Public Company Auditing Around the Securities Exchange Act^{*}

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Abstract

We explore the landscape of public company auditing around the introduction of the Securities and Exchange Commission (SEC) in 1934. Using a broad sample of historical annual reports spanning several decades, we document that most public companies obtained audits even before the SEC's audit mandate, which limited the mandate's impact on audit rates. We further document that these companies selected their auditors based on characteristics reflecting independence and competence, even before the SEC's mandate. While changes in audit rates and auditor choices were limited, we observe significant changes in the content of audit statements around the introduction of the SEC. These changes, however, appear to reflect concurrent standardization efforts initiated and driven by private-sector actors rather than the SEC. Finally, we do not find any significant impact of the SEC's audit mandate on capital-market outcomes. Collectively, our descriptive evidence suggests that the introduction of the SEC, while widely viewed as a sea-change in public company auditing, had a limited impact on companies' reliance on audits and investors' trust in companies' reports, at least initially.

Keywords: Public Companies, Auditing, Regulation, Securities Exchange Act

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1 Introduction

Securities market crashes and accounting scandals have startled the public throughout history (e.g., Hail et al., 2018). In response to these events, the public tends to call for more transparency and oversight (e.g., Flesher and Flesher, 1986; Stein et al., 2017; Sellhorn, 2020; Langenbucher et al., 2020). Heeding this call, public company auditors position themselves as gatekeepers, ensuring public companies' credible reporting and investors' trust (e.g., Coffee, 2006; Roychowdhury and Srinivasan, 2019). Their effectiveness as gatekeepers in securities markets, however, is frequently called into question, as they are often blamed for failing to prevent and detect accounting scandals (see, e.g., the recent Wirecard scandal).¹

To safeguard investors against market crashes and accounting scandals, securities markets are increasingly regulated (e.g., La Porta et al., 2006; Leuz and Wysocki, 2016). A centerpiece of securities regulation is the regulation of public company auditing, which nowadays comprises audit mandates, audit standards, and even auditor oversight. Whether such regulatory intervention is necessary for and effective in sustaining audit and securities markets, however, remains the subject of a controversial debate (e.g., DeFond and Zhang, 2014; Dono-van et al., 2014; DeFond et al., 2016).²

We aim to inform the debate on the need for audit regulation by exploring the landscape of public company auditing around the first major regulatory intervention in the U.S. audit market, the introduction of the Securities and Exchange Commission (SEC) in 1934. This intervention created a federal regulator that mandated the auditing of public companies' financial statements and had the authority to set audit standards and oversee the audit profession. Using a broad sample of historical annual reports, we examine both the state of public company auditing before the SEC's introduction *and* changes in public company

¹ In the 1920s, for example, Touche Niven (nowadays Deloitte) failed to uncover overstated accounts receivables in the financial reports of its client, Ultramares. In the early 2000s, Arthur Anderson was blamed for failing to detect Enron's accounting fraud. Most recently, Ernst & Young was scrutinized for its failure to detect Wirecard's overstated cash accounts.

² For a recent example, see the debate on internal control audits required under Section 404(b) of the Sarbanes-Oxley Act (e.g., Barth et al., 2019; Posner, 2020).

auditing and associated capital-market outcomes around the SEC's introduction. The former sheds light on the necessity of regulation for the functioning of audit markets, whereas the latter provides information about the effectiveness of regulation in making improvements over and above unregulated audit and capital markets. Our broad-sample exploration of the historical audit landscape is enabled by recent advances in the digitization and automated textual analysis of historical documents and inspired by the seminal work of Watts and Zimmerman (1981, 1983), which explores the need for audit regulation using qualitative evidence from various historical episodes ranging from the English merchant guilds of the 11^{th} century up to the SEC's introduction.

In theory, the need to regulate the auditing of public companies is not apparent. Fama and Jensen (1983a,b), Watts and Zimmerman (1983), and Ball (1989), for example, suggest that public companies have private incentives to obtain independent audits. They argue that public companies, characterized by the separation between ownership and control, stand to benefit from reduced agency frictions between managers and investors. Moreover, DeAngelo (1981) suggests that auditors have private incentives to provide *independent* audits. She argues that even though auditors are paid by management, they are reluctant to give in to management's demands for bias or partiality, because they fear damage to their reputation and loss of other clients.

To justify regulation, the literature advances two main reasons auditing is different from a normal good and would therefore be insufficiently provided by unregulated markets. Donovan et al. (2014) and Minnis and Shroff (2017), for example, conjecture that audits could have public good features (e.g., externalities on trust in securities markets), which lead companies to undervalue audits and auditors to under-provide effort. DeFond et al. (2016), moreover, conjecture that audits have credence-good features, which make companies reluctant to obtain audits because they (or their investors) cannot judge the value of the audit. Other general reasons for regulation include cost reductions due to increased standardization or reduced duplicative contracting efforts, as well as stricter enforcement and penalties (e.g., Leuz, 2010; Minnis and Shroff, 2017). Notwithstanding these potential reasons for regulation and issues with unregulated markets, it is ultimately an empirical question whether regulation, which comes with its own imperfections, can address these issues more efficiently than market forces (e.g., Demsetz, 1969; Stigler, 1971).

Public company audits were widely unregulated in the U.S. until the Securities Act of 1933 and the Securities Exchange Act of 1934. The acts, motivated by the 1929 securities market crash, aimed at establishing "truth in securities" markets through legal liability and disclosure. The 1933 act expanded auditors' legal liability to third parties and required the disclosure of audited prospectuses.³ The 1934 act added requirements to disclose audited annual reports and created a federal securities market regulator, the SEC. This regulator was tasked with enforcing the new disclosure and auditing requirements, which were applicable to companies trading on stock exchanges, but not the over-the-counter (OTC) market (Greenstone et al., 2006). Before these federal mandates, audit requirements were limited to certain industries (e.g., the railroad companies had been subject to inspection by examiners of the Interstate Commerce Commission since 1906) or set by private actors, such as the NYSE, which had been asking listing companies to commit to annual audits since April 1932 (see p. 19 of Forbes, 1934; Abs et al., 1954). In addition to enforcing audit mandates, the SEC was granted the authority to regulate audit standards and audit supervision (Coffee, 2006). As a result of lobbying by prominent auditors and the limited subject-matter expertise of politicians and regulators, however the SEC initially abstained from using these powers though (Wiesen, 1978).⁴ This reliance on the self-regulation of public company au-

³ Before the act, privity (i.e., a contractual relationship) was required to sue auditors for negligence, limiting auditors' liability to clients (e.g., boards of directors). Shareholders of audited companies and other third parties could sue auditors only for fraudulent behavior, which required a high burden of proof (i.e., intent), or for gross negligence, since the *Ultramares Corp. v. Touche* decision in 1932. The 1933 act extended auditors' liability to third parties by discarding the privity requirement (Kothari et al., 1988).

⁴ In 2002, in response to the bursting of the dot-com bubble and high-profile accounting scandals (e.g., Enron), the Sarbanes-Oxley Act created a dedicated regulator, the Public Company Accounting Oversight Board (PCAOB), to oversee the audit profession, upending the reliance on the profession's self-regulation (e.g., DeFond and Lennox, 2017; Gipper et al., 2020).

ditors provides a first indication of the limits of regulation.⁵ While unregulated markets may not work perfectly, the potential for capture and the lack of expertise of politicians and regulators may render regulation an equally imperfect solution (Stigler, 1971; Demsetz, 1969).

To explore the audit landscape around the SEC's introduction, we construct a historical panel tracking a broad sample of public companies over several decades. Our sample consists of U.S. public companies with annual reports available in the archives maintained by *Mergent* and *ProQuest* up until fiscal year 1940. From the companies' reports, we extract audit statements using optical character recognition (OCR) and natural language processing (NLP) techniques. The audit statements provide information on companies' auditors (if any), auditor locations, audit sign-off dates, audit procedures (as reported), and audit opinions. We combine this audit information with information on each public company's location, industry, trading venue, basic financials (size, earnings per share (EPS), dividend policy), and equity-market outcomes, which are provided by the historical databases of *Global Financial Data (GFD)* and the *Center for Research on Securities Prices (CRSP)*.

Our combined sample comprises 1,528 unique companies and 124 unique auditors over more than four decades. Of the 1,528 companies, 91% trade on stock exchanges (including 56% on the New York Stock Exchange (NYSE)), while the remaining 9% trade on the OTC market. Most of the companies are located in the Northeastern U.S., though our sample includes companies from all parts of the country. On the auditor side, our sample is composed of both small and large auditors, many of which are predecessors of today's dominant auditors (e.g., Price Waterhouse, Ernst & Ernst, Arthur Young, and Touche & Niven). Similar to today, the bulk of audit engagements in our dataset are executed by just a few auditors, with the ten largest auditors accounting for 68% of the audit engagements.

We begin our exploration of the audit landscape by investigating public companies'

⁵ Initially, the rule-makers even considered the use of federal auditors or, at least, federal licensing of auditors. Leading auditors convinced them otherwise. The auditors successfully argued that they themselves had the necessary expertise and independence, and that establishing a federal auditor would be costly and inefficient (Wiesen, 1978).

propensity to hire auditors. While less than 30% (40%) of public companies hired auditors in 1900, the (value-weighted) audit rate steadily increased to about 80% (80%) in 1933, just before the SEC's introduction. This high audit rate limited the impact of the SEC's 1934 audit mandate. Our estimates suggest an 8-percentage-point increase in market-wide audit rates, at most, as a result of the mandate. Collectively, these results suggest that companies frequently hired auditors, even absent any mandate (consistent with Watts and Zimmerman, 1983). They thus cast doubt on a need for regulation arising because auditing is a public good, which companies underinvest in. We caution, though, that the mandate forced some large companies to obtain audits. These large companies may have had marketwide externalities; accordingly, our audit-rate results do not per se rule out the need for regulation. However, they do suggest that the impact was likely limited.

Next, we explore how the public companies with audits chose their auditors. We find that companies tended to hire auditors with greater client-portfolio sizes and lower client-portfolio concentrations. We further find that companies tended to select auditors that were located closer to their headquarters and specialized in their industries. These findings are consistent with companies favoring auditors that exhibit characteristics reflecting independence (DeAngelo, 1981) and competence (Solomon et al., 1999; Rajgopal et al., 2021). Notably, we find that these characteristics, if anything, mattered more in the period before the SEC than after. These findings cast doubt on the argument that regulation is necessary because auditing is a credence good and companies cannot differentiate between auditors. This is not to say that auditing is not a credence good.⁶ Rather, our findings suggest that private contracting solutions (e.g., reputation) seem to limit the issues arising from the credence-good features of auditing, and that the regulation does not appear to provide clear improvements over and above those provided by private contracting solutions. Even more so, our findings raise the possibility that regulation may weaken the market forces that incentivize companies, on the one hand, to choose independent and competent auditors and incentivize auditors, on the

⁶ In fact, Aobdia et al. (2021) document evidence consistent with auditing being a credence good.

other hand, to ensure independence and invest in competence (Donovan et al., 2014).

After examining companies' audit rates and auditor choices, we explore audit services provided to public companies around the SEC's introduction. As a window to the hard-toobserve practices of auditors, we use the format and content of audit statements. We find that the length of audit statements increased by about 50% around the SEC's introduction, whereas the length of the audit process (sign-off date relative to fiscal year end) did not clearly change. We further find that audit statements shifted, around the SEC's introduction, from testifying on companies' financial positions to opining on companies' compliance with generally accepted accounting principles (GAAP). Lastly, we find that audit statements increasingly featured only a few dominant topics prevalent in all reports rather than various company- or auditor-specific topics. Taken together, these findings uncover a push for lower expectations regarding the level of assurance provided by auditors, and a trend toward standardization of companies' financial reporting and their auditing services. Notably, the push for lower expectations gained momentum in 1932, even before the auditor liability extension of the 1933 act, through a prominent tort law case against an auditor of a fraudulent company (Ultramares Corp. v. Touche). Similarly, the trend toward standardization primarily reflects the concurrent efforts of private-sector parties (e.g., the NYSE and the American Institute of Accountants (AIA, now AICPA)), according to historical accounts (e.g., Hatfield, 1936; Wiesen, 1978; Zeff, 1982; Hilke, 1986; Zeff, 2007). Hence, the SEC may have been a catalyst for the standardization and codification of practices in a developing profession, but not its root cause. Consistent with this view, we find that many of the changes in audit services had already begun before the SEC's introduction and were not limited to companies that were traded on stock exchanges and hence affected by the audit mandate.

Finally, we examine public companies' capital-market outcomes around the SEC's introduction. In our examination, we differentiate between three distinct company types: voluntary adopters, which adopted audits before the SEC mandate; mandatory adopters, which were forced to adopt audits by the SEC mandate; and never adopters, which comprise non-compliant and non-mandated companies that never adopted audits in our sample period. Compared to voluntary adopters, mandatory adopters are of similar size and profitability but have lower market liquidity and exhibit a higher propensity to pay dividends. Never adopters, while substantially larger and more profitable than both voluntary and mandatory adopters, have even lower market liquidity and exhibit an even higher propensity to pay dividends. These univariate differences suggest that companies with audits cater to a different investor clientele (trading-oriented investors) than companies without audits (consumption-oriented investors). They further provide prima facie evidence consistent with voluntary auditing helping the liquidity of a company's stock. However, the univariate differences between the three groups do not change substantially around the introduction of the SEC mandate. Furthermore, difference-in-differences tests show no significant change in capital-market outcomes (market value and liquidity) for mandatory adopters relative to voluntary adopters at that time. Similarly, when we use never adopters as the control group, we find only weak evidence of improved liquidity for the mandatory adopters.

Our capital-market results are consistent with the view that the SEC's audit mandate had no significant effect on the mandatory adopters. Still, they are also consistent with the contrary view that the mandate benefited both the mandatory adopters *and* the other (audited) companies (e.g., due to greater trust in auditing or regulated securities markets). We expect the former view to be more plausible than the latter for a number of reasons. First, the direct effect of an audit mandate on the mandated company's capital-market outcomes should likely dominate any indirect effect on other companies' capital-market outcomes. In this case, we should observe a significant difference-in-differences effect, which we do not. Second, we would expect market-wide externalities to manifest primarily in the regulated markets. We find similar trends, however, in capital-market outcomes around the SEC's introduction for companies trading on the regulated exchanges and those trading on the unregulated OTC market. Lastly, we note that only a small share of the market, even in value-weighted terms, was effectively forced by the mandate to be audited. Collectively, these findings cast doubt on the importance of SEC audit regulations to capital-market outcomes for both mandated companies and the market as a whole.

In sum, our descriptive evidence provides little support for the popular view that audit regulation is central to the functioning of public companies' auditing and capital markets (e.g., DeFond and Zhang, 2014). Instead, it supports the view that public company auditing, though frequently regulated, is not a product of regulation (e.g., Watts and Zimmerman, 1983; Buijink, 2006). It does *not* imply that public company auditing is worthless, though. To the contrary, our evidence suggests that audits were sufficiently valuable to be widely adopted and associated with greater capital-market access even without regulation. Our evidence that the SEC mandate had, at best, a limited impact on capital-market outcomes merely indicates that there appears to be little benefit, for individual companies and capital markets as a whole, to forcing audits on companies that would not choose them voluntarily. More broadly, our evidence and the pertinent historical accounts (e.g., on the rule-making process) suggest that the promise of regulation is limited by regulatory capture and expertise constraints (e.g., Demsetz, 1969; Stigler, 1971; Wiesen, 1978).

