Mandatory *vs.* contractual disclosure in securities markets: Evidence from the 1930s[*]

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ABSTRACT

This paper studies mandatory disclosure documents filed during the period 1933-35 in response to the Securities Act of 1933 and the Securities Exchange Act of 1934. Our sample companies are all listed on the New York Stock Exchange (NYSE) and therefore subject to the NYSE's disclosure requirements at the time of the regulatory filings. We ask whether the additional disclosures contained in the filed documents constitute information. Using newly-available daily price, volume, and bid and ask quotation data, we test whether the filings are associated with changes in bid-ask spreads, return autocovariance, turnover, volatility, or no-trade days. We find almost no evidence that the new disclosures required by the securities laws—principally having to do with management compensation and large shareholdings—reduced informational asymmetry. We also find no evidence that earnings reports were more informative after enactment of the securities laws.

[*] We thank Andrei Shleifer and seminar participants at the University of Chicago, Columbia University, Harvard University, the University of Virginia, and the College of William and Mary for comments and Anna Shagin for research assistance.

Mandatory *vs.* contractual disclosure in securities markets: Evidence from the 1930s

1. Introduction

Securities laws around the world require that publicly-traded companies make particular financial and narrative disclosures to regulators and investors. When such laws do not exist or do not apply, firms may make disclosures voluntarily or pursuant to an agreement with the exchange or other market on which their shares are listed. Mandatory disclosure laws are motivated by a belief that these voluntary or contractual disclosures are sub-optimal or insufficiently credible.

This paper studies mandatory disclosure documents filed during the period 1933-35 in response to the Securities Act of 1933 (Securities Act) and the Securities Exchange Act of 1934 (Exchange Act). Our sample companies are all listed on the New York Stock Exchange (NYSE) and therefore subject to the NYSE's disclosure requirements at the time of the regulatory filings. We ask whether the additional disclosures contained in the filed documents constitute information. Using newly-available daily price, volume, and bid and ask quotation data, we test whether the filings are associated with changes in bid-ask spreads, return autocovariance, turnover, volatility, or no-trade days.

The empirical literature on the effects of mandatory disclosure laws is small and inconclusive. A few papers test whether the Securities Act affected the returns realized by investors in new issues of stock (Stigler 1964; Simon 1989). Benston (1973) examines the effects of the periodic financial disclosures required by the Exchange Act.

More recently, Greenstone, Oyer and Vissing-Jorgensen (2004) and Ferrell (2004) examine the effects of a 1964 statute that extended the Exchange Act's periodic disclosure provisions to companies traded over the counter and Daines and Jones (2005) examine the long-run impact of the Exchange Act on bid-ask spreads.

Most of these papers look at long-run stock returns for affected companies before and after enactment of the disclosure laws or compare post-enactment returns for affected and unaffected companies. Our paper employs a different methodology for evaluating the effects of mandatory disclosure. We look for changes in the short-run trading behavior of the affected stocks around the time the company files a disclosure document, using high frequency (daily) data and focusing on microstructure measures that can provide evidence of reduced informational asymmetry. We also measure the informativeness of earnings reports before and after the enactment of the securities laws. If those laws improved the quality of information that companies released to the market, then earnings reports should be of higher quality, and therefore more informative, after 1934.

We find almost no evidence that the new disclosures required by the securities laws—principally having to do with management compensation and large shareholdings—reduced informational asymmetry. We also find no evidence that earnings reports were more informative after enactment of the securities laws. We conclude that the securities laws did not add measurably to the content and credibility of the NYSE's existing disclosure requirements.

Despite the relative dearth of empirical investigation, the role of public regulation and enforcement in securities markets is a vitally important topic (La Porta *et al.* 2005).

Researchers have debated whether securities laws can reduce the cost of capital by reducing manager-shareholder agency problems, providing a standard-form contract that saves shareholders and managers the cost of negotiating over disclosure policy, or debiasing overconfident investors. Dozens of emerging-market countries currently face choices similar to those the United States made in the 1930s. Understanding the impact of those choices is valuable.

