affect leadership and budgets (Peltzman 1976; Glaeser et al. 2001). For the PCAOB, the regulatory pendulum swings between the interests of auditors and investors, determining the stakeholders to target and the intended level of effectiveness.¹³

Second, regulators seek cost efficiency in their operations. Given their limited resources (Jackson and Roe 2009; Christensen et al. 2016), they prioritize cost-efficient options to maximize net benefits with respect to their strategic goals. Possible approaches include concentrating resources on select themes (Herrmann et al. 2024) and creating synergies by combining multiple functions, tools, and stakeholders. Efficiency considerations determine the specific activities selected to undertake.

3. Evidence in Academic Literature

Using the framework of regulatory activities, I review the literature on financial regulators and list representative studies in Table 1. At the level of regulators, I do not find any individual study that comprehensively examines the full range of a regulator's activities.

[Insert Table 1 here]

At the level of specific activities, most evidence is concentrated in certain areas. Regarding stakeholders, evidence of regulators influencing industries is direct, whereas

¹³ Due to its tripartite mission, the SEC's pendulum is more complex, swinging among investors, issuers, and markets. At times, it may tilt toward two groups rather than just one. For example, under Gensler, the SEC aims to "ensure the markets work for investors and issuers alike—and not the other way around." See Gensler's view at <https://www.sec.gov/newsroom/speeches-statements/gensler-testimony-house-financial-services-041823>.

evidence of regulators influencing consumers is typically indirect, inferred from market reactions. This leaves how regulators interact with consumers unclear.

Regarding policy tools, education and assistance receive little attention. Only a few studies examine industry education, suggesting that PCAOB inspections serve as interactive learning processes that help auditors understand accepted audit quality levels (Aobdia, 2018; Tegeler et al., 2015) and that FINRA rules and ethics training can reduce misconduct among financial advisors (Kowaleski et al., 2020). On the other hand, there is no evidence regarding consumer education. By contrast, command and control, along with economic incentives, dominate the literature. Many studies show the key role of transparency (e.g., Duro et al. 2019; Shroff 2020; Hanlon and Shroff 2022; Hutton et al. 2022; Guo and Tian 2024) or, conversely, opaqueness (e.g., Blackburne et al. 2021; Coleman et al. 2021). Some studies particularly highlight regulation by shaming, which cost-effectively influences firms beyond those explicitly named, provided that the information is effectively disseminated (e.g., Chattopadhyay et al. 2020; Johnson 2020; Lamoreaux et al. 2023).

On the demand side, studies document various lobbying activities, but there is limited research on how regulators proactively seek stakeholder input. Likewise, studies on public relations indicate that regulators cater to various stakeholders, such as industries, retail investors, employees, and politicians, assuming their interests and ideologies are incorporated into regulatory decisions through leadership appointments, budgeting, and congressional oversight. However, except for Engelberg et al. (2023), regulators' preferences are often inferred from political pressures or leadership backgrounds rather than actual activities. We still do not know which stakeholders regulators prioritize or whether and how they shape stakeholders' opinions conversely.

Regarding regulatory functions, most studies focus on single functions, with only a few addressing two (e.g., Heese et al. 2017; Iselin et al. 2024), and none covering all.

Surprisingly, the leadership function, which balances stakeholder interests and sets the direction for regulatory agencies, is neglected.

Overall, the existing literature offers limited insight into how regulators allocate resources and efforts across different stakeholders, tools, and functions, and largely overlooks activities beyond traditional regulatory roles, such as efforts to influence and engage with consumers, the education and assistance tool, and the leadership function.

4. Evidence from PCAOB Publications

4.1 Swinging regulatory pendulum

In my empirical analysis, I apply the framework of regulatory activities to the example of the PCAOB. I first examine how the PCAOB's stakeholder orientation evolved over time. To do this, I count the mentions of particular stakeholder groups in its strategic plans from 2007 to 2022. The trends are shown in Figure 4.

[Insert Figure 4 here]

Overall, the PCAOB shifted its stakeholder orientation from industry groups (auditors and preparers) to consumer groups (investors and audit committees). During Olson's tenure, the PCAOB only mentioned investors and auditors. Doty began to consider audit committees, the actual evaluators of audit quality, aligning with his emphasis on information needs and disclosure. In contrast, Duhnke shifted some attention to financial statement preparers, diverting regulatory focus away from auditors. In 2022, under Williams, the PCAOB returned to its mission by refocusing on investors, who became the most important stakeholder, accounting for 46 percent of the PCAOB's mentions, a record high. This shift also involved redirecting attention from financial statement preparers back to auditors, who are under PCAOB jurisdiction.

The PCAOB's stakeholder orientation appears to align with the partisan preference of the administration at the time. This pattern suggests that regulators are not immune to

favoring certain stakeholder groups due to political influences on leadership. However, as a new presidential administration arrives, regulators periodically rebalance their orientation among various stakeholders and reset their strategic goals accordingly.