Our paper contributes to the literature on the state of auditing in the pre-SEC era. Existing evidence provides qualitative assessments (e.g., Watts and Zimmerman, 1983) and documents audit rates for a limited number of companies and/or years (e.g., Benston, 1969; Chow, 1982; Merino et al., 1994; Barton and Waymire, 2004).⁷ Our paper extends this evidence thanks to our novel data, which allows us to paint a detailed picture of the auditing landscape (not just audit rates) in the early 20^{th} century. Our data cover a broad sample of companies traded on stock exchanges and unregulated OTC markets. This feature permits us to examine the state of auditing for a representative cross-section of companies and across various trading venues. In addition, our data span several decades. This feature is pivotal to learn about long-run trends and developments in the audit market. Finally, our data

⁷ Benston (1969) provides audit rates for 333 (508) companies traded on the NYSE in 1926 (1934). Chow (1982) provides audit rates for 379 (65) companies traded on the NYSE (OTC markets) in 1926. Merino et al. (1994) provide audit rates for 430 (365) companies traded on the NYSE (other New York markets) in 1927. Barton and Waymire (2004) provide audit rates for 540 companies traded on the NYSE in 1929.

comprise the texts of companies' audit statements. This feature opens a window to auditors' practices and services of the time, allowing us to shed light on standardization efforts and changes in the level of assurance provided by auditors.

Our paper also contributes to the literature on the regulation of auditing (e.g., DeFond and Zhang, 2014; Minnis and Shroff, 2017; Vanstraelen and Schelleman, 2017).⁸ It informs the controversial debate about the need for audit regulation, especially audit *mandates*, (e.g., Donovan et al., 2014; DeFond et al., 2016). Recent evidence, primarily from Europe and Canada, casts doubt on the need for auditing regulation for private companies (e.g., Lennox and Pittman, 2011; Dedman et al., 2014; Kausar et al., 2016; Minnis and Shroff, 2017; Esplin et al., 2018; Breuer, 2021). Evidence on the need for auditing regulation for public companies remains scarce, though. The scarcity is owed to the fact that public companies around the world have almost invariably been subject to auditing regulation for several decades already. To learn about the need for regulating these companies' auditing, we examine the firm-level *and* market-wide impact of the first federal audit regulation for public companies in the U.S. Thereby, we extend recent private-company evidence to the realm of of large, economically important public companies for which regulators around the world appear to see the need for regulation given their stark separation of ownership and control.⁹

Our paper is related to the literature on unregulated markets. Several recent studies document that unregulated capital markets, including the OTC market (Brüggemann et al., 2018), the peer-to-peer lending market (Verstein, 2011; Michels, 2012), the market for initial coin offerings (Bourveau et al., 2021), and the equity crowdfunding market (Schwartz, 2018) function even in the presence of information asymmetries. Absent regulation, information

⁸ The Securities Acts extended auditor liability and granted wide-reaching authorities to the SEC, including the regulation of audit standards and oversight. Accordingly, the SEC introduction constitutes a major change in audit regulation, which allows us to learn about the political prospects of various regulatory aspects (e.g., standard setting and oversight) from the historical accounts of the rule-making and regulatory practice. As the SEC initially abstained from actively intervening in standard setting and oversight, our empirical evidence on economic consequences, by contrast, primarily sheds light on the impact of audit mandates absent a concurrent intervention in standard setting or oversight.

⁹ A related reason to separately study public companies is that auditors might play a different role for private companies. In a field study, Esplin et al. (2018) find that for private companies, auditors often are more accounting experts and business-service providers than fraud detectors or monitors of management.

asymmetries are addressed by private contracting solutions such as voluntary disclosure (Bourveau et al., 2020) and certification (Jamal and Sunder, 2011). In line with these studies, our paper suggests that public company auditing is a prominent *private* contracting solution, which alleviates information frictions in capital markets. It does not appear to be a market which itself is in obvious need of regulation (Watts and Zimmerman, 1983).

Our paper is also closely related to earlier studies on the introduction of the SEC. Several studies document that the SEC had a limited impact on companies' disclosure, corporate fraud, and investors' trust in capital markets (e.g., Benston, 1969, 1973; Stigler, 1971; Ely and Waymire, 1999; Daines and Jones, 2012).¹⁰ Our paper complements these studies by specifically exploring the SEC's audit regulation and its impact on companies' audit practices and investors' trust.

Our paper's historical evidence does not provide immediate policy implications, but it does invite skepticism about the promise of regulatory interventions in the audit market in response to securities market crashes and accounting scandals, such as the recent Wirecard scandal (e.g., Langenbucher et al., 2020). It documents that the first major regulatory intervention (i.e., the SEC's introduction) and its main regulatory measure with respect to audits (i.e., the audit mandate), which nowadays are both taken for granted, had only a limited impact when they were introduced. Thus, it raises the possibility that less or smarter regulation may be called for, not necessarily more regulation (e.g., Leuz, 2009). Our paper may thereby help counter the human tendency to add rather than subtract features when problem solving (Adams et al., 2021).¹¹

¹⁰ Several studies criticize this evidence, though, and argue in favor of the SEC (e.g., Friend and Herman, 1964; SEC, 1977; Seligman, 1983; Fox, 1999; Fox et al., 2003). Most recently, Binz and Graham (2020), improving upon prior literature with better data and a difference-in-differences design, document evidence of increased short-window reactions to earnings announcements after the SEC introduction.

¹¹ DeFond et al. (2016), for example, state that they would not be comfortable suggesting less regulation (e.g., no mandates) even if less regulation were optimal.

2 Conceptual Underpinnings

Public companies are characterized by the separation of ownership and control (Berle and Means, 1932).¹² The separation gives rise to an agency conflict between investors, who own the companies' resources, and managers, who control the resources (Jensen and Meckling, 1976). The agency conflict is costly to management, because investors, anticipating the diversion of their resources, are reluctant to supply them. As a result, management has an incentive to reduce agency costs.

Management can reduce agency costs by reporting the company's financial position and performance to investors (Watts and Zimmerman, 1986; Kothari et al., 2010). For such reporting to be effective, it needs to be credible. Management can bolster the credibility of its financial reporting by hiring a third-party auditor to check the reporting on behalf of the company's investors (Fama and Jensen, 1983a,b; Watts and Zimmerman, 1983; Ball, 1989).

Third-party auditors need to be independent and competent to provide effective assurance to investors. The independence of auditors is important to prevent them from giving in to management's demands for bias or partiality. Although auditors are paid by management, they have incentives to resist a given management's demands, because a tarnished reputation jeopardizes their business with all their other clients. Accordingly, larger auditors with dispersed client portfolios tend to be more independent (DeAngelo, 1981). The competence of auditors is important to ensure that they are in a position to critically and efficiently evaluate management's reporting procedures and assumptions. Following that reasoning, auditors with industry- and location-specific knowledge tend to provide higher-quality audits (Solomon et al., 1999; Rajgopal et al., 2021).

The above arguments suggest that an independent audit is a normal good, demanded by companies with agency costs and supplied by third-party auditors (Donovan et al., 2014). In this case, an unregulated audit market yields the optimal level of auditing. To justify

¹² In the U.S., this separation occurred as early as in the late 19^{th} century. By 1930, the number of individuals owning stock in listed companies had reached 10 million (Coffee, 2010).

the regulation of the audit market, proponents argue that an independent audit is a special good, not a normal one. They argue, for example, that an independent audit is a public good, because it provides externalities (e.g., trust in capital markets) (DeFond and Zhang, 2014). In this case, an unregulated market underprovides auditing. They also argue that an independent audit is a credence good, because the value of the auditor's service cannot easily be discerned by companies and their investors (DeFond et al., 2016). In this case, an unregulated market again underprovides auditing. Other reasons typically advanced in favor of regulation include cost reductions due to increased standardization or reduced duplicative contracting efforts, as well as stricter enforcement and penalties (e.g., Leuz, 2010; Minnis and Shroff, 2017).

While the audit market left to its own devices may deliver inefficient levels of auditing, it is unclear whether regulation, which comes with its own imperfections, can address these issues more efficiently than market forces (Demsetz, 1969). Regulators grapple with informational constraints, which are often worse than those faced by companies and their investors. Accordingly, they frequently resort to one-size-fits-all regulations. These regulations neglect differences in companies' needs for audits, putting excessive burdens on some companies (Breuer, 2021). Similarly, they mute market forces that incentivize auditors to differentiate their services and allow companies to signal their type (Kausar et al., 2016). Regulators can also be captured by well-organized interested parties, which advocate for regulation to protect their rents rather than to improve the functioning of the audit market (Stigler, 1971).¹³ This concern appears particularly relevant in the case of auditors, which are not only well-organized, but also lobby for a politically convenient good (i.e., trust, assurance, and transparency) (e.g., Wiesen, 1978). Accordingly, the need for and promise of regulation of public company auditing is ultimately an empirical question.

¹³ In response to William L. Douglas's public endorsement of securities regulation, a prominent lawyer, for example, raised the concern that "political objections" may interfere with the application of securities regulation such "that the consequences would be far more harmful than the benefit which would result in protecting the investors" (Seligman, 1933).

3 Institutional Background

In the early 20^{th} century, the number of public companies rapidly increased with the expansion of public securities markets in the U.S. (Rajan and Zingales, 2003). At the same time, the U.S. audit profession, influenced by its counterpart in the United Kingdom, developed and matured (e.g., Montgomery, 1913; Moss, 1914; May, 1926). Its maturity is exemplified by Montgomery's Audit Theory and Practice, the leading textbook on auditing principles and practices in the U.S. at the time, which was first published in 1912 and issued its fourth edition by 1933. In the absence of authoritative accounting and audit standards, textbooks and private initiatives by professional associations created de facto standards for the profession (e.g., Nouri and Lombardi, 2009). Most notably, the AIA (now AICPA) had collaborated with the NYSE since the 1920s to harmonize accounting and auditing practices (e.g., Zeff, 2007). This harmonization project gained momentum in response to a prominent tort case brought against an auditor of a fraudulent public company. The case, Ultramares Corporation v. Touche (1932), established that auditors are liable to third parties for gross negligence, not just fraud. It resulted in a reckoning for the profession by revealing the gap between the level of assurance expected by investors and the level actually provided by auditors (Carmichael and Winters, 1982). This reckoning propelled leading auditors' efforts to limit the auditors' service to opining on companies' compliance with accounting rules and practices instead of certifying companies' financial positions (Wiesen, 1978).

The audit and securities markets were widely unregulated at the federal level until 1933. Existing disclosure and auditing requirements applied only within certain states, industries, or exchanges. A number of states, for example, introduced *Blue Sky Laws*, which created issuer liability and required prospectus disclosures for newly listed companies (e.g., Macey and Miller, 1991; Mahoney, 2003). However, these laws were typically limited in scope, weakly enforced, and easy to circumvent (e.g., by issuing in other states) (Loss, 1951). Besides state laws, there were a number of industry-specific disclosure and auditing requirements (e.g., those targeting the transportation industry). The Interstate Commerce Commission, for example, had required inspections of railroad companies since the Hepburn Act of 1906. In addition, in 1932 the NYSE, the primary stock exchange, started requiring listing companies to provide audited financial reports.

The Securities Acts of 1933 and 1934 marked a notable change in the federal regulation of audit and securities markets (Barton and Waymire, 2004). Motivated by the 1929 stock market crash and corporate scandals, the acts aimed at securing "truth in securities" markets through legal liability and disclosure.¹⁴ The Securities Act of 1933 expanded auditors' legal liability to third parties, allowing them to sue auditors for negligence (e.g., Douglas and Bates, 1933; Jaenicke, 1977; Kothari et al., 1988). It further required newly listed public companies with securities traded on centralized exchanges (not the OTC market) to disclose audited prospectuses. The Securities Exchange Act of 1934 extended the disclosure requirements to public companies' annual reports. It also established a federal regulator, the Securities and Exchange Commission (SEC), which was tasked with enforcing the new requirements. Most relevant to this study, the 1934 Act gave the SEC power to require audits of public company annual reports, a requirement that it implemented within months of the Act's passage.¹⁵ The SEC was further granted the power to regulate acceptable accounting and auditing standards and audit oversight. As a result of limited expertise and resources as well as successful lobbying by the audit profession, however, the SEC relied on independent instead of federal auditors to inspect companies' financial reports and left the definition of acceptable accounting and auditing practices to the profession, at least initially (Wiesen, 1978). Only after a prominent fraud case (the *McKesson & Robbins* scandal) in 1938 did the SEC take greater interest in audit practices (Coffee, 2006).

The SEC is regarded as one of the most successful federal regulators (McCraw, 1984).

¹⁴ Flesher and Flesher (1986), for example, argue that the 1932 bankruptcy of the Kreuger & Toll conglomerate, which operated a pyramid scheme and resisted audits, contributed significantly to the passage of the acts.

¹⁵ Section 13(a)(2) of the 1934 Securities Exchange Act, as originally enacted, stated that annual reports would be certified by independent public accountants "if required by the rules and regulations of the [Securities and Exchange] Commission." Securities and Exchange Commission Release No. 66, promulgated on December 21, 1934, makes clear that the SEC had imposed the audit requirement by that time.

Accordingly, we expect the first major discrete change in federal audit regulation to meaningfully affect the audit landscape if audit regulation is imperative for the functioning of audit and securities markets.

4 Historical Data

We construct a historical panel tracking a broad sample of public companies over several decades. Our sample construction proceeds in several steps. We first gather photocopy scans of all U.S. public companies' annual reports available in the archives maintained by *Mergent* and *ProQuest* up until fiscal year 1940.¹⁶ We next convert the scans into machineencoded text via optical character recognition (OCR). We then search the texts for audit statements and characteristics, using natural language processing techniques (NLP). From these statements, we extract information on companies' auditors (if any), auditor locations, audit sign-off dates, audit procedures (as reported), and audit opinions, again using NLP. Finally, we combine the audit information with information on each public company's location, industry, trading venue, basic financial information (size, EPS, dividend policy), and equity-market outcomes obtained from the historical databases of *Global Financial Data* (*GFD*) and the *Center for Research on Securities Prices* (*CRSP*). Appendix A defines the variables in our data and Appendix B lists the search terms used in our NLP approach.

Our combined sample comprises 1,528 unique public companies over more than four decades. Table 1 documents that *Mergent* covers 1,190 of these companies, whereas *ProQuest* covers 590 of them. The overlap of the two databases is limited (234 companies), which makes combining the two archives particularly useful. While *Mergent* covers a broader cross-section of companies than *ProQuest*, it spans a shorter time period (1892–1940) than *ProQuest* (1844–1940). For both archives, most companies are observed in the latter part of our sample period (1910–1940), consistent with the increasing prevalence of public companies during the

¹⁶ Most of the original annual reports in the archives of *Mergent* and *ProQuest* are held by public libraries in the U.S. (e.g., the Cleveland Public Library).

early 20th century (Rajan and Zingales, 2003). Despite any differences in covered companies and time periods, the distribution of sectors, trading venues, and regions is similar across the two archives, bolstering our confidence that our sample covers a reasonably representative set of public companies.