The paper is organized as follows: Section 2 describes the Securities Act and Exchange Act. Section 3 summarizes prior findings on the effects of mandatory disclosure laws. Section 4 describes our data and methodology, and Section 5 discusses the results of our tests of the effects of the Securities Act and Exchange Act. Section 6 analyzes the effects of earnings releases before and after enactment of the securities laws, and Section 7 concludes.

2. The 1930s disclosure laws

Prior to 1933, listed companies' disclosure policies were largely determined by their managers and the stock exchange(s) that listed their shares. Many state governments had a "blue sky" law under which the sale of securities in that state triggered certain disclosure requirements. However, the blue sky laws of several states, including New York, did not require specific disclosures but merely prohibited fraud (Mahoney 2003). Although it was not always clear how these laws applied to multi-state transactions, if the buyer's broker were located in New York and the broker took delivery for the buyer, it is probable that only New York's blue sky law would apply regardless of the buyer's residence (Loss & Cowett 1958). Thus, blue sky laws did not create a broadly applicable mandatory disclosure system. State public utility laws and the federal

Interstate Commerce Act imposed some disclosure requirements on public utilities and interstate railroads, respectively, to aid in rate regulation.

The Securities Act became law on May 27, 1933 and required registration with the Federal Trade Commission (FTC) of any securities sold to the public on or after July 27, 1933. Because the Act permitted sales no sooner than 20 days after filing, the FTC accepted registration statements beginning on July 7. The statute included a schedule of required disclosures but gave the FTC broad authority to determine their form and content. Accordingly, in early July 1933, the FTC adopted Form A-1 as the primary registration form. Additional forms were adopted over time for various categories of issuers and offerings.

The Exchange Act became law on June 6, 1934. It required each company with securities listed on an exchange to file an application (also called a registration statement but distinct from a Securities Act registration statement) and then to update the required information annually. The statute also created the Securities and Exchange Commission (SEC) and made it the administering agency for both the Securities Act and Exchange Act, replacing the FTC. In September 1934, the SEC announced that it would grant temporary registration until June 30, 1935 to companies already listed on an exchange. In February 1935, it adopted Form 10, the primary form for permanent registration. Form 10 requires narrative and financial information about the company substantively similar to that of Securities Act Form A-1. Initial Form 10s were due no later than July 1, 1935, the day after temporary registration expired.

Importantly, one cannot determine on a priori grounds whether the disclosures required in Securities Act and Exchange Act filings should have improved traders' ability

to value securities issued by NYSE-listed companies. Form A-1 calls for information similar to that required for an initial listing on the NYSE and Form 10 calls for information similar to the NYSE's ongoing disclosure requirements for listed companies. The listing requirements are discussed in Meeker (1930) and include narrative descriptions of the company's business, legal status (when and where incorporated, for example), management, properties, capital structure, terms of outstanding debt, the purpose of the new issue and associated expenses, and financial statements. The securities law forms, however, describe the required information in more detail than do the listing standards and have fewer qualifications such as "if available." The difference is notable in the case of financial statements. The listing standards require "earnings for the preceding five years, if available with interest charges, depreciation, and federal taxes," while Form A-1 provides a list of more than 40 potentially required line items in the income statement.

Form A-1 and Form 10 also require some notable disclosures not contained in the listing standards, such as management's compensation, transactions between the company and its directors, officers, underwriters, and promoters, a list of principal shareholders and their holdings, and a description of any contracts not made in the ordinary course of business. As Mahoney (1995) and La Porta, Lopez-di-Silanes and Shleifer (2005) note, such disclosures inform shareholders about potential sources of misappropriation and managers accordingly have an incentive not to make them.