To illustrate this, I further examine the 2022 strategic reset under Williams, comparing the new strategic goals with the former ones. As shown in Table 2, all new goals take investors into account: the new goals 1 and 4 emphasize seeking their input, while the new goals 2 and 3 prioritize enhancing transparency. On transparency, the new goals 2 and 3 put into action the former goal 2 of communicating audit quality, with a specific focus on firm inspection reports and enforcement orders. On engagement, the new goal adds investor advocates, such as the Council of Institutional Investors and the Consumer Federation of America, to improve investor participation, because investor advocates are seen as more incentivized and resourceful in providing influence.

[Insert Table 2 here]

The new strategy also aims to improve operations. It organizes goals by regulatory function, contrasting with the former goals, which were categorized by regulatory approaches. For example, the new strategy assigns prevention to the rulemaking and inspection functions, detection and remediation to the inspection function, and deterrence to the enforcement function, whereas these aspects were integrated under a single goal formerly. Moreover, the new strategy emphasizes function-specific goals, such as rule enforceability, guidance combined with remediation, and the degree of penalties. This reflects the leadership's desire to better guide and motivate each function to improve overall regulatory outcomes.

Based on the above analysis, it appears that the PCAOB under Williams prioritizes investors, thereby reducing the influence of industry groups. This provides a clear setting for

observing how a regulator acts to achieve its intended regulatory outcomes. I will use this setting in my subsequent analyses.

4.2 Regulatory portfolio

Next, I analyze the PCAOB's actual regulatory activities based on all its publications. Specifically, I collect 86 publications and public speeches released on the PCAOB website from July 2022 to June 2023, counting each publication as an activity. I categorize each activity by target shareholder, policy tool, regulatory function, and theme, and tally the number of tags. For activities involving multiple target shareholders, policy tools, or themes, the number of tags is divided equally among the different categories to avoid double counting. This approach allows me to present an overview of the PCAOB's regulatory portfolio.¹⁴

Table 3 presents the PCAOB's regulatory portfolio by target stakeholders and policy tools. The framework of regulatory activities suggests that a regulator seeks to influence various stakeholders across the market ecosystem and prioritize them based on their relevance and influenceability. This strategy is evident in the PCAOB's regulatory portfolio. Specifically, auditors received the most attention, accounting for 46% of its activities. Among the remaining stakeholders, the general public (i.e., no specific stakeholder group) and investors captured a sizeable share of its activities, at 23% and 20% respectively. By contrast, only 5% of activities targeted audit committees, and there were no activities that specifically

¹⁴ There are three potential limitations in my approach: First, my analysis includes publicly disclosed activities only, which may not reflect all activities undertaken by the PCAOB (see footnote 18 for details). As mentioned in footnote 5, I focus on public activities to investigate regulators' influence. Second, I can only gauge the number of outputs but not the amount of input or impact. There is a mature body of literature on inputs and impact: see Jackson and Roe (2009) and Christensen et al. (2016) for agency-level inputs, and refer to the studies listed in Table 1 for the impact of specific functions. Lastly, when a publication involves multiple target stakeholders, policy tools, or themes, I divide the number of tags among them equally for cross-category analysis. Assigning an equal weighting may not always reflect the emphasis of that particular activity. To address this limitation, in an unreported robustness analysis, I use undivided tags and find similar results regarding ranks and percentages. In the [Internet Appendix](#), I also list all source documents with hyperlinks for interested readers and show how I assign weights to activities.

targeted financial statement preparers. The PCAOB's focus on auditors and investors in its actual activities aligns with its stakeholder orientation.

[Insert Table 3 here]

Analyzing the types of policy tools, I find that PCAOB employed all five tools extensively, with usage ranging from 13% to 33%. Consistent with the framework, the tools selected were highly specific to the target stakeholders.

For auditors, the PCAOB primarily used the command and control tool (such as setting new standards and imposing sanctions for violations) which accounted for 21% of its activities. In addition, the PCAOB used the disclosure-based economic incentives tool (12%, such as disclosing firm inspection results and enforcement results to enhance market transparency and efficiency) and the education tool (11%, such as issuing guidance to auditors) to encourage market competition and best practices. Moreover, the PCAOB paid special attention to underrepresented, small audit firms by holding an annual forum.¹⁵

For audit committees, the PCAOB provided educational information (4%, such as audit committee resources of questions to be discussed with auditors) to assist them in effectively overseeing auditors. The PCAOB also communicated privately with them to understand their oversight, though it did not publicize these dialogues as it had done previously.¹⁶

For investors, the PCAOB proactively consulted with them to understand their expectations for audit regulation (15%, such as investor outreach), and also provided them with information about firms' audit quality and the PCAOB's regulatory process (5%, such as firm inspection reports, and bulletins to investors). In support of this purpose, PCAOB has

¹⁵ See [Forum for Small Business and Broker-Dealers Auditor](#).