The majority of our 1,528 unique companies operate in either the industrial (19%), the consumer discretionary (18%), or the materials (17%) sectors. 91% of our sample companies trade on stock exchanges, while the remaining 9% trade on the OTC market. The NYSE is the largest trading venue, with 56% of our sample companies listed on it. Unsurprisingly, the majority of our sample companies are located in the North-East region of the U.S. (47%), closely followed by the Mid-West (40%). The remaining companies are located in the West (7%) and South (6%) of the U.S.

The public companies in our sample are audited by 124 unique auditors. Our sample comprises both large and small auditors. The ten largest auditors in our sample account for 68.2% of the audit statements in our data. They include several familiar names and predecessors of today's auditors. As of 1927, Price Waterhouse (23.2%) was the largest auditor, followed by Ernst & Ernst (14.1%); Peat Marwick Mitchell (10.1%); Arthur Young (8.7%); Haskins & Sells (8.1%); Lybrand, Ross Bros. & Montgomery (6.7%); Touche & Niven (4.4%); Barrow Wade Guthrie (2.7%); FW LaFrentz & Co. (2.7%); and Arthur Andersen (2.4%). This list closely corresponds to the historical account in Zeff and Fossum (1967) and Merino et al. (1994). It comprises auditors of British origin (Price Waterhouse, Peat Marwick Mitchell, and Haskins & Sells) as well as newly founded American auditors (Ernst & Ernst; Arthur Young; Lybrand, Ross Bros. & Montgomery; Touche & Niven; Barrow Wade Guthrie; FW LaFrentz & Co.; and Arthur Andersen). An overview of our sample's 15 largest auditors and their number of engagements is presented in Appendix C.

5 Findings

5.1 Audit Rates

We start our exploration of the auditing landscape around the SEC's introduction by examining public companies' propensity to hire an auditor. In Figure 1, we plot the fraction of public companies with an audit over the period 1900 to 1940. We observe that less than 30% of public companies obtained an audit in 1900. This rate, however, increased over time, reaching 80% in 1933, just before the SEC audit mandate. This high audit rate is consistent with historical accounts in Wiesen (1978) and cross-sectional evidence in Benston (1969) and Barton and Waymire (2004), validating our NLP-based audit rate measure. Notably, we do not observe a stark jump in the audit rate after the SEC imposed its audit mandate in 1934. While the audit rate increased around those years, the increase does not appear abnormal when seen in the context of the long-run trend observed over decades.¹⁷ We observe similar trends for the market-capitalization-weighted fraction of audited companies, with the exception of a more notable increase after 1934. This increase, however, is still only about 10% of the entire market capitalization. We also caution that the value-weighted fraction in general is more variable, because a few large companies have a greater influence on it than on the equally weighted fraction.¹⁸

We corroborate the graphical impression with statistical tests for changes in the audit rate around 1934 in Table 2. In Panel A, we find that the average audit rate before 1934 is 71.5% (column 1). After 1934, this rate is about 15.6% higher. When we control for the long-

¹⁷ The long-run trend in audit rates is positively associated with concurrent trends in aggregate market capitalization and the number of auditors (Table OA1) (e.g., Rajan and Zingales, 2003). In addition, audit rates appear to increase after corporate scandals (especially accounting scandals) (Table OA2), consistent with auditors' role as gatekeepers ensuring investor trust.

¹⁸ Table OA3 provides a breakdown of the audit-rate trend by entering, continuing, and exiting companies. It documents that the market-wide audit-rate increase reflects a secular trend toward auditing among all types of companies (entering, continuing, and exiting). Interestingly, the rate at which continuing companies switch toward obtaining an audit appears to pick up slightly in the later years. Notably, this acceleration in the adoption rate had already started in 1929, consistent with increased demand for auditing in response to securities market crashes.

run time trend observed in Figure 1,¹⁹ the estimated increase shrinks to 4.5% (column 2). Further controlling for firm characteristics does not materially change this estimate (columns 3 and 4). Taken together, the time-series evidence in Panel A suggests that the impact of the SEC's audit mandate on the market-wide audit rate was limited, ranging from 4.3 to 6.0%, after we control for the long-run time trend in the audit rate.

To sharpen the identification of the SEC impact, we test for differential changes in the audit rates of companies subject to the mandate vis-a-vis companies not subject to the mandate (the OTC market²⁰ and the transportation sector²¹) around 1934. We also compare companies listed on the NYSE to those listed on other exchanges (excluding OTC companies), since the NYSE had been asking listing companies to commit to annual audits since April 1932 (see p. 19 of Forbes, 1934). Relative to the respective control groups, mandated companies exhibit a small and statistically insignificant increase in audit rates, which amounts to 5.7% in column 2 (sample: full; control: OTC) and 7.9% in column 4 (sample: non-OTC; control: transportation sector). Similarly, column 6 shows that non-NYSE companies, relative to already-mandated NYSE companies, exhibit a small and statistically insignificant 3.4% increase in audit rates. These difference-in-differences results confirm our time-series evidence.

Collectively, our audit-rate results suggest that the SEC's audit mandate had a limited impact on market-wide audit rates. The impact was limited because, even absent a mandate, there was a long-run trend toward public company auditing, which led to pervasive auditing of public companies by the time the SEC was introduced.

¹⁹ This time trend control counts from 1934. Thus it is -1 for 1933, 0 for 1934, 1 for 1935, and so on.

²⁰ Section 13 of the original Securities Exchange Act, which allows the SEC to require audits, applies to "[e]very issuer of a security registered on a national securities exchange."

²¹ The SEC did not require audits for railroads or other entities regulated by the Interstate Commerce Commission (17 C.F.R. §240.13b-1(b) (1938)). For almost thirty years, these companies had already been subject to inspection by examiners from the Interstate Commerce Commission.

5.2 Auditor Choices

We next explore how the companies chose their auditors.²² This exploration helps us understand whether companies differentiated between the offerings of various auditors, and whether they purposely selected auditors with characteristics like independence and competence that promised greater levels of assurance—and thus greater value to the investors who relied on the companies' financial statements.

We generate a dyadic data structure, which includes one observation for each possible company-auditor pairing in a given year, to study the characteristics determining companies' auditor choices.²³ In Table 3, we regress an indicator variable that is equal to one for a given company's actual auditor (and zero for all other possible auditors) on company (e.g., size), auditor (e.g., portfolio size), and company-auditor-specific characteristics (e.g., distance between company and auditor).²⁴ Importantly, in defining the auditor characteristics, we exclude each company's own impact on its auditor's size, concentration, distance, and industry specialization measures. This adjustment reduces concerns about a mechanical relation between a company's auditor choice and the auditor's characteristics.²⁵ It, however, does not address the fact that auditors with larger portfolio sizes are more likely to be chosen by the average company in our sample. Accordingly, if there is a notable concentration of audit engagements among a few large auditors (as suggested in Section 4), we should expect companies' auditor choice to be positively related to auditors' portfolio size. While this relation could be viewed as mechanical, we note that it reflects the audit market structure, which

²² The match between companies and auditors is not a one-sided choice by companies. Auditors, however, are less likely to actively choose their clients (as more is typically better) than companies are to choose their auditors, because companies chose only one auditor out of several options. Accordingly, we refer to our match analysis as an analysis of companies' auditor choice for the sake of simplicity.

²³ Dyadic models have been widely used in the social sciences to understand the relation between pairs of actors. Recent work, for example, uses such models to examine determinants of team formation in venture capital (Gompers et al., 2016) and audit firms (Downar et al., 2021).

²⁴ The sample across the different specifications in Table 3 is restricted to companies with audited financial statements in a given year and information on company characteristics (e.g., earnings per share).

²⁵ Table OA4 documents the results using raw and lagged auditor characteristics separately.

may be endogenously driven by companies' preference for and choice of large auditors.²⁶

In Panel A, we first examine the determinants of companies' auditor choices across our entire sample period. We find that company characteristics, such as size, earnings per share, and an indicator for dividend-paying companies, do not explain companies' auditor choices. Accordingly, larger companies, for example, do not systematically choose one auditor (e.g., Price Waterhouse) over another (e.g., Ernst & Ernst). By contrast, auditor and companyauditor-specific characteristics are significantly associated with companies' auditor choices. In particular, we find that public companies are more likely to choose auditors with larger client portfolios and lower client-portfolio concentration. This is consistent with companies preferring to pick auditors with lower dependence on any one of their clients. We further find that public companies are more likely to choose auditors located closer to their headquarters and auditors that specialize in their respective sectors. This is consistent with companies preferring auditors with greater expertise in their local markets and their lines of business.

In Panel B, we next examine whether companies' auditor choices differ before and after the Securities and Exchange Act of 1934. We find some evidence that auditors' portfolio concentration, distance, and specialization all matter more in the period before the Securities and Exchange Act than after. This can be inferred from the fact that the coefficients —though not always significant— tend to take the opposite sign when we interact the company, auditor, and company-auditor characteristics with a post-1934 indicator. For example, *Client-Auditor Distance* has a coefficient of -0.005, but its interaction with *Post 1934* has a coefficient of the opposite sign: 0.001 (column 1).

Taken together, the auditor-choice results are consistent with public companies favoring auditors with characteristics reflecting independence (large, dispersed portfolio; DeAngelo,

²⁶ After controlling for auditors' portfolio size, the relation between companies' auditor choice and their auditor's portfolio concentration, by contrast, is less likely to reflect a mechanical relation. Holding portfolio size constant, auditors can service companies of comparable or distinct sizes. Hence, the relation between companies' auditor choice and their auditors' portfolio concentration plausibly captures the extent to which companies (or their auditors) care about portfolio concentration.

1981) and competence (local and industry expertise; Solomon et al., 1999; Rajgopal et al., 2021). Auditors with these characteristics can be expected to provide greater assurance to companies' investors. Companies' attention to these characteristics, in turn, can be expected to incentivize auditors to ensure their independence and invest in their competence. Interestingly, public companies appear to pay special attention to auditors' independence and competence in the period before the SEC. After the SEC's introduction, these characteristics appear, if anything, less relevant for companies' auditor choices.

5.3 Audit Services

In addition to audit rates and auditor choices, we examine the services provided by public company auditors around the SEC's introduction. This examination allows us to paint a more complete picture of the auditing landscape and the SEC's impact on it. While the SEC appears to have had a limited impact on audit rates and auditor choices, it may have had a substantial impact on the audit services and practices at the time, as conjectured in Benston (1969).

We exploit our textual data to learn about audit services and practices from the characteristics and content of public companies' audit statements. While clearly limited, focusing on the audit statements attached to the annual reports provides us with a window to auditors' notoriously hard-to-observe services and practices, enabling the first large-scale investigation of reported services and practices in the early audit market.

In Table 4, we examine changes in the characteristics and content of audit statements around the SEC's introduction in 1934. In Panel A, we document that audit statements significantly increased in length after 1934 (an increase of around 49% more words in column 4). Despite an increase in length, we do not find a clear change in the timing of the audit statement. At best, we find a marginal increase in the time between companies' fiscal year ends and auditors' sign-off dates (an increase of 8% more days in column 4). These findings suggest that while audit statements became longer after 1934, the underlying work may not have increased significantly. In line with this interpretation, Table OA5 in the Online Appendix documents that the number of certified public accountants (CPAs) per public company did not significantly increase after the introduction of the SEC, once we control for the time-trend. This finding suggests that auditors do not seem to have contracted more CPAs to increase the supply of labor, in order to do more work in the same time window.

To better understand the drivers of the increased audit statement length, we next investigate specific changes in the content of the audit statements. We use three approaches to dissect the content. Our first supervised approach involves reading a sample of audit statements to identify key terms (e.g., financial position, accounting standards, etc.). Equipped with manually selected terms, we search all statements for these terms. (Appendix B summarizes the search terms.) Our second unsupervised approach uses a standard topic modelling approach, Latent Dirichlet Allocation (LDA), to uncover common clusters of terms appearing in the audit statements. Based on the respective terms, we assign each cluster a descriptive topic label. (The caption to Figure 3 summarizes the terms per topic and our labels.) Our final approach involves calculating the (cosine) similarity between companies' audit statements and the standard audit statement formats proposed by various private actors (e.g., the AIA) and reported in Carmichael and Winters (1982).²⁷ The average similarity of companies' audit statements and the standard format provides a measure of standardization of audit formats over time.

In Panel B, we report the results of our content analysis. We find that auditors shifted from attesting companies' financial (or economic) position to opining on companies' compliance with GAAP around 1934 (see also Figure 2). A clear example of this shift can be found in Appendix D where the same auditor auditing the same company changed from expressing an opinion on financial condition in 1932 to expressing an opinion on compliance with GAAP in 1935. We further find that audit statements became more standardized after 1934, as evidenced by an increased concentration of topics discussed in companies' audit statements and

²⁷ The various versions of the standard audit format were proposed by the Federal Reserve Board in 1917, the AIA in 1929, and the AIA in collaboration with the NYSE in 1931, 1934, and 1936.

an increased focus on the most dominant topic in the typical audit statement.²⁸

In Figure 3, we plot the various topics, identified by our LDA approach, over time. Consistent with our regression results in Panel B, we observe a greater plurality of topics discussed in earlier years, and an increasing convergence to a few topics over time. The dominating topics emerging in the later years are related to depreciation and generally accepted accounting principles. Notably, these patterns appear to reflect concurrent developments in the profession (e.g., Hatfield, 1936; Hilke, 1986). The trend toward harmonized practices, the use of depreciation, and the promulgation of GAAP all started before the SEC (see also Figure 2).

In Figure 4, we plot the average similarity of companies' audit statements and the standard audit format over time. Consistent with our previous findings, we observe a strong increase in standardization around the SEC's introduction. Importantly, however, the standardization of audit formats appears to have started several years before the SEC's introduction. Indeed, the format suggested by the NYSE and the AIA in January 1934 preceded the passage of the Securities Exchange Act by several months. It was the product of correspondence that had begun even before the passage of the Securities Act of 1933.²⁹ Consistent with our evidence, this standard audit statement, though optional, came into general use according to Montgomery (1940).

Taken together, our findings reveal notable changes in the characteristics and content of audit statements around 1934. Most notably, we observe a trend toward standardized audit statements and a shift from attesting to economic positions toward opining on compliance with accounting standards, possibly lowering the level of assurance provided to investors.

²⁸ For each audit statement, the LDA assigns a value (ranging from 0 to 1) to each of the nine topics corresponding to the relative likelihood with which each of the topics is discussed in a given statement. The *HHI Topics* variable captures the concentration of these likelihoods, while the *Dominant Topic Distribution* captures the likelihood assigned to the most likely topic. Both variables capture important aspects of topic concentration. The *Dominant Topic Distribution* variable considers the concentration at the top (i.e., the maximum probability), whereas the *HHI Topics* variable captures the concentration of the entire distribution over the topics.

²⁹ This correspondence is preserved in a published collection, which shows the standard audit statement (see p. 47 of Forbes, 1934).

These trends, however, were already occurring before 1934, which suggests that they cannot necessarily be attributed to the impact of the SEC. Rather, the changes in audit services and practices appear to reflect concurrent efforts by private-sector actors to standardize accounting and manage audit expectations (e.g., due to litigation concerns; Previts and Merino, 1998). Consistent with this interpretation, we do not find that companies regulated by the SEC experienced different trends than other companies outside of the SEC purview. In a series of difference-in-differences tests in Panel C of Table 4, we do not observe any significant differences in the changes of mandated companies' audit statements over time relative to the changes in the audit statements of companies traded on the OTC market that are not subject to the audit mandate.