The securities laws were motivated partly by a belief that the NYSE's disclosure requirements, although impressive on paper, were not vigorously enforced (Seligman 1983). The Securities Act and Exchange Act created liabilities for erroneous disclosures

and gave the FTC (later the SEC) the authority to prevent companies from selling securities to the public if it concluded that the disclosures were incomplete or misleading. Even if the content of the mandated disclosures were identical to the NYSE-required disclosures, then, the SEC-required disclosures could be informative if the enforcement mechanisms made them more reliable.

1933 and 1934 were moribund years for public offerings. Moreover, some of the major investment banks, unhappy with the Securities Act's liability provisions, refused to underwrite new issues while they bargained (successfully) with Congress to reduce underwriters' statutory liabilities (Seligman 2003). Perhaps to ward off criticism, the FTC (and later the SEC) publicized its work by issuing press releases that listed the most recent registration statement filings and occasionally made a pitch for more new issues by arguing that the registration process was less difficult and costly than critics claimed. These press releases, which are available through the LEXIS/NEXIS service, were issued at least weekly. A filing by a prominent company was often the subject of a stand-alone press release, typically issued the day after the filing. In March through June 1935, the SEC also issued press releases nearly every business day identifying the listed companies that had filed Form 10 registration statements required under the Exchange Act.

3. Prior studies of the securities laws

Stigler (1964) studies the Securities Act's impact on investors in new stock issues. He compares market-adjusted returns, excluding dividends, for samples of new issues during 1923-28 and 1949-55 and finds that two-year compounded annual returns are approximately the same for both groups. He finds differences over longer time periods but attributes them to specification error. Stigler also notes that the cross-sectional

variance of these returns is lower for the post-Securities Act sample and concludes that the Act drove out higher-risk securities. Jarrell (1981) carries out a similar study using a market- and risk-adjusted approach derived from the Capital Asset Pricing Model, with qualitatively similar results.

Simon (1989) also studies new issues before and after the Securities Act but partitions her sample based on assumed levels of pre-Securities Act informational asymmetry. In particular, she distinguishes initial public offerings from issues of seasoned companies, arguing that seasoned companies may have a larger reputational incentive to provide high-quality voluntary disclosure. She similarly distinguishes companies listed on the NYSE, and therefore subject to its disclosure standards, from unlisted companies. Simon finds no evidence of a post-SEC change in average abnormal monthly returns, cumulated for up to 60 months, for companies that were seasoned or traded on the NYSE. The performance of unseasoned companies not traded on the NYSE, however, improves after 1933, leading Simon to conclude that mandatory disclosure provided useful information when neither reputation nor third-party bonding was available to provide appropriate incentives for voluntary disclosure. Simon also finds that the cross-sectional variance of long-run abnormal returns decreases after 1933. Contrary to Stigler, she interprets this as a reduction in forecast errors resulting from lower informational asymmetry rather than a reduction in risk.

Benston (1973) considers the effects of the financial disclosures required by the Exchange Act. Like Simon, he partitions his sample based on a proxy for pre-Exchange Act informational asymmetry. Benston contends that prior to the Exchange Act, a large majority of NYSE companies disclosed the main financial statement line items later

required by Form 10, except for sales. He therefore compares average and cumulative abnormal market- and risk-adjusted returns over an approximately two-year period for firms that voluntarily disclosed sales prior to 1934 with those that did not and finds no significant difference.

Greenstone, Oyer and Vissing-Jorgensen (2004) study the effects of the 1964 extension of Exchange Act periodic disclosure to all OTC companies meeting certain size thresholds. They divide their sample firms into groups based on the extent to which the 1964 amendments altered their disclosure obligations. They find that the firms most affected by the statute, on average, earned positive cumulative weekly abnormal returns during the 20-month period beginning when the amendments were first proposed and ending when they were enacted. Greenstone et al. also find that the affected firms earned positive abnormal returns over a 10-week period around the time they filed their first disclosure document.