¹⁶ For education, see [Audit Committee Resource 2022](#) and [Audit Committee Resource 2023](#). For conversations in 2022, see [PCAOB 2022 annual report \(p.13\)](#), whereas for the previous year's publication, see [2021 conversations with audit committee chairs](#).

relaunched its Investor Advisory Group and appointed its first-ever “investor advocate” for the purpose of investor engagement.¹⁷

It is worth noting that, the general public (i.e., no specific stakeholder group) has been frequently invited by the PCAOB to provide input on standard setting initiatives (10%, such as a request for public comments). In particular, the PCAOB has relaunched its Standards and Emerging Issues Advisory Group, whose members include investors and investor advocates (accounting for more than one-third of the membership) as well as auditors, financial statement preparers, investors, and academics. This allows the PCAOB to obtain a more balanced perspective, which is essential to ensure that standards achieve their intended outcomes and that guidance is voluntarily adopted. In addition, the PCAOB delivered more messages to the public about the way it regulates auditors (13%, such as public speeches and open meetings), to restore public confidence in audit regulation.

In summary, the findings from the PCAOB indicate that it is both necessary to influence various stakeholders and feasible to do so through different policy tools. These tools function in different ways in shaping, incentivizing, or facilitating behaviors, but all of them serve one purpose: to help the regulator achieve its market-oriented goals.

4.3 Activity Selection

In this section, I describe the selection of focus areas and specific activities. Table 4 presents the PCAOB’s regulatory portfolio categorized by regulatory function and theme, based on my analysis of the subject matters.

[Insert Table 4 here]

Among regulatory functions, 46% of the PCAOB’s publicly disclosed activities were undertaken by its leadership (i.e., the chair and board members), primarily involving

¹⁷ See [PCAOB press release on the relaunch](#) and [PCAOB press release on the appointment](#). Note that, after the appointment of the “investor advocate” who focuses on engagement with investors, the existing stakeholder liaison focuses on engagement with other stakeholders such as audit committees and financial statement preparers (see [PCAOB 2022 annual report \(p.13\)](#)).

interaction with advisory groups or stakeholders. This highlights the significance of leadership and stakeholder engagement for a regulator. The other three front-line functions, rulemaking, inspection, and enforcement account for 13%, 19%, and 22% of the activities, respectively.¹⁸

Among the twelve themes, the top six collectively represent 73% of the activities. These key themes are: crypto, use of technology and talent; quality control; market transparency; PCAOB's regulatory approach; China; and auditors' responsibilities and fraud detection. The concentration on select themes suggests that PCAOB prioritized the themes that are most relevant to investors.¹⁹

I further combine these statistics with qualitative evidence, to take a close look at how the PCAOB selects specific activities. I have four general findings. First, the PCAOB adopted different policy tools based on whether a theme falls within its jurisdiction and existing rules. For example, regarding the use of rapidly developing technologies that have not been covered by current standards, the PCAOB engaged in two-way communication with stakeholders to understand the practices of early adopters and guide other stakeholders.²⁰ In the case of crypto company audits that fall outside its jurisdiction, the PCAOB proactively educated investors by clarifying its jurisdictional limits and sought public support for legislative changes.²¹ By contrast, for the inspection and investigation of audit firms in China that newly came under its actual jurisdiction, the PCAOB exercised this new power in an active, high-

¹⁸ [PCAOB 2023 budget](#) shows that the cost spent in rulemaking, inspection, enforcement, and leadership activities account for 11%, 44%, 7%, and 6% of the PCAOB's total spending, respectively. The difference between spending-based estimation and publication-based estimation suggests that many outputs of inspection activities are delivered in private (such as communication with inspected firms) or in a less visible way (such as firm-inspection reports without press releases) whereas outputs of enforcement and leadership activities are usually delivered in a highly visible way (such as open meetings, board member speeches and statements).

¹⁹ For the use of technology, talent, fraud detection, crypto, and market transparency, see the Investor Advisory Groups' meetings in [October 2022](#), [March 2023](#), and [June 2023](#). For quality control and regulatory approach, see the Investor Advisory Group's comments on [quality control](#) and [regulatory approach](#).

²⁰ See [PCAOB press release on the launch of Technology Innovation Alliance Working Group](#), [Inspection Observations related to Public Company Audits Involving Crypto Assets](#), and [Audit Committee Resource 2022](#).

²¹ See [Chair Williams's response letter to two lawmakers](#) and the [investor advisory on proof of reserve reports](#).

profile manner. These examples suggest that regulators utilize a mix of hard and soft regulation, as well as input/support-seeking and output-making tools.

Second, multiple functions within the PCAOB collaborated on key themes to create synergies. For example, in quality control, the rulemaking function proposed a new standard, the inspection function identified common deficiencies, the enforcement function targeted quality control failures, and leadership communicated expectations to stakeholders. PCAOB leadership believes that rulemaking establishes a clear standard for other functions, while observations from these functions support the standard's necessity and legitimacy, ensuring it is fit for purpose.²² Therefore, regulators adopt cross-functional collaboration as an effective and efficient approach to address their focal themes.

Third, the PCAOB improved market transparency to assist audit committees and investors in making informed decisions, thereby strengthening economic incentives for auditors. In response to investors' calls for greater market transparency, the PCAOB revised its regulatory disclosures, reviewed auditors' disclosures, and ensured that information about component auditors is accurate, complete, and accessible.²³ These efforts suggest that disclosure alone may not necessarily ensure audit market efficiency. Instead, the effectiveness of disclosure relies on low processing costs, which can be reduced through education and thoughtful information design.