Our findings align with historical accounts that the SEC focused primarily on enforcing the audit mandate rather than shaping audit practice, at least initially. According to those accounts, the SEC started taking a more active role in audit practices only after the *McKesson & Robbins* scandal in 1938 (e.g., Coffee, 2006). Notably, we observe a stark increase in standardization and the use of *certified* public accountants after 1938 (Figure 3). In sum, our evidence suggests that the SEC, while possibly a catalyst for contemporaneous standardization efforts of the profession (e.g., due to the threat of litigation and intervention), had a limited *direct* impact on audit services and practices in its early years.

5.4 Market Quality

Finally, we investigate the capital-market outcomes (i.e., market value and liquidity) associated with public company auditing around the SEC's introduction. This investigation sheds light on the usefulness of public company auditing for improving companies' capital-market access and the functioning of capital markets as a whole.

Our investigation proceeds in three steps. We first examine differences in companies' characteristics and capital-market outcomes between voluntarily, mandatorily, and never audited companies (including non-compliant and non-mandated companies) around the SEC's introduction (seven years before and seven years after).³⁰ In Panel A of Table 5, we show the distribution of these three types of companies by trading venue. In Panel B, we provide descriptive statistics for and univariate differences between these groups. Focusing on the pre-1934 sample, which predates the SEC, we find that mandatory adopters are similar in size and profitability as voluntary adopters, but smaller and less profitable than never adopters. Mandatory adopters are more likely to pay dividends than voluntary adopters, but less likely than never adopters. With respect to capital-market outcomes, we find that mandatory adopters exhibit lower liquidity than voluntary adopters, but higher liquidity than never adopters.

The pre-1934 differences between the voluntary adopters, on the one hand, and the mandatory and never adopters, on the other, suggest that companies with greater financing needs (i.e., smaller companies with lower profitability and dividend frequency) are more likely to rely on auditing. The univariate differences also provide prima facie evidence that auditing is useful in improving companies' access to capital markets, as documented by the fact that the voluntary adopters have the most liquid securities in the pre-SEC period. In this vein, we also find that the securities of mandatory adopters experience a significant improvement in liquidity after the SEC mandate. A similar improvement in liquidity, however, is also observed for voluntary adopters, so we should be cautious in interpreting this time-series change as evidence of the usefulness of *mandatory* auditing.

We next examine the change in capital-market outcomes of mandatory adopters around the SEC's introduction in a difference-in-differences design, controlling for concurrent changes experienced by voluntary adopters (which, by definition, had already voluntarily obtained audits before the SEC mandate). In Panel C, which contains this difference-in-differences, we find no significant evidence that the mandatory adopters experienced improvements in their market values or liquidity (i.e., zero return days, zero volume, Amihud illiquidity). Compared

³⁰ For a subset of the companies classified as non-compliant, we corroborate their status by manually checking their annual reports for audit statements, alleviating concerns that our NLP-based approach fails to detect these companies' audit statements.

to never-audited companies, mandatorily audited companies show some weak evidence of liquidity improvement. These findings are consistent with the notion that mandatory audits have a limited impact on companies' capital-market outcomes and, hence, capital markets as a whole. The difference-in-differences findings, however, can fail to detect significant improvements if the mandate helps not only the mandated companies, but also other companies (e.g., voluntary adopters). In this case, we may not detect a significant effect, despite the mandate's beneficial impact on the entire regulated capital market.

Finally, to explore the possibility of market-wide improvements, we examine the change in capital-market outcomes experienced by all companies trading on regulated markets around the SEC introduction. We compare this change with the concurrent change experienced by companies trading on the unregulated OTC market. In Panel D, we find limited evidence of a significant improvement in regulated markets as compared to the unregulated market. While there is some weak evidence of improved liquidity on average (columns 5 and 6), there is little evidence of aggregate liquidity improvements (i.e., when weighting companies with their relative market capitalization within their respective market).³¹ Confirming these regression results, we do not observe notable differential trends for the average company traded on regulated exchanges vis-a-vis the OTC market around the SEC's introduction, nor the aggregate capital-market outcomes on these markets, in Figure 5.

Collectively, the capital-market results suggest that the SEC's audit mandate had, at best, a limited impact on mandated companies and regulated capital markets.³² Importantly, though, they do not suggest that auditing does not matter. By contrast, they are consistent

³¹ The weighting is supposed to achieve a measure of aggregate liquidity within the respective markets (OTC vs. non-OTC). In the tabulated results, we use fixed weights calculated as of 1927. The use of fixed weights allows us to home in on changes in aggregate liquidity, while abstracting from changes in market value due to sample composition changes (e.g., new listings). The fixed-weights approach reduces our sample size, though. In untabulated results, we find very similar results when using changing weights, which does not restrict our sample size. Allowing for changes in the sample composition yields, if anything, a slight deterioration in the aggregate liquidity of the regulated market relative to the OTC market.

³² Consistent with a limited impact on capital markets, we do not observe any improvements in the value relevance of mandatorily audited companies' earnings in value-relevance tests following Barth et al. (2008) (Table OA6 in the Online Appendix). Mandatorily audited companies' value relevance neither increases from the pre- to the post-SEC period, nor relative to that of other companies (e.g., voluntarily audited companies).

with *voluntary* auditing helping companies' capital-market access. Thus, they explain the high fraction of voluntarily audited companies and echo the earlier finding that companies appear to choose independent and competent auditors, which provide assurance to their dispersed investors.

6 Discussion

Our exploration of the landscape of public company auditing before the SEC's introduction suggests that public company auditing was flourishing, even absent any federal regulation. Public companies frequently obtained audits from presumably competent and independent auditors. While audit practices were quite diverse, sound practices were promoted early on (e.g., Montgomery, 1913) and refined through the collaboration and coordination of private-sector parties, such as the accounting associations and stock exchanges. Consistent with quality auditing, companies with financing needs frequently purchased audits and boasted higher-liquidity securities than other companies.

Our investigation of changes in public company auditing around the SEC's introduction provides little support for the importance of the SEC's introduction for audit markets. The impact on audit markets appears limited because the vast majority of companies had already obtained an audit even before the SEC's audit mandate. In addition, the SEC did not appear to intervene into audit practice, at least initially. It primarily appeared to codify existing practices. The SEC started to take an interest in shaping audit practice only after a prominent accounting scandal in 1938. It remains unclear, though, whether this reactive intervention was successful (e.g., Hail et al., 2018). It is further unclear what the audit market reaction to such a scandal would have been absent the SEC (e.g., Ball, 1980).

In line with a limited impact on audit markets, our exploration provides little evidence to support the notion that the SEC improved mandatorily audited companies' capital-market access or trust in regulated securities markets as a whole. Our evidence echoes earlier findings suggesting that the SEC had a limited impact on companies' fraud and investors' trust in capital markets (e.g., Benston, 1969, 1973; Stigler, 1971). It provides an explanation for such limited impact: auditing was already flourishing before the regulatory intervention (just as companies' disclosures were; Benston, 1969; Hilke, 1986).

To be clear, our descriptive evidence does not imply that the SEC mandate had *no* impact on public company auditing, or that no institutional safeguards (e.g., the legal system) were needed (e.g., Mills, 1990; Merino et al., 1994). It rather suggests that the scope for federal regulation to aid capital markets by regulating public company auditing was limited given the development and functioning of the audit market in the pre-SEC era. This development was driven by several forces, including companies' financing needs, investors' information demands, stock exchanges' requirements, and court rulings. It may also have been aided by the threat of regulatory interventions (e.g., Carmichael and Winters, 1982).

We also want to be clear that our evidence does not mean that public company auditing is useless. To the contrary, by revealed preference, our evidence provides strong support for auditors' pivotal role in moderating agency conflicts between companies' management and investors (e.g., Ball, 1989): many companies hired seemingly competent and independent auditors, and these companies exhibit comparably high levels of liquidity in capital markets.³³

Although our evidence suggests that the regulation of public company auditing may not be imperative for the functioning of capital markets, such regulation is nevertheless pervasive around the globe. This begs the question why regulators frequently resort to regulating auditing. A benign explanation of this puzzle could be that such regulation primarily codifies existing and developing audit practices. For that reason, it does not help, but also does not hurt much.³⁴ A potentially complementary but less benign explanation

³³ The positive association between voluntary audits and liquidity for U.S. public firms in the pre-regulation period echoes the findings in the private firms literature that voluntary audits are associated with capital-market benefits (e.g., Blackwell et al., 1998; Minnis, 2011; Kausar et al., 2016).

³⁴ Regulatory action may help politicians to ensure their voters' support by signalling awareness/decisiveness and offering regulatory solutions (e.g., after prominent scandals) (e.g., Hail et al., 2018). In this vein, Flesher and Flesher (1986) argue that the highly publicized fraud and bankruptcy of the Kreuger & Toll conglomerate, which resisted voluntary auditing, in 1932 rendered an audit mandate a politically convenient response.

could be that the audit (or accounting) profession, a well-organized interest group with a politically convenient product ("trust" or "transparency"), leverages regulation to extract and protect rents.³⁵

While our empirical evidence cannot differentiate between these explanations, historical anecdotes provide some support for both the benign and the capture explanation. Wiesen (1978), using transcripts from congressional hearings and various other historical accounts, suggests that an audit mandate was an easy policy prescription for Congress given the already extensive auditing rate, consistent with the benign explanation.³⁶ He also explains that leading auditors had a substantial influence on the SEC's rule-making, consistent with the less benign capture explanation. The auditors' expert witnesses, for example, were successful in persuading Congress to leave the responsibility of auditing with external rather than federal auditors. They were further successful in lowering Congress' expectations regarding the level of assurance provided by audits.³⁷ The latter agenda reflects auditors' rising concerns about litigation, which were likely fueled (1) by investors' attempt to sue an auditor of a fraudulent company (Ultramares Corp. v. Touche) in 1932, (2) by the liability extended through the 1933 act (Douglas and Bates, 1933), and (3) by auditors' fears of future interventions by the new regulator (e.g., Carmichael and Winters, 1982). While a systematic investigation of the political economy of audit regulation is outside the scope of our study, we view it as a an important next step to further our understanding of public company auditing and its

³⁵ In this vein, a recent newspaper article discusses the lobbying prowess of auditors in the aftermath of the Wirecard scandal (Bartz et al., 2021).

³⁶ In this vein, Coffee (2006) states (p. 127): "Carter [President of the New York State Society of CPAs] urged Congress to revise the proposed legislation [the 1933 Act] to provide instead that all registration statements be audited, and Carter testified before the Senate Committee that 85 percent of all listed companies were already audited. Yet, the Committee's response to this information was lukewarm at best. Rather, the Committee's chairman, Senator Duncan Fletcher, understandably wondered why it was necessary to require by law what was already the prevailing practice. His views were echoed by Senator Gore, who pointed out that the fact that 85 percent of the NYSE's companies were audited had not prevented the 1929 Crash. Auditing, they were implying, was no panacea. The practical political explanation of Colonel Carter's testimony may have been that he was seeking to confine Congress to symbolic legislation that would do no harm, but only codify current best practices."

³⁷ A letter, co-signed by nine of the largest auditors and addressed to the NYSE in 1933, provides an illustrative example of such lobbying efforts. The auditors argue in favor of a reduced level of verification, which they deem more practical than the responsibilities and expectations initially envisioned by the exchange (Arthur Andersen & Co. et al., 1933).

regulation.

7 Conclusion

We explore the landscape of public company auditing around the introduction of the Securities and Exchange Commission (SEC) in 1934. The introduction of the SEC, which mandated the auditing of public companies trading on centralized stock exchanges, is commonly viewed as a sea-change in the regulation of auditing. To uncover how the SEC shaped the landscape of public companies, we exploit the rich textual data provided in historical annual reports of a broad sample of public companies trading on regulated and unregulated stock markets and spanning several decades.

We find that most public companies obtained audits even before the SEC's audit mandate, which limited the mandate's impact on audit rates. We further document that these companies selected their auditors based on characteristics reflecting independence and competence, especially before the SEC's mandate. Although we see only limited changes in audit rates and auditor choices, we observe significant changes in the content of audit statements around the SEC's introduction. Audit statements became increasingly standardized and shifted from attesting to companies' financial position to opining on their compliance with GAAP. These changes, however, appear to reflect concurrent standardization efforts initiated and driven by private-sector actors rather than the SEC. Finally, we do not find any significant impact of the SEC's audit mandate on either mandatorily audited companies' capital-market outcomes or regulated capital markets as a whole (e.g., compared to the unregulated OTC market).

Collectively, our descriptive evidence suggests that the introduction of the SEC had a limited impact on companies' reliance on audits and investors' trust in companies' reports, at least initially. Notably, its impact was limited because public company auditing appeared to flourish even in the absence of any (federal) regulation.

Our evidence informs the debate about the need for and promise of audit regulation (e.g., DeFond and Zhang, 2014; Donovan et al., 2014; DeFond et al., 2016). It suggests that public company auditing is *not* a product of regulation, consistent with the view expressed in Watts and Zimmerman (1983) and Buijink (2006). This evidence stands in contrast to the popular view that auditing regulation is imperative for the functioning of audit and securities markets. Nevertheless, we acknowledge that our evidence alone clearly does not settle the debate. Our evidence pertains to a specific audit regulation (primarily an audit mandate) at a specific time (several decades ago). Accordingly, it speaks first and foremost to the need for audit mandates. It casts doubt on the need for such mandates, confirming recent evidence on audit mandates in the private company setting (e.g., Dedman et al., 2014; Baylis et al., 2017; Minnis and Shroff, 2017; Breuer, 2021) and extending it to the realm of large public companies. By contrast, our evidence does not immediately speak to the need to regulate auditing practices and oversight (e.g., DeFond and Lennox, 2017; Gipper et al., 2020; Hanlon and Shroff, 2020; Shroff, 2020; Vetter, 2020). While the SEC had the power to regulate auditing practices, it largely abstained from doing so during its early years. Historical accounts of the rule-making process, however, suggest that any attempts to regulate audit practices may be hampered by regulatory capture and expertise constraints (e.g., Demsetz, 1969; Stigler, 1971; Wiesen, 1978).