删除的内容: make use of the fact that companies were affected differentially by the 1964 amendments. Following a 1936 amendment, any OTC company that sold securities in a public offering registered under the Securities Act thereafter became subject to most of the Exchange Act's periodic disclosure requirements. Thus, some OTC firms were required to file periodic disclosures with the SEC prior to 1964, but others were not. Listed companies, of course, were already subject to periodic disclosure. Thus, Greenstone et al.

Ferrell (2004) also studies abnormal returns for OTC companies around the time of the 1964 amendments. Using monthly data and a slightly longer event window, he obtains results qualitatively similar to those of Greenstone et al. Ferrell also finds that the cross-sectional variance of returns, as well as the average time-series variance, falls for OTC stocks after the 1964 amendments and concludes that investor forecast errors declined because of the mandated disclosures.

Daines and Jones (2005) test whether bid-ask spreads fall after the first half of 1935, when companies made their first Exchange Act filings. Following Benston (1973), they partition their sample based on the informativeness of the companies' pre-SEC accounting statements. Although our basic approach is similar, we use daily rather than

monthly data and test around actual filing dates. We also use a different method of partitioning the sample and employ additional tests for changes in informational asymmetry.

Unlike most of the prior literature, we do not focus on long-run returns. Instead, we look at short-run changes in bid-ask spreads, liquidity, volatility, and return autocovariance around the time of companies' filings rather than long-term returns after enactment of the relevant statute. There are several reasons to believe that this approach may provide a more appropriate test of whether the securities laws reduced informational asymmetry. First, the measurement of long-run abnormal returns is vulnerable to specification error. This is surely a concern for any studies that include the 1930s, when the economy was in severe distress followed by recovery.

Second, long-term returns may underestimate the impact of reduced informational asymmetry depending on the length of the interval over which returns are measured. Consider a company that unexpectedly improves its disclosure practices, either voluntarily or because of a change in law. If the new disclosure regime reduces investors' uncertainty about future company performance, the risk of holding the stock will decline. Expected returns should therefore decline as well, leading to a one-time jump in price. Long term cumulative returns combine these two return components—an abnormally high short-term return around the time of the new disclosure regime, followed by a drop in long-term returns. These two components offset partly or entirely, depending on the length of time over which long-run returns are measured. Figure 1 shows the analysis graphically.

In addition, our research focus differs somewhat from that of the prior literature. We do not attempt to determine whether the Securities Act or Exchange Act were, on balance, beneficial to investors. Rather, we ask simply whether the disclosures mandated by the FTC and SEC under authority of those statutes constituted information as to companies already listed on the NYSE. Alternatively, one might pose the question as whether the NYSE's disclosure requirements already produced information substantively identical to that mandated by the securities laws. We believe this is a critical policy question because it sheds light on whether disclosure regulations need to be concerned with companies traded on relatively liquid, organized markets.

4. Data and Methodology

Our basic research design is to compare various microstructure measures that proxy for changes in information asymmetry for brief periods before and after a Securities Act or Exchange Act filing. We use daily return, volume and bid and ask quotation data obtained from the Center for Research in Security Prices at the University of Chicago (CRSP). At the time of writing, CRSP was in the process of extending its daily data back to 1926 and had produced a preliminary "beta cut" covering the years 1926-1935. Our study uses the preliminary data.[1]

During both pre- and post-filing periods, we measure common proxies for informational asymmetry. Leuz and Verrecchia (2000) use percentage bid-ask spreads, turnover, and return volatility as proxies for informational asymmetry to analyze the decision of some German companies to adopt more transparent financial accounting

[1] The CRSP daily data end at December 31, 1935. For two of our sample companies, the 30-day post-filing window ends three or four business days after that date. We hand-collect price, bid-ask spread, and volume data for those two companies from the *New York Times*, the underlying source of the CRSP data.

standards. Leuz (2003) uses bid-ask spreads and turnover as proxies while comparing U.S. generally accepted accounting principles and international accounting standards.

Bid-ask spreads are widely viewed as a direct measure of informational asymmetry because rational market makers respond to adverse selection risk by increasing their quoted spreads (Glosten & Milgrom 1985). We accordingly take the percentage spread (the difference between daily closing ask and bid prices divided by their midpoint) as our first proxy.