Lastly, PCAOB members played a dual role by representing diverse stakeholders with varying interests while also shaping their opinions through public relations. For example, in the proposed standard on Noncompliance with Laws and Regulations, Board members voted

²² See Chair Williams's [speech on quality control](#).

²³ Specifically, to improve regulatory disclosures, the PCAOB [released firm inspection reports in batches of comparable peers](#), [announced enforcement actions in batches of common themes](#), and [named implicated issuers where applicable](#). To review auditors' disclosures regarding critical audit matters, the PCAOB conducted an [interim analysis](#). To enhance the decision-usefulness of information about component auditors, the PCAOB added this information to the [auditor search database](#) and [penalized auditors](#) for failing to file it accurately and completely.

three to two, reflecting the interests of the constituents they represented. At the same time, they engaged extensively with the public to solicit support for their stance, thereby shaping public opinion.²⁴ This example illustrates that, through the leadership function, regulators and markets influence each other in a dynamic, endogenous process.

Taken together, my qualitative findings reveal the notable roles of policy mix, cross-functional collaboration, market-oriented efforts, and the leadership function in the operations of regulators.

4.4 Difference in portfolio coverage

The framework of regulatory activities can also be used to analyze alternative regulatory structures for the PCAOB. As discussed in Section 2.1, the PCAOB is a sectoral regulator with a narrow jurisdiction over auditors. While it undertakes activities beyond the audit market, the subjects of these activities remain in the area of auditing. In contrast, the SEC oversees securities markets with broad authority across multiple sectors and subject areas, functioning as an integrated regulator. Between these two, a hybrid regulator combines elements of both. For example, the UK FRC focuses on and maintains comprehensive authority over the financial reporting ecosystem.

In a separate analysis, I employ a similar approach to compare the regulatory portfolios of the PCAOB, the SEC, and the UK FRC in relation to the financial reporting ecosystem. Table 5 presents their differences. In terms of portfolio breadth, the PCAOB focused solely on topics within the area of auditing, whereas the SEC addressed topics in both the areas of financial statements and auditing. This indicates that an integrated regulator makes more balanced efforts over the financial reporting ecosystem compared to a sectoral

²⁴ Specifically, three Board members who represent investors (i.e., lawyers and public officials who are independent from the accounting profession), Erica Williams, Anthony Thompson, and Kara Stein, voted for the proposal, while two board members who represent auditors, Christina Ho and Duane Desparte, voted against it. The decision on the proposed standard has been [deferred to 2025](#). For stakeholder engagement, see the meetings of [Investor Advisory Group](#) and [Standards and Emerging Issues Advisory Group](#).

regulator. Relatedly, in terms of portfolio depth, the PCAOB had a larger volume than the SEC, as the SEC does not prioritize auditing or financial reporting as a whole in its agenda. More importantly, they differed in visibility and salience. Over 80% of the SEC's activities related to the financial reporting ecosystem did not involve its leadership but were led by its Chief Accountant, who has significantly less influence on the general public than the leadership.²⁵ By comparison, 64% of the PCAOB's activities were staff-led. Unlike the PCAOB's leadership, which speaks exclusively on auditing-related matters, the SEC's leadership addressed financial reporting and audit issues in fewer than one percent of their total activities (903 in total during the sample period). This indicates severe competition for resources and priorities within an integrated regulator. On the other hand, as a hybrid regulator, the UK FRC appears to maintain a good balance between portfolio breadth and depth regarding financial reporting, being both prolific and comprehensive in reaching all financial statement preparers, auditors, and audit committees. However, this approach might lead to potential regulatory fragmentation for listed companies, as their issues outside of financial reporting, auditing, and governance are regulated by the UK FCA.

[Insert Table 5 here]

To wrap up, I further look into the regulatory structures of 56 members of the International Forum of Independent Audit Regulators.²⁶ I find that 22 (39%) are sectoral regulators of auditing, 20 (36%) are integrated regulators of securities markets, and 14 (25%) are hybrid regulators covering the financial reporting ecosystem. It appears that none of the three regulatory structures dominates the regulation of the financial reporting ecosystem, likely because each has its own pros and cons.

²⁵ Based on my comparison of media coverage between SEC commissioners (or PCAOB members) and the SEC Chief Accountant.

²⁶ The analysis is conducted in May 2025. See information at <https://www.ifiar.org/members/member-directory/>.

5. Conclusion

Regulators are viewed as designing, implementing, and enforcing rules. This law-oriented view, while accurately summarizing the statutory role of regulators, overlooks their market-oriented mission and their nature as economic agents. Consequently, existing literature offers valuable but incomplete insights into the roles of regulators, limiting its ability to guide real-world practices.