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A Variable Definitions

Name	Definition
Firm Variables	
Size (Market Value)	Natural log of the market capitalization.
EPS	Earnings per share, basic and net of all distributions excluding the dividend per share.
Dividend Payer	Indicator variable that is equal to one if the company pays dividends, and zero otherwise.
Zero Return Days	Number of days on which the return is zero, scaled by total number of days for which there is data.
Zero Volume Days	Number of days on which the trading volume is zero, scaled by total number of days for which there is data.
Amihud Illiquidity	Amihud illiquidity calculated as in Amihud (2002).
Auditor Variables	
Auditor	Equal to the auditor name among the auditor name keywords in Appendix B that is the best match for all audited companies.
Portfolio Size	Natural log of the sum of the market capitalizations of all companies in the client portfolio, per year.
Portfolio Concentration	Within auditor-year Herfindahl–Hirschman index of the proportions of the client size divided by total auditor portfolio size.
Audit Variables	
Audit Indicator	Indicator variable that is equal to one if the annual report contains one of the audit statement keywords in Appendix B, and zero otherwise.
Audit Statement Length	Natural log of the number of words in the audit statement.
Audit Statement Lag	Natural log of the number of days between the sign-off date of the auditor on the audit statement and the fiscal year end. The sign-off date is the last date that is mentioned on the page of the audit statement and the subsequent two pages, no later than 1 year after the fiscal year end and no earlier than the fiscal year end. The fiscal year end is taken from <i>Mergent</i> or, if missing, from <i>Global Financial Data</i> .
Client-Auditor Distance	Natural log of the geodetic distance between the city of the headquarters of the company and the city of the auditor's office that is closest to the company, out of all cities in which the auditor has an office. The list of offices per auditor is compiled out of all top 1,000 U.S. cities (in terms of population in 1940) mentioned in the available audit statements per auditor, per year. A city should be mentioned in at least 1% of all occurrences.
Client-Auditor Specialist	Indicator variable that is equal to one if the auditor is a specialist in the sector in which the company is active, and zero otherwise. The auditor is considered to be a specialist in the sector for which the proportion of total portfolio size of the auditor within the year (in terms of market capitalization) in that sector to the total auditor portfolio of the auditor within the year is largest.
Economic Position	Indicator variable that is equal to one if the audit statement contains any of the economic position keywords in Appendix B , and zero otherwise.
GAAP	Indicator variable that is equal to one if the audit statement contains any of the GAAP keywords in Appendix B, and zero otherwise.

HHI Topics	Herfindahl-Hirschman index of the distribution of the nine topics within the audit statement. The nine (latent) topics are identified using Latent Dirichlet Allocation over the full sample of audit statements, and are defined as follows: (1) cash & equivalents, (2) consolidation, (3) inventory, (4) depreciation, (5) review, (6) testing, (7) financing, (8) income, (9) CPA.
Dominant Topic Dis- tribution	The extent to which the audit statement focuses on one of the nine (latent) topics, proxied by the highest probability (according to the Latent Dirichlet Allocation procedure) that one of the nine topics appears in the audit statement (i.e., we compare the probabilities for each of the nine topics within a given audit statement, and set this variable equal to the highest of the probabilities).

B Search Words

The table presents the search words that are used to extract information from the annual reports. See Appendix A for detailed definitions of the variables.

Variable	Search Words
Audit Indicator	have made an examination, have audited, auditors report, certificate of auditors, hereby certify, certify that, auditors certificate, accountants certificate, have examined the accounts, have examined the books, have examined the balance sheets, having audited the, examined or tested accounting, hereby certify that, have audited your, made an examination of, fairly represent in accordance with, tested the accounting records, in our opinion, based upon our examination, conformity with general accepted accounting principles, have audited the books, have examined the financial records
Auditor	price waterhouse, ernst ernst, haskins sells, arthur young, peat marwick mitchell, allen r smart, allen smart, jd cloud, hadfield rothwell soule coates, lybrand ross bros montgomery, barrow wade guthrie, deloitte plenders griffiths, touche niven, patterson teele dennis, west flint, howard kroehl company, cutler hammer, george dallas, scovell wellington company, arthur andersen, konopak hurst dalton, lafrentz, rg rankin, loomis suffern fernald, pauljoseph esquerre, richards ganly, fa hamilton, lawrence e brown, eastern audit company, marwick mitchell company, bieth macnaughton, general timber service, pogson pelloubet, charles f rittenhouse company, herbert f french company, elliott davis company, american audit, jk lasser, seidman seidman, lawrence brown company, wo ligon company, simonton jones company, stockwell wilson linvill, leslie banks company, leslie banks, wolf company, jn greenhalgh company, miller donaldson company, haselmire cordle, oj neff, of taylor, sd leidesdorf, main company, feinberg jacobs, storer bishop, rogers company, hurdsman cranstoun, pace gore mclaren, chandler murray chilton, marwick mitchell, puderpuder, jones caesar dickinson wilmot, patterson corwin, stagg mather, ernsternst, david himmelblau, audit company of new york, collins company, richards company, grey hunter stenn, ward weber, townsend dix pogson, amos albee son, edward steacie, loganlogan, pearce granata, squires company, wright long, ernest bell company, boyden yardley guay, vollumvollum, cerf cooper, rhyne pri- auk bearisto, lingley baird dixon, frazer torbet, stewart watts bollong, mattison davey, mcconnell breiden, hopkins company, seamans stetson tuttle, marvin scudder company, stern porter kingston coleman, detroit trust, bagley vega company, willer franklin company, clifford collins company, keller kirschner martin clinger, alexander aderer, mclaren goode, swearingen swearingen, robert douglas company, searle nicholson oakey lill, alexander grant company, searle miller company, beyet
Economic Position	consolidated position, economic position, financial position, financial condition, state of the company
GAAP	accordance with accepted accounting principles, gaap, accepted accounting principles, accounting principles, accepted principles, standard

C Overview of Auditors in Sample

The table presents the names and origins of the 15 auditors with the most engagements in our sample. The table summarizes the number of engagements in total, as well as for several sample years. The bottom row shows the percentage of all engagements, in total or for the year, performed by the largest 15 auditors.

	Name	Origin	Total	1900	1920	1927	1933	1940
1	Price Waterhouse	UK	2,034	3	34	70	106	141
2	Ernst & Ernst	US	1,502		11	44	75	131
3	Haskins & Sells	UK	1,178		21	25	60	94
4	Lybrand, Ross Bros. & Montgomery	US	813	1	4	21	55	89
5	Arthur Young	US	718		18	25	38	41
6	Peat Marwick Mitchell & Co.	UK	699		10	28	43	45
7	Arthur Andersen	US	489		2	7	36	60
8	Barrow Wade Guthrie	US	332		5	8	21	25
9	Touche & Niven	US	283		8	13	18	16
10	Audit Company of New York	US	164	3	5	6	1	
11	Deloitte Plender Griffiths	UK	134		3	4	5	10
12	F. W. LaFrentz & Co.	US	111		1	8	8	9
13	Scovell Wellington & Co.	US	110			3	5	10
14	Patterson Teele Dennis	US	106	3	2	1	3	4
15	Pogson, Peloubet & Co.	US	94		2	4	4	4
	Total		8,767	10	126	267	478	679
	% of total engagements in sample		84.6%	83.3%	85.1%	88.1%	85.8%	82.9%

D Audit Statements Example

Figure D: Audit Statements for the American I. G. Chemical Corporation.

The figure showcases two audit statements for the American I. G. Chemical Corporation. Panel A shows the audit statement, signed by F. W. LaFrentz & Co. in 1932. Panel B shows the audit statement, signed by the same auditor in 1935. The red underline is added for emphasis.

(a) 1932

May 25, 1932.

(b) 1935

American I. G. Chemical Corporation, 521 Fifth Avenue, New York, N. Y.

DEAR SIRS:

We have made an examination of the balance sheet of the American I. G. Chemical Corporation as at March 31, 1935 and of the statements of income and surplus for the year ended on that date. In connection therewith, we examined or tested accounting records of the Company and other supporting evidence and obtained information and explanations from officers and employees of the Company; we also made a general review of the accounting methods and of the operating and income accounts for the year, but we did not make a detailed audit of the transactions.

In our opinion, based upon such examination the accompanying balance sheet and related statements of income and surplus fairly present, in accordance with accepted principles of accounting consistently maintained by the Company during the year under review, its position at March 31, 1935 and the results of its operations for the year.

F. W. LAFRENTZ & CO.

Certified Public Accountants.

April 5, 1935.

American I. G. Chemical Corporation, 521 Fifth Avenue, New York, N. Y.

DEAR SIRS:

We have examined the accounts and records of the American I. G. Chemical Corporation for the twelve months ended March 31, 1932; and

In our opinion, the accompanying Balance Sheet and Statements of Income and Expense, and Surplus, compiled from our General Report, <u>set forth the financial condition</u> of the Corporation as at March 31, 1932, and the results of its operations for the period.

F. W. LAFRENTZ & CO.

Certified Public Accountants.

Figure 1: Audit Rate

The figure shows the fraction of companies in our sample that have been audited, proxied by the attachment of an audit statement to their annual report, over time. The proportion is calculated in two ways: as a proportion in terms of number of sample companies, and as a proportion in terms of total sample market capitalization. The dashed line indicates 1934, the year of the Securities Exchange Act and the audit mandate imposed by the Securities and Exchange Commission.



Figure 2: Attestation of 'Economic Position' vs. 'GAAP' Compliance

The figure shows the fraction of audit statements in our sample that mention any of the words that are associated with compliance with Generally Accepted Accounting Principles ('GAAP'), or with a company's 'economic position', over time. Appendix B gives an overview of the words that are associated with these two categories. The dashed line indicates 1934, the year of the Securities Exchange Act.



Figure 3: Audit Statement Topic Distribution

The figure shows the probability distribution of the nine topics that are discussed in the sample of audit statements over time. The nine topics are identified with Latent Dirichlet allocation (LDA) using the full sample of audit statements, and named based on the five most common words associated with the topic. The topics (associated words) are *Cash & Equivalents* ('provision', 'security', 'cash', 'certificate', 'verify'), *Consolidation* ('report', 'examination', 'consolidate', 'asset', 'foreign'), *Inventory* ('inventory', 'cost', 'price', 'market', 'quantity'), *Depreciation* ('depreciation', 'amount', 'reserve', 'property', 'charge'), *Review* ('examination', 'information', 'accounting', 'review', 'obtain'), *Testing* ('accounting', 'test', 'precede', 'method', 'control'), *Financing* ('stock', 'liability', 'share', 'capital', 'note'), *Income* ('loss', 'profit', 'transaction', 'review', 'support'), *CPA* ('certify', 'book', 'accountant', 'public', 'condition'). The dashed line indicates 1934, the year of the Securities Exchange Act.



Figure 4: Cosine Similarity of Audit Statements with Standard Statements from Carmichael and Winters (1982)

The figure shows the average cosine similarity between the audit statements attached to the annual reports in our sample in a particular year and the latest standard audit statement as reported by Carmichael and Winters (1982). The dashed line indicates 1934, the year of the Securities Exchange Act. The dotted lines indicate 1917, 1929, 1931, 1934, and 1936, years in which a new standard audit statement is proposed by the Federal Reserve Board (1917), the American Institute of Accountants (AIA) (1929), and the AIA/NYSE (1931, 1934, 1936).



Figure 5: Capital-Market Quality

The figures compare the evolution of capital-market liquidity separately for companies trading on an exchange and stocks trading on the OTC market. The figures plot annual difference-in-differences coefficients, capturing the difference between companies traded on exchanges and those traded on the OTC market relative to the difference in the base year 1927. The underlying regressions account for firm and year fixed effects. The gray area provides the point-wise 95/5 confidence interval, based on standard errors clustered at the company level. Figures (a) and (b) are based on equally weighted company-year observations, whereas figures (c) and (d) are based on market-capitalization (within each market (exchanges vs. OTC) as of 1927) weighted company-year observations. The dashed line indicates 1934, the year of the Securities Exchange Act.







(d) Weighted Diff. in Amihud Illiquidity

(c) Weighted Diff. in Zero Return Days



Table 1: Descriptive Statistics

The table presents the descriptive statistics for the variables used in the analyses. Panel A gives an overview of the sample. We start with annual reports from Mergent and ProQuest, and we use the outer-join of both as our full sample of annual reports. Auditor data are proxied from the audit statements attached to the annual reports. Sector, trading venue, and market data are taken from Global Financial Data (GFD). Panel B presents the descriptive statistics for the full sample period, Panel C presents the descriptive statistics for the pre-1934 period, and Panel D presents the descriptive statistics for the post-1934 period. Variables are grouped on the level on which they are defined: 'company variables' are defined on the company-year level, 'auditor variables' are defined on the auditor-year level, and 'audit variables' are defined on the company-auditor-year level. See Appendix A for detailed definitions of the variables.

I	Panel A: Sam	ple Overview			
	Mergent	ProQuest	Overlap	Total	Auditors
N	9,021	9,871	1,174	17,168	10,436
Companies	1,190	590	234	1,528	124
Years	1892 - 1940	1844 - 1940	1897 - 1940	1844 - 1940	1845 - 1940
> 100 company-years starting in	1920	1910	1934	1910	1919
Sector Company-years (companies)					
Communications	209(34)	69(8)	16(5)	262(37)	192(2)
Consumer Discretionary	1,548(201)	1,326(77)	341(41)	2,533(236)	1,902(15)
Consumer Staples	1,189(143)	1291(81)	328(40)	2,152(182)	1,495(16)
Energy	401 (44)	533(23)	106(12)	828 (61)	459(2)
Finance	264(43)	923 (60)	13(4)	1,174(93)	286(7)
Health Care	144(17)	215(17)	56 (8)	303(26)	228(4)
Industrials	1,388(185)	1,622(106)	349(49)	2,661(242)	1,773(27)
Information Technology	116(13)	120(10)	46 (4)	190(18)	154(4)
Materials	1,443 (178)	1,364(82)	322(44)	1,485 (215)	1,814(24)
Real Estate	20(4)	0(0)	0(0)	20(4)	18(1)
Transports	607(72)	860 (31)	17 (6)	1,450 (97)	540(2)
Utilities and Telecommunications	599(64)	517 (30)	74 (9)	1042 (83)	674 (2)
Trading Venue Company-years (companies)					
ASE	693(79)	130(9)	35(5)	788(83)	541 (66)
NYSE	4,515(544)	6,020(350)	1,167(161)	9,368(727)	6,060(633)
OTC	587 (92)	412 (31)	81 (8)	918 (115)	510(71)
Other (33 exchanges)	2,160 (285)	2,265 (142)	384 (48)	4,041 (372)	2,432 (289)
Region Company-years (companies)					
Mid-West	3,570(512)	2910 (181)	671 (89)	5,809(597)	3,920(33)
North-East	4,218 (515)	5,810(321)	913(123)	9,106 (703)	5,325(75)
South	515 (67)	587 (35)	77(12)	1,025 (90)	524 (5)
West	656 (83)	471 (37)	63 (10)	1,064 (109)	612 (9)