Published bid-ask spreads will not capture the effective spread if trades take place inside the quoted bid and ask prices. Roll (1984) argues that the covariance of successive price changes provides a measure of the effective spread. He notes that random arrival of buy and sell orders should produce negative covariance between returns and lagged returns as prices "bounce" between the (effective) bid and ask prices. If the effective spread decreases but the pattern of order arrival remains the same, the absolute value of the autocovariance (which, unlike correlation, is sensitive to scale), will decrease as well. We accordingly measure the first-order autocovariance of daily returns and use it as a proxy for effective spreads.

Diamond and Verrecchia (1991) demonstrate that informational asymmetry and liquidity are inversely related.[2] Intuitively, uninformed traders should be more willing to trade as the risk of making losing trades to better-informed traders decreases. We use share turnover as defined by Lo and Wang (2000)—the number of traded shares divided by total shares outstanding—as our first proxy for liquidity. We also use a separate proxy appropriate to our setting. Bekaert et al. (2005) contend that in emerging markets, the

[2] In this paper, we define liquidity narrowly as how frequently a stock is traded. In general, liquidity often describes the ease of matching buyers and sellers and also transaction costs.

percentage of days on which a stock does not trade serves as a natural measure of liquidity.[3] Jiang, Mahoney and Mei (2005) note that no-trade days are common for individual stocks on the NYSE in the late 1920s. We therefore use the percentage of no-trade days as an additional liquidity measure.

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Following Leuz and Verrecchia (2000), we also measure the time-series volatility (standard deviation) of returns before and after registration statement filings while recognizing that this may be a less reliable measure of informational asymmetry. West (1988) argues that idiosyncratic volatility should be decreasing in informational efficiency, and Kelly (2005) provides confirming empirical results. Nevertheless, as Kelly notes, one could argue alternatively that rapid reflection of information should lead to more nearly discontinuous jumps in prices and thus higher volatility.[4]

We apply these measures to a sample of companies that filed Securities Act registration statements and then to a sample of companies that filed Exchange Act registration statements. We identify every NYSE-listed firm that filed a Securities Act registration statement and the dates of those filings during the period beginning July 7, 1933 (the first day on which registration statement filings were accepted) and ending in early November 1935. To do so, we check by hand the FTC and SEC press releases described above against a list of NYSE companies. In all, 58 NYSE-listed companies filed 70 registration statements during our sample period. In a few instances, the same company filed two registration statements covering different classes of securities within a few weeks of each other. In those cases, the company-specific information in the two

[3] Technically, they use days on which there is no price change as a measure of liquidity because their data do not include trading volumes.

[4] Campbell, Lettau, Malkiel and Xu (2001) also show that large idiosyncratic volatility at the aggregate level is an indication of more efficient stock market.

filings should be essentially identical, so we consider only the first filing. This reduces our final sample to 65 registration statements. Table 1 lists the sample companies, their registration statement filing dates, and the type of security sold. Because our tests require pre-event data, we limit ourselves to seasoned offerings. Our sample therefore does not include initial public offerings.

We also collect Form 10 filing dates (that is, the date on which the company registered under the Exchange Act) for all NYSE listed companies. We begin with the 696 companies listed on the NYSE for which CRSP has daily data as of January 1, 1935. The SEC temporarily exempted non-U.S. companies from the filing requirement, which eliminates five companies. We also eliminate interstate railroads (SIC code 4000) because they were already subject to mandatory disclosures under the Interstate Commerce Act. The SEC adopted a separate registration form for railroads that incorporated the disclosures they were already required to make. Of the remaining 636 companies, we are able to identify Exchange Act filing dates for 604, or 95%. We lose an additional six companies because of missing data, leaving us with a sample of 598 companies.