In this study, I provide a stakeholder-tool-function framework for understanding regulatory activities and present the first comprehensive descriptive evidence of all publicly disclosed activities of the PCAOB. I find that the PCAOB extends its activities beyond regulating auditors to influence other market players within the financial reporting ecosystem, such as investors and audit committees. The PCAOB develops a regulatory portfolio that combines various policy tools, including command and control, economic incentives, education and assistance, consultation, and public relations, to collectively address audit market imperfections. To manage this portfolio, the PCAOB prioritizes key themes and employs cross-functional collaboration to achieve operational efficiency.

For policymakers, this study provides implications for the ongoing discussion on effective audit regulation and the debate over consolidating the PCAOB into the SEC. It emphasizes that effective audit regulation needs to consider the incentives of audit committees and their information processing costs. Available policy solutions, ranked by feasibility, are understanding, education, disclosure, and prohibition, indicating that soft regulation may be more actionable than mandates. Furthermore, the study highlights the trade-off between comprehensive regulatory coverage of the financial reporting ecosystem with focused leadership attention on this ecosystem when selecting a regulatory structure.

For academics, this study presents several future research pathways. First, since my evidence is drawn from the PCAOB during a period of intense investor focus, it remains

unclear how regulators prioritize industry interests. Future research could investigate lenient regulators, identified through their stakeholder orientations in their strategies, as well as cross-country differences in regulatory proactiveness. Second, as I focus on the relative outputs of different types of activities, future research could examine their relative impacts on the market. Lastly, my findings suggest that certain policy tools used by regulators have not been analyzed in academic literature. Future research could examine these tools, such as the public relations efforts of SEC commissioners, investor education efforts by the SEC's Office of Investor Education and Advocacy, and industry education efforts by the UK FRC.

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Figure 1. Financial Reporting Ecosystem

This figure illustrates the stakeholders within and outside the PCAOB's jurisdiction. As Defond and Zhang (2014) suggest, the demand for audits arises from agency problems and information asymmetry in the stock market. Thus, the financial reporting ecosystem includes players from both the stock and audit markets. In the figure, dotted arrows represent contractual relationships characterized by agency problems or information asymmetry, while solid arrows indicate external monitoring and verification mechanisms. In each relationship, industries (or agents, sellers) are positioned on the left, and consumers (or principals, buyers) are on the right. For brevity, broker-dealer audits are not shown.

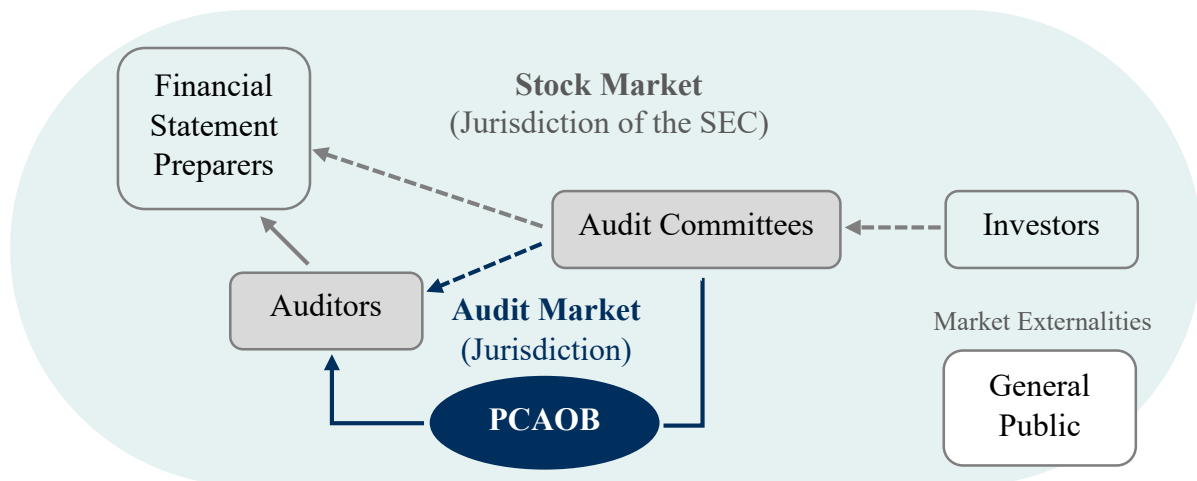


Figure 2. Effectiveness, Efficiency and Feasibility

This figure illustrates the effectiveness, efficiency, and feasibility of three output-making tools (i.e., command and control, economic incentives, and education and assistance), as well as the impact of input/support-seeking tools (i.e., consultation and public relations) on these outcomes.