Panel B: Descriptive Statistics, Full Sample										
	Ν	Mean	S.D.	Min.	Q1	Med.	Q3	Max.		
Company Variables										
Size (Market Value)	11,260	2.538	1.850	-4.382	1.342	2.587	3.790	8.148		
EPS	5,385	2.517	4.539	-21.950	0.350	1.770	3.830	78.880		
Dividend Payer	5,385	0.638	0.480	0.000	0.000	1.000	1.000	1.000		
Zero Return Days	11,535	0.341	0.412	0.000	0.000	0.083	0.909	1.000		
Zero Volume Days	11,535	0.373	0.422	0.000	0.000	0.154	1.000	1.000		
Amihud Illiquidity	8,582	0.011	0.114	0.000	0.000	0.001	0.003	9.505		
Auditor Variables										
Portfolio Size	10,437	48.012	43.093	1.000	8.000	35.000	78.000	141.000		
Portfolio Concentration	10,427	0.311	0.293	0.000	0.090	0.189	0.451	1.000		
Audit Variables										
Audit Indicator	17,168	0.698	0.459	0.000	0.000	1.000	1.000	1.000		
Audit Report Length	7,932	5.023	0.709	1.386	4.522	5.234	5.493	7.201		
Audit Report Lag	16,225	5.021	1.069	0.000	4.060	5.940	5.940	5.940		
Client-Auditor Distance	10,274	5.202	1.448	-1.265	4.723	5.132	6.182	8.997		
Client-Auditor Specialist	17,168	0.284	0.451	0.000	0.000	0.000	1.000	1.000		
Economic Position	7,932	0.345	0.475	0.000	0.000	0.000	1.000	1.000		
GAAP	7.932	0.202	0.402	0.000	0.000	0.000	0.000	1.000		
HHI Topics	7,914	0.144	0.031	0.111	0.121	0.137	0.157	0.358		
		Panel C: I	Descriptive	Statistics I	Pro-1934					
	N	Mean	S.D.	Min.	Q1	Med.	Q3	Max.		
Company Variables			5.2.		4-		40			
		0.050	1.005	1 000	1 100	2 = 22				
Size (Market Value)	6,934	2.650	1.805	-4.382	1.489	2.723	3.864	8.056		
EPS	2,627	3.181	5.722	-21.950	0.100	2.230	5.340	78.880		
Dividend Payer	2,627	0.574	0.495	0.000	0.000	1.000	1.000	1.000		
Zero Return Days	6,915	0.404	0.432	0.000	0.000	0.167	1.000	1.000		
Zero Volume Days	6,915	0.454	0.439	0.000	0.000	0.250	1.000	1.000		
Amihud Illiquidity	4,694	0.011	0.146	0.000	0.000	0.000	0.002	9.505		
Auditor Variables										
Portfolio Size	$5,\!410$	30.207	27.763	1.000	6.000	21.000	47.000	106.000		
Portfolio Concentration	5,400	0.355	0.303	0.000	0.110	0.237	0.508	1.000		
Audit Variables										
Audit Indicator	10,717	0.594	0.491	0.000	0.000	1.000	1.000	1.000		
Audit Report Length	4,009	4.735	0.690	1.386	4.304	4.635	5.273	7.172		
Audit Report Lag	10,139	5.212	1.031	0.000	4.234	5.940	5.940	5.940		
Client-Auditor Distance	5,167	5.341	1.437	-1.265	4.864	5.237	6.249	8.987		
Client-Auditor Specialist	10,717	0.276	0.447	0.000	0.000	0.000	1.000	1.000		
Economic Position	4,009	0.431	0.495	0.000	0.000	0.000	1.000	1.000		
GAAP	4,009	0.030	0.171	0.000	0.000	0.000	0.000	1.000		
HHI Topics	4,001	0.140	0.037	0.111	0.117	0.124	0.146	0.358		

Panel D: Descriptive Statistics, Post-1934								
	Ν	Mean	S.D.	Min.	Q1	Med.	Q3	Max.
Company Variables								
Size (Market Value)	4,326	2.357	1.905	-4.358	1.107	2.381	3.636	8.148
EPS	2,758	1.883	2.868	-15.820	0.490	1.600	2.840	32.430
Dividend Payer	2,758	0.700	0.458	0.000	0.000	1.000	1.000	1.000
Zero Return Days	4,620	0.245	0.359	0.000	0.000	0.083	0.250	1.000
Zero Volume Days	4,620	0.252	0.362	0.000	0.000	0.083	0.250	1.000
Amihud Illiquidity	3,888	0.010	0.055	0.000	0.000	0.001	0.004	2.000
Auditor Variables								
Portfolio Size	5,027	67.173	48.145	1.000	18.000	75.000	114.000	141.000
Portfolio Concentration	5,027	0.264	0.275	0.000	0.077	0.144	0.339	1.000
Audit Variables								
Audit Indicator	$6,\!451$	0.872	0.334	0.000	0.000	1.000	1.000	1.000
Audit Report Length	3,923	5.316	0.601	1.386	5.088	5.323	5.656	7.201
Audit Report Lag	6,086	4.704	1.056	0.000	3.912	4.331	5.940	5.940
Client-Auditor Distance	5,107	5.061	1.446	-1.265	4.587	4.977	5.950	8.997
Client-Auditor Specialist	6,451	0.297	0.457	0.000	0.000	0.000	1.000	1.000
Economic Position	3,923	0.257	0.437	0.000	0.000	0.000	1.000	1.000
GAAP	3,923	0.378	0.485	0.000	0.000	0.000	1.000	1.000
HHI Topics	3,913	0.149	0.024	0.111	0.134	0.146	0.160	0.326

Table 2: Audit Rate

The table presents audit rate changes around the SEC's introduction. Panel A presents the time-series differences in audit rates, pre- and post-1934 for the full sample of companies. Panel B presents the results for difference-in-differences specifications using various control groups: companies trading on the OTC (versus all other companies), transportation companies trading on regular exchanges (versus all non-transportation companies trading on regular exchanges), and companies trading on the NYSE (versus all other companies trading on regular exchanges other than the NYSE). Models (1)–(4) in Panel A add increasingly stringent controls: Model (1) is the base model, Model (2) adds a time-trend (which takes a value of 0 in 1934), Model (3) adds firm-fixed effects, and Model (4) adds time-varying company controls. Models (1)-(6) in Panel B estimate the difference-in-differences specifications with year-fixed effects ((1), (3) and (5)) and additional firm-fixed effects ((2), (4) and (6)). Audit Indicator is a dummy variable that is equal to one if a company is audited, proxied by the attachment of an audit statement to the annual report, and zero otherwise. Post 1934 is a dummy variable that is equal to one if the year is later than 1933, and zero otherwise. Size is the natural log of a company's market capitalization. EPS is a company's earnings per share. Dividend Payer is a dummy variable that is equal to one if a company pays a dividend, and zero otherwise. Non-OTC is a dummy variable that is equal to one for companies trading on regular exchanges, and zero for companies trading on the OTC market. Non-Transportation is a dummy variable that is equal to one for non-transportation companies trading on regular exchanges, and zero for transportation companies trading on regular exchanges. Non-NYSE is a dummy variable that is equal to one for companies trading on regular exchanges other than the NYSE market, and zero for companies trading on the NYSE market. We drop companies trading on the OTC market from the sample for models (3)-(6). See Appendix A for detailed definitions of the variables. Standard errors are clustered at the company level. *, ** and *** denote statistical significance at the 10%, 5% and 1% level (two-tailed), respectively.

(1)	Audit Indi (2)	cator	
(1)	(2)	(9)	
		(3)	(4)
0.156***	0.045^{***}	0.043^{***}	0.060^{***}
14.27)	(3.99)	(4.45)	(4.36) 0.004 (0.41)
			(0.41) -0.005^{***}
			(-2.67) 0.040 (1.20)
0.715^{***} 53.21)	0.760^{***} (62.95)	0.764^{***} (150.60)	$\begin{array}{c} 0.823^{***} \\ (26.26) \end{array}$
,140 .038	$11,140 \\ 0.044$	10,989 0.687	$4,592 \\ 0.615$
E .	0.715^{***} 53.21) 1,140 .038	$\begin{array}{cccc} 0.715^{***} & 0.760^{***} \\ 53.21) & (62.95) \\ 1,140 & 11,140 \\ .038 & 0.044 \end{array}$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$

Panel B: Difference-in-Differences									
	Audit Indicator								
	(1)	(2)	(3)	(4)	(5)	(6)			
Non-OTC	0.190^{***} (2.89)								
$Non-OTC \times Post \ 1934$	-0.032 (-0.69)	0.057 (1.63)							
Non-Transportation	· · · ·	(<i>'</i>	0.304^{***} (4.34)						
Non-Transportation \times Post 1934			0.062 (1.09)	0.079 (1.43)					
Non-NYSE			~ /	× /	-0.132^{***} (-4.79)				
$Non-NYSE \times Post \ 1934$					$\begin{array}{c} 0.057^{**} \\ (2.51) \end{array}$	$\begin{array}{c} 0.034 \\ (1.55) \end{array}$			
Constant	0.650^{***} (13.20)	$\begin{array}{c} 0.776^{***} \\ (41.15) \end{array}$	0.858^{***} (72.91)	$\begin{array}{c} 0.808^{***} \\ (149.60) \end{array}$	0.495^{***} (8.38)	$\begin{array}{c} 0.774^{***} \\ (26.07) \end{array}$			
Ν	11,140	10,989	10,417	10,283	10,417	10,283			
\mathbb{R}^2	0.057	0.689	0.065	0.673	0.089	0.673			
Year FE	Yes	Yes	Yes	Yes	Yes	Yes			
Firm FE	No	Yes	No	Yes	No	Yes			

Table 3: Auditor Choice

The table presents determinants of companies' auditor choice. The estimates are based on a dyadic regression model. This model includes all possible company-auditor matches in a given year. The dependent variable Auditor Choice is equal to zero for all auditors, except for the auditor that is chosen by the company. The explanatory variables contain company-specific variables (Size, EPS, and Dividend Payer), auditor-specific variables (Portfolio Size and Portfolio Concentration), and company-auditor-specific variables (Client-Auditor Distance and Client-Auditor Specialist). Portfolio Size is the logarithm of the sum of the market capitalization of all companies in an auditor's client portfolio in a given year. Portfolio Concentration is the sum of squared client shares (client capitalization over an auditor's total portfolio size) of a given auditor in a given year. *Client-Auditor Distance* is the logarithm of the geodetic distance between the city of the headquarters of the company and the city of the auditor's office that is closest the company, out of all cities in which the auditor has an office. Client-Auditor Specialist is an indicator variable that is equal to one if the auditor is a specialist in the sector in which the company is active, and zero otherwise. The auditor is considered to be a specialist in the sector for which the proportion of total portfolio size (in terms of market capitalization) in that sector to the total auditor portfolio is largest. See Appendix A for detailed definitions of the variables. All variables are adjusted for the mechanical effect of each company on its actual auditor's characteristics (e.g., portfolio size). Models (1)-(4) control for increasingly stringent fixed effects: Model (1) includes year-fixed effects, Model (2) includes firm-year-fixed effects, Model (3) includes auditor-year-fixed effects, and Model (4) includes firm-year- and auditor-year-fixed effects. Panel A shows the results for the full sample of audited companies. Panel B includes an interaction term for the post-1934 period, to allow for changes in the association between the explanatory variables and the Auditor Choice around the Securities and Exchange Act of 1934. Standard errors are two-way clustered at the company and auditor level. *, ** and *** denote statistical significance at the 10%, 5% and 1% level (two-tailed), respectively.

$\begin{tabular}{ c c c c c c } \hline & Auditor \ Choice \\ \hline (1) & (2) & (3) \\ \hline \\ Size & & -0.000 & & -0.001 \\ (-0.17) & & (-0.73) \\ -0.000 & & -0.000 \\ (-0.24) & & (-0.37) \\ -0.000 & & -0.001 \\ (-0.01) & & (-0.56) \\ \hline \end{tabular}$	Panel A: Full Sample								
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$									
$\begin{array}{cccc} Size & & -0.000 & & -0.001 \\ & & (-0.17) & & (-0.73) \\ EPS & & -0.000 & & -0.000 \\ & & (-0.24) & & (-0.37) \\ Dividend Payer & & -0.000 & & -0.001 \\ & & (-0.01) & & (-0.56) \end{array}$	(4)								
$\begin{array}{cccc} (-0.17) & (-0.73) \\ -0.000 & -0.000 \\ (-0.24) & (-0.37) \\ -0.000 & -0.001 \\ (-0.01) & (-0.56) \end{array}$									
$\begin{array}{cccc} EPS & -0.000 & -0.000 \\ & (-0.24) & (-0.37) \\ Dividend \ Payer & -0.000 & -0.001 \\ & (-0.01) & (-0.56) \end{array}$									
$\begin{array}{ccc} (-0.24) & (-0.37) \\ -0.000 & -0.001 \\ (-0.01) & (-0.56) \end{array}$									
$\begin{array}{ccc} Dividend \ Payer & -0.000 & -0.001 \\ (-0.01) & (-0.56) \end{array}$									
(-0.01) (-0.56)									
<i>Portfolio Size</i> 0.004** 0.004**									
(2.36) (2.00)									
$Portfolio \ Concentration \qquad -0.048^{***} \qquad -0.043^{***}$									
(-3.68) (-3.52)									
Client-Auditor Distance -0.004^{***} -0.007^{***} -0.003^{***}	-0.005^{***}								
(-6.41) (-4.73) (-4.22) (-6.41)	-3.74)								
Client-Auditor Specialist 0.003 0.004 0.005*	0.006^{**}								
(1.18) (1.32) (1.92)	(2.08)								
N 151,829 151,829 151,796 1	51,796								
R^2 0.044 0.049 0.201	0.207								
Constant Implied Implied I Implied I	mplied								
Year FE Yes No No	No								
Firm-Year FE No Yes No	Yes								
Auditor-Year FE No No Yes	Yes								

Panel B: Pre- and Post-1934									
		Auditor	Choice						
	(1)	(2)	(3)	(4)					
Size	-0.000		-0.001						
$Size \times Post \ 1934$	$(-0.29) \\ 0.000$		$(-0.98) \\ 0.001^*$						
EPS	$(0.63) \\ -0.000$		$(1.81) \\ -0.000$						
$EPS \times Post \ 1934$	$(-0.33) \\ 0.000$		(-0.22) -0.000						
Dividend Payer	$(0.37) \\ 0.001$		$(-0.33) \\ -0.001$						
Dividend Payer × Post 193/	(0.26) -0.001		(-0.23) -0.001						
Portfolio Size	(-0.62)	0.003*	(-0.35)						
	(2.38)	(1.77)							
Portfolio Size × Post 1934	(0.70)	(1.00)							
Portfolio Concentration	-0.058^{***} (-3.52)	-0.050^{***} (-3.38)							
Portfolio Concentration \times Post 1934	0.016^{*} (1.69)	0.012 (1.41)							
Client-Auditor Distance	-0.005^{***} (-5.91)	-0.008^{***} (-4.06)	-0.003^{***} (-4.08)	-0.006^{***} (-3.25)					
Client-Auditor Distance \times Post 1934	0.001^{**}	(2.00) (2.04)	(1.00) 0.001 (1.61)	0.002^{*}					
Client-Auditor Specialist	(2.22) 0.005 (1.60)	(2.04) 0.005^{*} (1.68)	(1.01) 0.006^{**} (2.01)	(1.00) 0.007^{**} (2.25)					
Client-Auditor Specialist \times Post 1934	(1.00) -0.004 (-1.32)	(1.08) -0.003 (-1.19)	(2.01) -0.002 (-0.50)	(2.55) -0.002 (-0.56)					
Ν	151,829	151,829	151,796	151,796					
R^2	0.045	0.050	0.201	0.207					
Constant	Implied	Implied	Implied	Implied					
Year FE	Yes	No	No	No					
Firm-Year FE	No	Yes	No	Yes					
Auditor-Year FE	No	No	Yes	Yes					

Table 4: Audit Services

The table presents changes in audit services around the SEC's introduction. Panels A and B present time-series differences in the characteristics and content of audit statements, respectively. Panel C presents difference-in-differences specifications using companies traded on the OTC market as a control. All coefficients are estimated using the sample of audit statements between 1927 and 1940. Models (1)-(4) in Panel A and Panel B add increasingly stringent fixed effects: Model (1) is the base model, Model (2) adds a time-trend, Model (3) adds auditor-fixed effects, and Model (4) adds firm-fixed effects. Models (1)–(6) in Panel C estimate the most stringent specification for all audit statement variables. Audit Statement Length is the natural log of the total number of words in the audit statement. Audit Statement Laq is the natural log of the number of days between the auditor's sign-off date and the end of the company's fiscal year. Economic Position is a dummy variable that is equal to one if the audit statement contains any of the words that are associated with the company's economic position, and zero otherwise. GAAP is a dummy variable that is equal to one if the audit statement contains any of the words that are associated with compliance with Generally Accepted Accounting Principles, and zero otherwise. Table B in Appendix B gives an overview of the words that are associated with these two categories. HHI Topics is the Hirschman-Herfindahl Index of the probability that each of the identified nine topics is contained in the audit statement. Dominant Topic Distribution is the probability that the topic with the highest probability is contained in the audit statement. The nine topics are identified with Latent Dirichlet allocation (LDA) using the full sample of audit statements, and named based on the five most common words associated with the topic. Post 1934 is a dummy variable that is equal to one if the year is later than 1933, and zero otherwise. Non-OTC is a dummy variable that is equal to one for companies trading on regular exchanges, and zero for companies trading on the OTC market. See Appendix A for detailed definitions of the variables. Standard errors are clustered at the company level. *, ** and *** denote statistical significance at the 10%, 5% and 1% level (two-tailed), respectively.