Our pre-filing and post-filing windows vary depending on whether the filing was made under the Securities Act or the Exchange Act. The Securities Act mandates a "quiet period" around the time of the initial filing, during which the issuing company and its underwriters may not publicize the offering. The issuing company and its underwriters typically waited a brief period while the SEC reviewed the registration statement filing, then distributed a preliminary version of the prospectus (Loss & Seligman 1989). Thus, the registration statement contents became public knowledge

only with a delay. It is also unlikely that members of the underwriting syndicate would have traded on the information contained in the registration statement during the quiet period, given the SEC's view that such trading may be manipulative.

We define a pre-filing period of 30 trading days ending 20 trading days prior to the filing and a post-filing period of 30 trading days beginning 20 trading days after the filing.[5] The Securities Act provides that a registration statement becomes effective, and the securities can therefore be sold, 20 calendar days after filing. This 20-day period is subject to various exceptions, but it is clear from SEC press releases that—contrary to current practice—most registration statements did become effective after only 20 calendar days in the early 1930s. The Act also required that each purchaser receive a prospectus containing most of the information contained in the registration statement. We therefore believe that the information in a registration statement should be widely available to the market by the start of our post-filing period. To the extent the disclosures in the registration statements constitute information, informational asymmetry should be lower in the post-filing than in the pre-filing period.

Although the FTC or SEC press releases usually provide the actual filing dates for Securities Act registration statements, in a few cases they do not. We then assign a filing date based on the average delay between filings and press releases. Because there is a 40 trading-day window between our pre-filing and post-filing periods, a few days' error in estimating filing dates should not matter. The earliest filing date in our sample is August 28, 1933 and the latest is November 4, 1935; the median filing month is May, 1935.

[5] As a check, we also test a "before" period consisting of the 30 days ending on day -1 and an "after" period consisting of the 30 days beginning on day +1. Our results are not sensitive to the precise time period studied.

It is not clear how long any changes in spreads, liquidity, and volatility should persist after the dissemination of a disclosure document, assuming that document reduces informational asymmetry. Leuz and Verrecchia (2000) and Diamond and Verrecchia (1991) argue that a commitment to improved disclosure should have stronger and more durable effects than a single voluntary disclosure. We believe that the initial Securities Act or Exchange Act filings occupy an intermediate point on this scale—they demonstrate that the subject company intends to access the public (rather than private) capital markets and maintain a listing (rather than migrating to the over-the-counter market), thus committing to ongoing mandatory disclosures. In the event, however, our results remain qualitatively similar if we use shorter time periods or begin the "post-filing" measurement period immediately after a Securities Act filing.

Exchange Act filings, unlike Securities Act filings, should be rapidly reflected in transaction data. There is no "quiet period" for Exchange Act filings. Moreover, companies were required to provide the filing to the exchange on which they were listed simultaneously with the filing. Member brokers, then, should have had access to any news contained in a Form 10 from the day of filing. We accordingly define the pre-filing period as the 30 trading days ending on day -1 and the post-filing period as the 30 trading days beginning on day +1. Day 0 is the day on which the SEC announced the filing, which may have been the day of or the day after the actual filing.

It is also important to note that most of our sample companies had publicly released their annual reports weeks or months in advance of their Form 10 filings. Thus, the companies' earnings and other basic financial results for 1934 should already have been reflected in prices at the time of the Form 10 filings. By contrast, the Form 10 filing

was the first occasion on which many NYSE companies disclosed detailed information about management compensation and principal shareholdings. The *New York Times* summarized this information for many NYSE companies on the day after the filing, again suggesting that the information should be rapidly reflected in trading data.

5. Effects of Securities Act and Exchange Act filings

I. Post-filing changes in informational asymmetry measures

Table 2 summarizes the pre-filing measures of information asymmetry for the 58 sample companies that filed Securities Act registration statements. Panel A provides data on average bid-ask spreads, first order autocovariance, turnover, no-trade days, and volatility for the sample companies during the pre-filing period. As a basis for comparison, Panel B provides the same measures for a control sample. For each sample company in Panel A, we construct an equally-weighted portfolio of all NYSE stocks with the same 4-digit SIC code as the sample company. We then calculate the same measures for each portfolio during the pre-filing period for the relevant sample company.