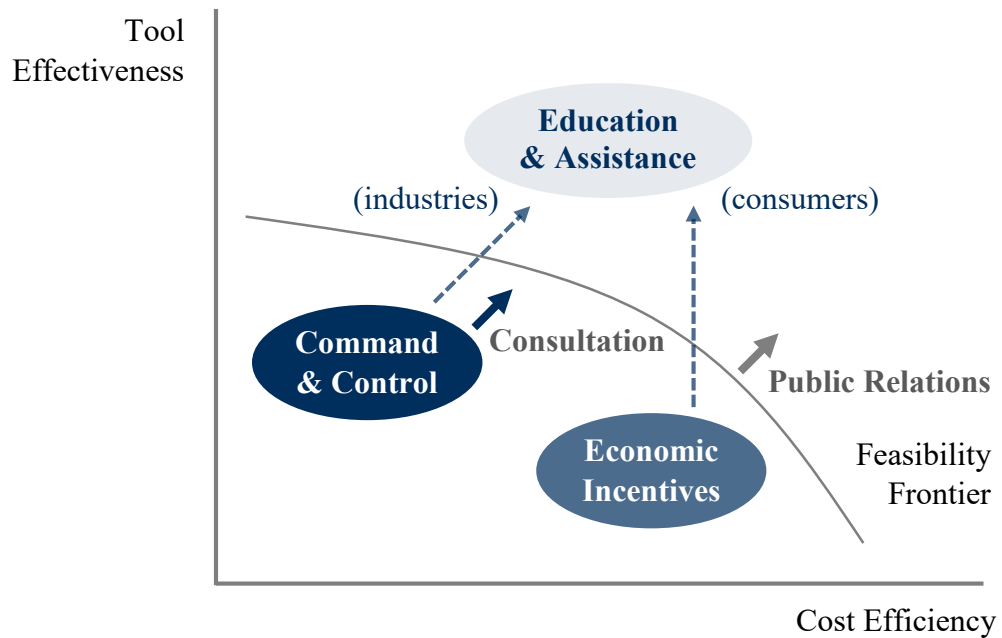


Figure 3. Policy Tools Targeting Stakeholders

This figure illustrates how each regulatory function of the PCAOB interplays with its stakeholders. The arrows represent theoretically available policy tools, including (1) command and control, (2) economic incentives, (3) education and assistance, (4) consultation, and (5) public relations.

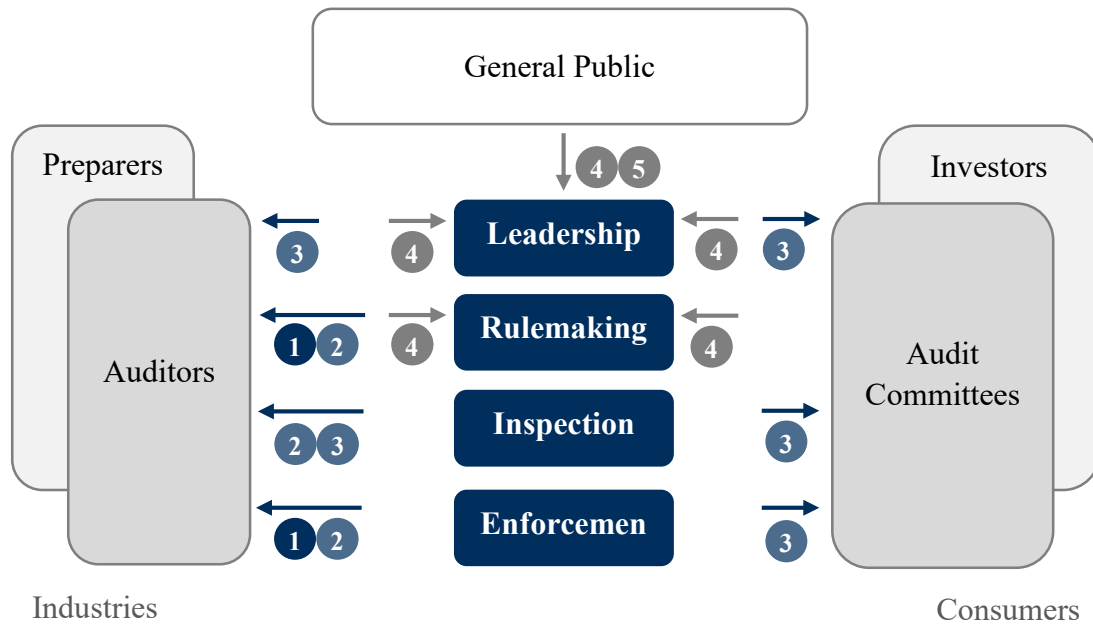


Figure 4. Shifting Stakeholder Orientation

This figure illustrates the PCAOB's shifting orientation among stakeholders from 2007 to 2022, including investors, audit committees, auditors (including accounting and audit firms), and financial statement preparers. The stakeholder orientation is measured by the percentage of mentions of each group in the PCAOB's strategic plan. For consistency, the sections on performance measurement and the appendix from 2008 to 2017 are excluded. Since there was no strategic plan released in 2021, the figures for 2020 are used for that year. Source documents are available at <https://pcaobus.org/about/strategic-plan-budget>.