	Panel A: Audit Statement Characteristics										
		Audit Statem	ent Length		Audit Statement Lag						
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)			
Post 1934	0.575^{***} (23.20)	0.506^{***} (14.38)	0.510^{***} (14.67)	$0.492^{***} \\ (13.87)$	-0.234^{***} (-7.91)	-0.044 (-1.22)	0.064 (1.58)	0.082^{**} (2.17)			
Ν	$6,\!145$	6,145	$6,\!134$	5,979	10,487	10,487	7,305	7,163			
R^2	0.157	0.158	0.265	0.562	0.011	0.014	0.058	0.540			
Constant	Yes	Implied	Implied	Implied	Yes	Implied	Implied	Implied			
Time Trend	No	Yes	Yes	Yes	No	Yes	Yes	Yes			
Auditor FE	No	No	Yes	Yes	No	No	Yes	Yes			
Firm FE	No	No	No	Yes	No	No	No	Yes			

Panel B: Audit Statement Content										
		Economic	Position			GA	AP			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)		
Post 1934	-0.153^{***} (-8.34)	-0.120^{***} (-5.46)	-0.115^{***} (-5.16)	-0.103^{***} (-5.17)	$\begin{array}{c} 0.324^{***} \\ (20.90) \end{array}$	$\begin{array}{c} 0.248^{***} \\ (12.27) \end{array}$	0.247^{***} (12.08)	$\begin{array}{c} 0.231^{***} \\ (11.93) \end{array}$		
N R ² Constant Time Trend Auditor FE Firm FE	6,181 0.025 Yes No No No	6,181 0.025 Implied Yes No No	6,135 0.091 Implied Yes Yes No	5,980 0.707 Implied Yes Yes Yes	6,181 0.127 Yes No No No	6,181 0.129 Implied Yes No No	6,135 0.181 Implied Yes Yes No	5,980 0.703 Implied Yes Yes Yes		
	(1)	HHI T (2)	copics (3)	(4)	<i>D</i> (1)	ominant Topi (2)	$c \ Distribution$ (3)	(4)		
Post 1934	$\begin{array}{c} 0.014^{***} \\ (12.35) \end{array}$	0.003^{**} (2.00)	0.003^{**} (2.19)	0.002 (1.37)	$\begin{array}{c} 0.040^{***} \\ (14.00) \end{array}$	0.008^{**} (2.09)	0.009^{**} (2.32)	0.007^{*} (1.77)		
$egin{array}{c} N \ R^2 \ Constant \end{array}$	6,132 0.060 Yes	$\begin{array}{c} 6,132\\ 0.073\\ \mathrm{Implied} \end{array}$	$\begin{array}{c} 6,121 \\ 0.119 \\ \mathrm{Implied} \end{array}$	$\begin{array}{c} 5,964\\ 0.415\\ \mathrm{Implied} \end{array}$		$\begin{array}{c} 6,132\\ 0.092\\ \mathrm{Implied} \end{array}$	$\begin{array}{c} 6,121\\ 0.135\\ \mathrm{Implied} \end{array}$	$\begin{array}{c} 5,964 \\ 0.412 \\ \mathrm{Implied} \end{array}$		
Time Trend Auditor FE Firm FE	No No No	Yes No No	Ýes Yes No	Ŷes Yes Yes	No No No	Ýes No No	Ýes Yes No	Ýes Yes Yes		

	Panel C: Audit Statement Difference-in-Differences (Non-OTC v. OTC)										
	Audit Statement Length	AuditAuditStatementStatementEconomicLengthLagPosition		GAAP	HHI Topics	Dominant Topic Distribution					
	(1)	(2)	(3)	(4)	(5)	(6)					
$Non-OTC \times Post 1934$	-0.094 (-1.01)	-0.068 (-0.59)	$0.032 \\ (0.49)$	$0.035 \\ (0.38)$	-0.005 (-1.05)	-0.006 (-0.42)					
N R ² Constant	5,979 0.579 Implied	7,164 0.539 Implied	5,978 0.710 Implied	5,978 0.718 Implied	5,966 0.442 Implied	5,966 0.444 Implied					
Auditor FE Firm FE	Yes Yes	Yes Yes Yes	Yes Yes Yes	Yes Yes	Yes Yes Yes	Yes Yes Yes					

Table 5: Market Quality

The table presents changes in capital-market quality around the SEC's introduction. It compares changes across regulated (non-OTC) and unregulated (OTC) markets and across three groups of companies: 'mandatory adopters' (companies trading on regular exchanges who only got an audit after the audit mandate), 'voluntary adopters' (companies trading on regular exchanges or the OTC market who got audits before the audit mandate), and 'never adopters' (non-compliant companies trading on regular exchanges and non-adopters on the OTC market). Panel A presents the sample composition, broken down by trading venue, of the three groups. Panel B presents descriptive statistics by group and univariate comparisons over time (pre vs. post 1934) and between groups ('mandatory adopters' vs. the two other groups). Panel C presents difference-in-differences specifications using 'voluntary adopters' or 'mandatory adopters' as control groups. Panel D presents difference-in-differences specifications comparing regulated (non-OTC) with unregulated (OTC) markets. The weighted specifications in Panel D are based on within-market (non-OTC vs. OTC) market-capitalization weights as of 1927. All estimates are based on the sample of audit statements between 1927 and 1940. The models in Panels C and D include year-fixed effects ((1), (3), (5), and (7)) and additionally firm-fixed effects ((2), (4), (6), and (8)). Market Value is the natural log of companies' market capitalization. Zero Return Days is the number of days on which companies' returns are zero, scaled by the total number of days for which there is data. Zero Volume Days is the number of days on which companies' trading volume is zero, scaled by the total number of days for which there is data. Amihud Illiquidity is the Amihud illiquidity measure calculated as in Amihud (2002). See Appendix A for detailed definitions of the variables. Standard errors are clustered at the company level. *, ** and *** denote statistical significance at the 10%, 5% and 1% level (two-tailed), respecti

	Voluntary	Adopters	Mandatory	Adopters	Never Adopters	
Trading Venue	Name	Obs.	Name	Obs.	Name	Obs.
-	ASE	485	ASE	122	ASE	31
	NYSE	4,788	NYSE	873	NYSE	241
	OTC	400	OTC	0	OTC	152
	Other	2,081	Other	469	Other	125
	Total	7,754	Total	1,464	Total	549

		Mandatory Adopters	Voluntary Adopters	Diff.	T-stat.	$\begin{array}{c} \mathbf{Never} \\ \mathbf{Adopters} \end{array}$	Diff.	T-stat.
		(1)	(2)	(2) -	- (1)	(3)	(3) -	- (1)
Full Sample								
Ν	11,141	1,878	8,509			754		
Audited	0.805	0.708	0.898	0.190	22.24^{***}	0.000	0.708	42.71^{***}
Size (Market Value)	2.385	2.087	2.397	0.310	4.65^{***}	2.989	-0.902	-7.18^{***}
EPS	2.089	1.782	2.012	0.229	1.35	5.225	-3.443	-9.88^{***}
Dividend Payer	0.691	0.652	0.690	0.037	1.77^{*}	0.877	-0.225	-5.49^{***}
Zero Return Days	0.245	0.353	0.197	-0.156	-15.11^{***}	0.696	-0.343	-14.02^{***}
Zero Volume Days	0.270	0.373	0.224	-0.149	-13.77^{***}	0.714	-0.341	-13.91^{***}
Amihud Illiquidity	0.012	0.018	0.010	-0.008	-4.06^{***}	0.078	-0.060	-2.21^{**}
Pre-1934 Sample								
Ν	4,713	395	4,014			304		
Audited	0.715	0.000	0.839	0.839	45.41^{***}	0.000	0.000	
Size (Market Value)	2.410	2.460	2.369	-0.092	-0.64	3.146	-0.686	-2.90^{***}
EPS	2.369	2.780	2.189	-0.590	-1.10	6.621	-3.841	-5.02^{***}
Dividend Payer	0.680	0.854	0.664	-0.189	-3.59^{***}	0.887	-0.034	-0.61
Zero Return Days	0.246	0.419	0.210	-0.210	-9.16^{***}	0.686	-0.267	-5.99^{***}
Zero Volume Days	0.297	0.472	0.261	-0.211	-8.44^{***}	0.722	-0.250	-5.69^{***}
Amihud Illiquidity	0.016	0.023	0.011	-0.011	-2.76^{***}	0.172	-0.149	-1.53
Post-1934 Sample								
Ν	6,428	1,483	4,495			450		
Audited	0.871	0.896	0.950	0.054	7.44^{***}	0.000	0.896	62.29***
Size (Market Value)	2.365	1.983	2.422	0.439	5.79^{***}	2.867	-0.883	-5.76^{***}
EPS	1.883	1.607	1.861	0.254	1.83^{*}	4.030	-2.423	-5.90^{***}
Dividend Payer	0.700	0.617	0.711	0.094	4.03^{***}	0.867	-0.251	-4.50^{***}
Zero Return Days	0.244	0.339	0.187	-0.152	-12.74^{***}	0.703	-0.364	-11.86^{***}
Zero Volume Days	0.251	0.352	0.193	-0.159	-13.22^{***}	0.708	-0.356	-11.56^{***}
Amihud Illiquidity	0.010	0.017	0.009	-0.008	-3.52^{***}	0.004	0.012	-1.34

Panel C:	Market Qua	lity Differen	ce-in-Differe	nces (Manda	tory Adopte	rs vs. Others)	
	Marke	t Value	Ze Return	ero n Days	Ze Volum	ero Se Days	Am Illiqu	ihud ıidity
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Mandatory vs. Voluntary Ado	opters							
Mandatory Adopter	0.017		0.200***	*	0.195^{**}	*	0.012*	
	(0.05)		(3.45)		(3.48)		(1.77)	
Mandatory Adopter \times Post 1934	-0.425	-0.075	-0.071	-0.018	-0.061	-0.004	-0.003	0.003
	(-1.49)	(-0.57)	(-1.35)	(-0.47)	(-1.20)	(-0.11)	(-0.40)	(0.46)
Ν	7,046	6,977	7,295	7,208	7,295	7,208	6,430	6,354
\mathbb{R}^2	0.053	0.907	0.033	0.738	0.058	0.737	0.020	0.470
Constant	Implied	Implied	Implied	Implied	Implied	Implied	Implied	Implied
Year FE	Yes	Ýes	Yes	Yes	Yes	Ýes	Yes	Yes
Firm FE	No	Yes	No	Yes	No	Yes	No	Yes
Mandatory vs. Never Adopter	rs							
Mandatory Adopter	-0.750		-0.277^{**}	*	-0.262^{**}	*	-0.148	
	(-1.49)		(-2.85)		(-2.78)		(-0.94)	
Mandatory Adopter × Post 1934	-0.044	0.088	-0.090	-0.086^{*}	-0.098	-0.087^{**}	0.160	0.011
	(-0.12)	(0.48)	(-1.29)	(-1.90)	(-1.50)	(-2.04)	(1.02)	(0.73)
Ν	1,318	1,266	1,606	1,532	1,606	1,532	1,075	1,028
R^2	0.071	0.938	0.117	0.869	0.124	0.868	0.038	0.514
Constant	Implied	Implied	Implied	Implied	Implied	Implied	Implied	Implied
Year FE	Ŷes	Ŷes	Ŷes	Ŷes	Ŷes	Ýes	$\tilde{\mathrm{Yes}}$	Ŷes
Firm FE	No	Yes	No	Yes	No	Yes	No	Yes

Panel D: Market Quality Difference-in-Differences (Non-OTC vs. OTC)										
	Marke	t Value	Ze Return	ero n Days	Ze Volum	ero e Days	Am Illiqu	ihud uidity		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)		
Unweighted										
Non-OTC	0.266 (0.73)		-0.444^{***} (-4.13)		-0.401^{***} (-3.79)		-0.026 (-0.85)			
$Non-OTC \times Post \ 1934$	-0.001 (-0.01)	$0.157 \\ (0.97)$	-0.091 (-1.34)	-0.038 (-1.26)	-0.142^{**} (-2.14)	-0.075^{**} (-2.54)	0.010 (0.37)	$\begin{array}{c} 0.006 \\ (0.34) \end{array}$		
$\frac{N}{R^2}$	$7,611 \\ 0.048$	7,527 0.908	7,893 0.075	7,780 0.790	7,893 0.088	7,780 0.784	$6,654 \\ 0.004$	6,568 0.497		
Constant	Implied	Implied	Implied	Implied	Implied	Implied	Implied	Implied		
Year FE Firm FE	Yes No	Yes Yes	Yes No	Yes Yes	Yes No	Yes Yes	Yes No	Yes Yes		
Weighted										
Non-OTC	-0.687 (-1.23)		-0.032^{**} (-2.30)		-0.034^{**} (-2.46)		-0.001^{*} (-1.69)			
$Non-OTC \times Post \ 1934$	0.004 (0.31)	$0.004 \\ (0.31)$	(-0.000) (-0.10)	-0.000 (-0.10)	0.001 (0.88)	0.001 (0.88)	-0.000 (-0.62)	-0.000 (-0.62)		
N	2,254	2,254	2,254	2,254	2,254	2,254	2,018	$2,\!017$		
\mathbb{R}^2	0.187	0.991	0.413	0.903	0.421	0.886	0.297	0.715		
Constant	Implied	Implied	Implied	Implied	Implied	Implied	Implied	Implied		
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Firm FE	Yes	Yes	No	Yes	No	Yes	No	Yes		

ONLINE APPENDIX

Public Company Auditing Around the Securities Exchange Act

Table OA1: Factors Associated with Audit Rate

The table presents the Pearson and Spearman correlations of the market-wide audit rate with the following time-series variables: *Market Capitalization to GDP*, which is the total stock market capitalization divided by total GDP; *Listed Companies per Million Population*, which is the total number of listed companies divided by the total population divided by one million; and *Equity Issuance to GDP*, which is the total issued equity capital divided by total GDP. These variables are all obtained from the Statistical Yearbooks of the League of Nations from 1926–1940. We further include *Audit Firms per Year*, which is the total number of audit firms identified in our sample period; and *CPAs per Year*, which is the total number of CPA qualifications issued in a given year, obtained from Edwards (1960). *, ** and *** denote statistical significance at the 10%, 5% and 1% level (two-tailed), respectively.

	Contem _] Vari	poraneous iables	Lagged Variables		
	Pearson	Spearman	Pearson	Spearman	
Market Capitalization to GDP	0.356**	0.329**	0.404**	0.377**	
Listed Companies per Million Population	-0.735^{***}	-0.588^{**}	-0.7533^{***}	-0.600^{**}	
Equity Issuance to GDP	-0.352^{**}	-0.398^{**}	-0.325^{**}	-0.378^{**}	
Audit Firms per Year	0.971^{***}	0.992^{***}	0.959^{***}	0.985^{***}	
CPAs per Year	0.961^{***}	0.992^{***}	0.959***	0.991^{***}	

Table OA2: Scandals and Auditing

The table presents results of the regression of audit indicators on lagged indicators for corporate scandals obtained from Hail et al. (2018). Audit Indicator takes the value of one if a company's financial statements are audited in a given year, and zero otherwise. In the first column, All Scandals Indicator takes the value of one if any corporate scandal occurred in a given year, and zero otherwise. In the subsequent columns, we decompose the aggregate scandals indicator into subcategories. Accounting Scandals Indicator takes the value of one if an accounting scandal occurred in a given year, and zero otherwise. Near-Accounting Scandal Indicator takes the value of one if a near-accounting scandal occurred in a given year, and zero otherwise. Non-Accounting Scandal Indicator takes the value of one if a non-accounting scandal occurred in a given year, and zero otherwise. Year represents the linear time-trend variable. Standard errors are clustered at the company level. *, ** and *** denote statistical significance at the 10%, 5% and 1% level (two-tailed), respectively.

		Audit In	dicator	
	(1)	(2)	(3)	(4)
All Scandal Indicator	0.025^{***} (3.65)			
Accounting Scandal Indicator		0.024^{**} (2.19)		
Near-Accounting Scandal Indicator		× ,	0.011 (1.12)	
Non-Accounting Scandal Indicator			()	0.011
Year	$\begin{array}{c} 0.011^{***} \\ (6.87) \end{array}$	$\begin{array}{c} 0.011^{***} \\ (6.95) \end{array}$	$\begin{array}{c} 0.011^{***} \\ (6.99) \end{array}$	(1.02) 0.011^{***} (6.96)
Ν	6,709	6,709	6,709	6,709
\mathbb{R}^2	0.692	0.692	0.691	0.691
Constant	Implied	Implied	Implied	Implied
Time Trend	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes

Table OA3: Audit Rate Margins

The table presents the number of sample companies each year and the corresponding audit rate (in %) for that year. The total number of companies is broken down into 'entering', 'continuing', and 'exiting' companies. A firm is 'entering' the sample the first year for which we have an annual report. A firm is 'continuing' as long as we have a continuing time series of annual reports. A firm is 'exiting' our sample the year for which we have the last annual report. For each of these groups, the corresponding audit rate for the year is presented (in %).

	Companies			ntering		Continuing						Exiting
							Au	dit Before	No A	udit Before		
Year	No.	Audit Rate (%)	No.	Audit Rate (%)	No.	Audit Rate (%)	No.	Audit Rate (%)	No.	Audit Rate (%)	No.	Audit Rate (%)
1900	69	27.54	36	22.22	33	33.33	11	90.91	22	4.55	2	50.00
1901	54	27.78	11	36.36	43	25.58	13	69.23	30	6.67	26	23.08
1902	56	25.00	5	80.00	51	19.61	13	61.54	38	5.26	3	66.67
1903	72	36.11	18	33.33	54	37.04	14	100.00	40	15.00	2	0.00
1904	72	33.33	6	16.67	66	34.85	23	86.96	43	6.98	6	50.00
1905	75	37.33	13	23.08	62	40.32	22	95.45	40	10.00	10	20.00
1906	79	43.04	13	38.46	66	43.94	26	96.15	40	10.00	9	22.22
1907	86	39.53	12	41.67	74	39.19	31	90.32	43	2.33	5	60.00
1908	88	42.05	7	14.29	81	44.44	32	100.00	49	8.16	5	40.00
1909	99	40.40	12	25.00	87	42.53	37	91.89	50	6.00	1	0.00
1910	109	42.20	13	38.46	96	42.71	39	94.87	57	7.02	3	33.33
1911	129	45.74	26	34.62	103	48.54	44	100.00	59	10.17	6	33.33
1912	138	42.03	18	22.22	120	45.00	55	87.27	65	9.23	9	44.44
1913	157	48.41	23	56.52	134	47.01	56	92.86	78	14.10	4	50.00
1914	162	51.23	11	45.45	151	51.66	75	96.00	76	7.89	6	16.67
1915	160	51.25	6	33.33	154	51.95	81	97.53	73	1.37	8	25.00
1916	177	51.98	25	36.00	152	54.61	79	94.94	73	10.96	8	37.50
1917	188	49.47	21	23.81	167	52.69	90	94.44	77	3.90	10	20.00
1918	190	49.47	14	28.57	176	51.14	90	94.44	86	5.81	12	25.00
1919	220	53.18	41	43.90	179	55.31	91	97.80	88	11.36	11	27.27
1920	292	57.53	91	61.54	201	55.72	112	92.86	89	8.99	19	26.32

Table continues on next page.

	Co	mpanies	E	Intering			С	ontinuing]	Exiting
							Au	dit Before	No A	udit Before		
Year	No.	Audit Rate (%)	No.	Audit Rate (%)	No.	Audit Rate (%)	No.	Audit Rate (%)	No.	Audit Rate (%)	No.	Audit Rate (%)
1921	323	58.51	57	47.37	266	60.90	157	95.54	109	11.01	26	42.31
1922	365	59.18	67	58.21	298	59.40	179	93.85	119	7.56	25	40.00
1923	401	58.35	70	44.29	331	61.33	201	96.02	130	7.69	34	44.12
1924	442	61.31	73	60.27	369	61.52	218	97.71	151	9.27	32	50.00
1925	481	62.99	82	53.66	399	64.91	257	96.50	142	7.75	43	32.56
1926	533	63.23	83	48.19	450	66.00	284	97.18	166	12.65	31	61.29
1927	538	64.31	74	58.11	464	65.30	295	97.29	169	9.47	69	60.87
1928	652	65.03	159	64.78	493	65.11	321	95.33	172	8.72	45	55.56
1929	753	68.53	176	66.48	577	69.15	384	96.35	193	15.03	75	53.33
1930	668	70.81	105	58.10	563	73.18	391	96.42	172	20.35	190	65.79
1931	668	72.60	90	60.00	578	74.57	423	95.27	155	18.06	90	55.56
1932	681	75.77	79	73.42	602	76.08	442	97.06	160	18.13	66	65.15
1933	780	80.00	153	77.12	627	80.70	480	97.50	147	25.85	54	66.67
1934	777	84.04	74	82.43	703	84.21	566	98.06	137	27.01	77	75.32
1935	820	85.00	88	79.55	732	85.66	621	98.07	111	16.22	45	71.11
1936	866	85.80	108	75.93	758	87.20	649	98.15	109	22.02	62	77.42
1937	962	87.32	153	84.31	809	87.89	703	98.72	106	16.04	57	70.18
1938	982	88.09	79	78.48	903	88.93	796	98.99	107	14.02	59	74.58
1939	1009	88.31	90	83.33	919	88.79	811	98.52	108	15.74	63	85.71
1940	1034	89.26	105	85.71	929	89.67	833	98.08	96	16.67	80	72.50

Table OA4: Auditor Choice

The table presents robustness results of the main determinants of companies' auditor choice reported in Table 3. In Panel A, we replicate our results without adjusting the explanatory variables for the impact of each company on its actual auditor's characteristics. In Panel B, we use adjusted but lagged explanatory variables. The estimates are based on a dyadic regression model. This model includes all possible company-auditor matches in a given year. The dependent variable Auditor Choice is equal to zero for all auditors, except for the auditor that is chosen by the company. The explanatory variables contain company-specific variables (Size, EPS, and Dividend Payer), auditor-specific variables (Portfolio Size and Portfolio Concentration), and company-auditor-specific variables (Client-Auditor Distance and Client-Auditor Specialist). Portfolio Size is the logarithm of the sum of the market capitalization of all companies in an auditor's client portfolio in a given year. *Portfolio Concentration* is the sum of squared client shares (client capitalization over an auditor's total portfolio size) of a given auditor in a given year. Client-Auditor Distance is the logarithm of the geodetic distance between the city of the headquarter of the company and the city of the auditor's office that is closest to the company, out of all cities in which the auditor has an office. Client-Auditor Specialist is an indicator variable that is equal to one if the auditor is a specialist in the sector in which the company is active, and zero otherwise. The auditor is considered to be a specialist in the sector for which the proportion of total portfolio size (in terms of market capitalization) in that sector to the total auditor portfolio is largest. See Appendix A for detailed definitions of the variables. Models (1)-(4) control for increasingly stringent fixed effects: Model (1) includes year-fixed effects, Model (2) includes firm-year-fixed effects, Model (3) includes auditor-year-fixed effects, and Model (4) includes firm-year- and auditor-yearfixed effects. Panel A shows the results using unadjusted explanatory variables. Panel B includes the results using lagged explanatory variables. Standard errors are two-way clustered at the company and auditor level. *, ** and *** denote statistical significance at the 10%, 5% and 1% level (two-tailed), respectively.

Panel A: Contemporaneous Variables								
		Auditor	Choice					
	(1)	(2)	(3)	(4)				
Size	-0.000		-0.000					
	(-0.46)		(-0.40)					
EPS	0.000		0.000					
	(0.02)		(0.00)					
Dividend Payer	-0.000		-0.000					
	(-0.10)		(-0.18)					
Portfolio Size	0.003**	0.002^{**}						
	(2.40)	(2.12)						
Portfolio Concentration	-0.052^{***}	-0.048^{***}						
	(-3.97)	(-3.89)						
Client-Auditor Distance	-0.004^{***}	-0.005^{***}	-0.003^{***}	-0.005^{***}				
	(-6.77)	(-5.31)	(-6.84)	(-6.11)				
Client-Auditor Specialist	0.016***	0.017***	0.020***	0.020***				
-	(8.42)	(7.66)	(7.93)	(7.12)				
Ν	231,417	$231,\!417$	231,373	$231,\!373$				
R^2	0.049	0.052	0.085	0.087				
Constant	Implied	Implied	Implied	Implied				
Year FE	Yes	Ňo	No	Ňo				
Firm-Year FE	No	Yes	No	Yes				
Auditor-Year FE	No	No	Yes	Yes				

Panel B: Lagged Variables									
		Auditor	Choice						
	(1)	(2)	(3)	(4)					
Size	-0.000		-0.000						
	(-0.52)		(-0.44)						
EPS	0.000		0.000						
	(0.06)		(0.08)						
Dividend Payer	0.000		-0.000						
	(0.06)		(-0.05)						
Portfolio Size	0.003**	0.002^{**}							
	(2.31)	(2.03)							
Portfolio Concentration	-0.053^{***}	-0.048^{***}							
	(-3.92)	(-3.85)							
Client-Auditor Distance	-0.004^{***}	-0.005^{***}	-0.003^{***}	-0.005^{***}					
	(-6.72)	(-5.11)	(-6.95)	(-5.78)					
Client-Auditor Specialist	0.016***	0.016***	0.019***	0.020***					
	(7.29)	(6.69)	(7.06)	(6.46)					
Ν	196,909	196,904	196,863	196,858					
\mathbb{R}^2	0.049	0.051	0.086	0.087					
Constant	Implied	Implied	Implied	Implied					
Year FE	Yes	No	No	No					
Firm-Year FE	No	Yes	No	Yes					
Auditor-Year FE	No	No	Yes	Yes					

Table OA5: CPAs per Company

The table presents changes in the number of CPAs, per (audited) company before and after the introduction of the SEC. Models (1) and (2) use all listed companies in the sample. Models (3) and (4) restrict the sample to audited companies only. The dependent variable, $\#CPAs \ per \ Company$, is the total number of CPAs in the year, divided by the total number of (audited) companies in the year. Post 1934 is a dummy variable that is equal to one if the year is later than 1933, and zero otherwise. Year represents the linear time-trend variable. The sample period is restricted to seven years before and after the introduction of the SEC in 1934. Standard errors are clustered at the year level. *, ** and *** denote statistical significance at the 10%, 5% and 1% level (two-tailed), respectively.

		#CPAs per Company				
	All Con	All Companies		Audited Companies		
	(1)	(2)	(3)	(4)		
Post 1934	0.126**	-0.024	-0.075^{*}	-0.069		
Year	(2.99)	(-0.44) 0.021^{**}	(-2.13)	$(-1.13) \\ -0.001$		
		(2.73)		(-0.08)		
Ν	14	14	14	14		
R^2	0.427	0.625	0.274	0.274		
Constant	Implied	Implied	Implied	Implied		
Time Trend	Ňo	Yes	No	Yes		
Firm FE	Yes	Yes	Yes	Yes		

Table OA6: Value Relevance of Earnings

The table presents levels and changes in the value relevance of earnings. Value relevance is measured as the R^2 of regressions of annual returns (from nine months before until three months after the end of the fiscal year) on earnings per share (scaled by price) (Barth et al., 2008). For each group (e.g., mandatory adopters in the pre-period), the R^2 is calculated as the average R^2 from 1,000 bootstrapped regressions (with 1,000 observations per regression sample). The different groups are 'mandatory adopters' (companies trading on regular exchanges that only got an audit after the audit mandate), 'voluntary adopters' (companies trading on regular exchanges or the OTC market that got audits before the audit mandate), and 'never adopters' (non-compliant companies trading on regular exchanges and non-adopters on the OTC market) in the seven years before 1934 ('pre-1934') and the seven years thereafter ('post-1934'). Data on returns and earnings are obtained from *Global Financial Data.* *, ** and *** denote statistical significance at the 10%, 5% and 1% level (two-tailed), respectively.

		Pre-1934 (A)	Post-1934 (B)	$egin{array}{c} { m Difference} \ { m (B)}-{ m (A)} \end{array}$
Mandatory vs. Vo	luntary Adopters			
Mandatory Adopter	(I)	$\begin{array}{c} 0.065^{***} \\ (25.32) \end{array}$	0.019^{***} (29.61)	-0.046^{***} (-17.52)
Voluntary Adopter	(II)	$\begin{array}{c} 0.039^{***} \\ (46.05) \end{array}$	$0.013^{***} \\ (36.02)$	-0.026^{***} (-28.49)
Difference	(I) – (II)	0.025^{***} (9.42)	0.006^{***} (8.47)	-0.019^{***} (-6.99)
Mandatory vs. Ne	ver Adopters			
Mandatory Adopter	(I)	$\begin{array}{c} 0.065^{***} \\ (25.32) \end{array}$	0.019^{***} (29.61)	-0.046^{***} (-17.52)
Never Adopter	(II)	$\begin{array}{c} 0.083^{***} \\ (23.35) \end{array}$	$0.073^{***} \\ (24.71)$	-0.010^{***} (-2.28)
Difference	(I) - (II)	-0.018^{***} (-3.99)	-0.053^{***} (-17.92)	-0.035^{***} (-6.64)