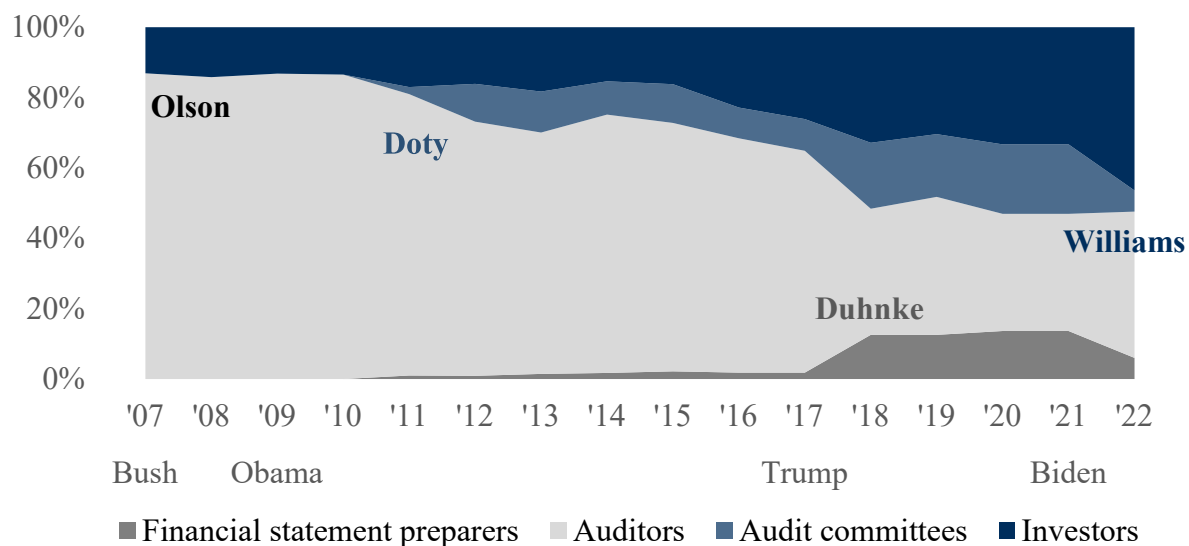


Table 1. Literature on Financial Regulators

This table presents relevant studies in economics, finance, and accounting on financial regulators' activities categorized by function, policy tool, and stakeholder. It aims to be comprehensive but does not exhaustively cover the entire literature. Only studies on the SEC, the PCAOB, and the FASB are included; studies on banking and insurance regulators are excluded. For brevity, only the most direct or first evidence of each activity is listed. Shaded table cells indicate that in the function, the policy tool theoretically targets the stakeholder. Studies specifically addressing regulatory disclosure and transparency are highlighted in bold.

Function	Policy Tool				
	(1) Command and control	(2) Economic incentives	(3) Education and assistance	(4) Consultation	(5) Public relations
Leadership			<i>Industries</i>	<i>Industries</i>	<i>Public</i>
			<i>Consumers</i>	<i>Consumers</i>	SEC: Engelberg et al. (2023)
Rulemaking	<i>Industries</i> SEC: Campbell et al. (2023) FASB: Khan et al. (2018) NASAB: Barrios (2022)	<i>Industries</i> SEC: Akyol et al. (2012); Becker et al. (2013) PCAOB: Reid & Carcello (2017)		<i>Industries</i> SEC: Hochberg et al. (2009) PCAOB: Williams & Wilder (2021) FASB: Bischof et al. (2020); Monsen (2022)	<i>Public</i> SEC: Allen & Ramanna (2013) FASB: Allen & Ramanna (2013); Jiang et al. (2018)
				<i>Consumers and Academics</i> SEC: Hochberg et al. (2009); Geoffroy & Lee (2021)	
Monitoring/ Inspection	<i>Industries</i> SEC: Hutton et al. (2022); Guo & Tian (2024) PCAOB: Christensen et al. (2021); Hanlon & Shroff (2022)	<i>Industries</i> SEC: Dechow et al. (2016); Johnston & Petacchi (2017); Duro et al. (2019) PCAOB: Acito et al. (2018); Shroff (2020); Hanlon & Shroff (2022) UK: Christensen et al. (2020); Florou et al. (2020) Japan: Chattopadhyay et al. (2020)	<i>Industries</i> PCAOB: Aobdia (2018); Tegeler et al. (2025) FINRA: Kowaleski et al. (2020)		<i>Public</i> SEC: Heese et al. (2017); Iselin et al. (2024)
			<i>Consumers</i>		
Enforcement	<i>Industries</i> SEC: Karpoff et al. (2008a); Kedia & Rajgopal (2011); Silvers (2020); Allee et al. (2022); Jia (2025) PCAOB: Lamoreaux et al. (2023)	<i>Industries</i> SEC: Karpoff et al. (2008b); Files (2012); Armour et al. (2017); Blackburne et al. (2021); Coleman et al. (2021) ; Krishnan et al. (2025) PCAOB: Dee et al. (2011); Boone et al. (2015); Krishnan et al. (2025) FINRA: Egan et al. (2019) Other regulators: Johnson (2020)		<i>Public</i> SEC: Call et al. (2018)	<i>Public</i> SEC: Correia (2014); Heese et al. (2017); Heese (2019); Mehta & Zhao (2020); Choi & Gipper (2024); Iselin et al. (2024); Pandey et al. (2025)
			<i>Consumers</i>		

Table 2. 2022 Strategic Reset

The table presents a comparison between PCAOB's former strategic goals (in Strategic Plan 2020-2024) and new strategic goals (in Strategic Plan 2022-2026). Source documents are available at <https://pcaobus.org/about/strategic-plan-budget>.

Former Strategy	New Strategy
(1) Anticipation of and response to the changing environment	(1) Modernizing standards <ul style="list-style-type: none"> • Audit quality and enforceability • Adapting to market and technology development • Stakeholder feedbacks
(2) Combination of prevention, detection, deterrence, and remediation <ul style="list-style-type: none"> • Standard-setting • Inspection • Enforcement • Communication of audit quality 	(2) Enhancing inspections <ul style="list-style-type: none"> • Transparency and timeliness of inspection reports • Guidance for auditors and audit committees • Auditors' remediation efforts
	(3) Strengthening enforcement <ul style="list-style-type: none"> • Improved transparency in penalties and enforcement actions • More significant penalties • Collaboration with SEC and foreign regulators
(3) Proactive stakeholder engagement <ul style="list-style-type: none"> • Investors • Audit committees • Financial statement preparers • Auditors • Others 	(4) Improving organizational effectiveness <ul style="list-style-type: none"> • Enhancing stakeholder engagement <ul style="list-style-type: none"> ○ Investors and investor advocates ○ Audit committee members ○ Financial statement preparers ○ Audit firms and individual auditors ○ Others • Improving employee experience • Organizational cooperation
(4) People development	
(5) Efficient and effective use of resources, information, and technology	

Table 3. Regulatory Portfolio by Stakeholder and Tool

The table presents the number of PCAOB publicly disclosed activities by target stakeholder and policy tool. For activities involving multiple target stakeholders or policy tools, numbers are equally divided among different categories to avoid double counting. Shaded table cells indicate that the policy tool theoretically targets the stakeholder. For details of the activities, see the [Internet Appendix](#).

Target Stakeholder (Total activities: 86)	Policy Tool				
	Command and control (18, 21%)	Economic incentives (10.5, 12%)	Education and assistance (18.5, 21%)	Consultation (28, 33%)	Public relations (11, 13%)
Financial Statement Preparers (0, 0%)					
Auditors (40.5, 46%)	18 (21%)	10.5 (12%)	10 (11%)	2 (2%)	
Audit committees (4, 5%)			3.5 (4%)	0.5 (<1%)	
Investors (17, 20%)			4 (5%)	13 (15%)	
General public (19.5, 23%)				8.5 (10%)	11 (13%)
Others: students, academics, regulators (5, 6%)			1 (1%)	4 (5%)	

Table 4. Regulatory Portfolio by Function and Theme

The table presents the number of PCAOB publicly disclosed activities by regulatory function and theme. For activities involving multiple regulatory functions or themes, numbers are equally divided among different categories to avoid double counting. For details of the activities, see the [Internet Appendix](#).

Themes (Total activities: 86)	Regulatory Function			
	Leadership (40, 46%)	Rulemaking (11, 13%)	Inspection (16, 19%)	Enforcement (19, 22%)
Crypto, use of technology, talent (14.1, 16%)	10.3 (12%)	1.5 (2%)	1.8 (2%)	0.5 (<1%)
Quality control (12.0, 14%)	3.5 (4%)	1 (1%)	2.2 (3%)	5.3 (6%)
Market transparency (10.1, 12%)	7.7 (9%)	1 (1%)	1.3 (2%)	0.2 (<1%)
PCAOB regulatory approach (9.5, 11%)	9.5 (11%)			
China (8.3, 10%)	1.3 (2%)	3 (3%)	4 (5%)	
Auditor's responsibilities, fraud detection (8.2, 10%)	5.2 (6%)	2 (2%)	1.1 (1%)	
Audit procedures (7.5, 9%)	2 (2%)	2 (2%)	0.5 (<1%)	3 (3%)
Registration, filing, component auditors (6.1, 7%)	0.5 (<1%)		0.3 (<1%)	5.3 (6%)
IPO, M&A, SPAC, financial sector (3.5, 4%)			3 (3%)	0.5 (<1%)
Documentation, cooperation with inspection (3.3, 4%)				3.3 (4%)
Auditor competence and independence (2.7, 3%)			1.8 (2%)	1 (1%)
ESG assurance (0.5, <1%)		0.5 (<1%)		

Table 5. Regulatory Structures: Sectoral, Integrated, and Hybrid

The table presents the number of publicly disclosed activities of the PCAOB, the SEC and the UK FRC in relation to the financial reporting ecosystem. The activities are based on their publications from January 2019 to September 2022, collected from their websites. For consistency, proposed and final standards (as the SEC does not set standards) and operational periodic reports (as the SEC does not separately review financial reporting issues) are excluded. The numbers are further categorized by subject area and function.

Type of Regulators	Sectoral PCAOB	Integrated SEC	Hybrid UK FRC
Total Activities	55	31	122
Subject Area			
Financial Reporting	N/A	21	57
Auditing	55	10	48
Corporate Governance	N/A	0	17
Function			
Leadership	20	6	9
Staff: Rulemaking, Monitoring/Inspection, Enforcement	35	25	113