The sample firms have lower average bid-ask spreads and fewer no-trade days than their associated control stocks, providing some evidence that the sample firms have lower informational asymmetry even before they file a disclosure document. While the differences are not statistically significant at 5% level, this raises the slight possibility of self-selection bias. It is possible that only firms that already disclosed voluntarily most of what was required by Form A-1 chose to file registration statements and raise new capital through public offerings (rather than, for example, private placements or bank financing, which did not require registration). In that event, we would expect registration statement

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filings to have no effect on information asymmetry even if the Securities Act's disclosure requirements represented an improvement over the NYSE's disclosure requirements.

As a separate basis for comparison, we also identify companies that sold securities in unregistered offerings. The Securities Act exempts from its registration and disclosure requirements any sale of securities "not involving any public offering." We are able to identify 18 NYSE-listed companies that undertook private placements not registered under the Securities Act during our sample period. Our data source is the litigation record from *U.S. v. Morgan*, an antitrust case that the federal government brought against major underwriting houses in the late 1940s. The government and defendants compiled and stipulated to the accuracy of a comprehensive list of public and private offerings of securities from July 26, 1933 to December 31, 1949. Bound volumes containing this list are housed at the University of Virginia Law School Library.

Panel C in Table 2 contains summary data for the 18 companies undertaking private placements. The Securities Act filers are, on average, smaller than the companies in this sample. However, their bid-ask spreads are narrower (although not significantly so and the autocovariance is actually more negative) and they are noticeably more liquid (only turnover, by a statistically significant amount). Thus, we do not have strong evidence for a selection bias.

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In Table 3, we compare pre- and post-filing data for each of the 65 Securities Act registration statement filings. The changes are in the direction we would expect if the registration statement disclosures reduce information asymmetry for the bid-ask spread, return autocovariance, no-trade day and volatility measures. The changes in

autocovariance and no-trade days are economically important, although only the change in no-trade days is significantly different from zero.

These results provide only modest evidence that Securities Act filings constituted information as to companies already subject to NYSE disclosure policies. However, this could be a consequence of a small sample and consequently low power or a result of self-selection by companies filing Securities Act registration statements.

Fortunately, Exchange Act filings should not be subject to either of these complications. Because nearly all NYSE firms were required to, and did, file Form 10s, the set of Exchange Act filers is much larger than that of Securities Act filers and the power of our tests will be accordingly larger. For the same reason, Exchange Act filings should not be subject to self-selection bias. An NYSE listed company could avoid Exchange Act registration only by delisting from all exchanges and limiting itself to the over-the-counter market. It is clear that very few firms did so. The CRSP daily data set contains 692 NYSE-listed firms as of June 30, 1933 (a date selected to capture only firms that survived the bank crisis of early 1933). All but 19 were still listed on July 1, 1935. The stock prices of several of those companies declined below one dollar per share just before delisting, suggesting that the delisting was a consequence of bankruptcy. Exchange Act filings should accordingly raise little or no self-selection problem.

Figure 2 shows cross-sectional averages of bid-ask spreads and turnover, and the percentage of sample firms that failed to trade, for each day from -30 to +30 in event time. Day zero for each sample company is the day on which the SEC announced the company's Form 10 filing. The announcements appear to have taken place either the day

of or the day after the actual filing. There is clear improvement in each of the three measures after the filing date.

Table 4 compares all five measures of informational asymmetry before and after filings. We calculate time series averages for each measure for each company for the 30 days just before and the 30 days just after the filing and report cross-sectional averages for both the pre-filing and post-filing periods. Each measure except return autocovariance moves in the direction that suggests reduced informational asymmetry and each change is significantly different from zero.[6] Unlike the Securities Act results, then, there is clear evidence consistent with the Exchange Act having reduced informational asymmetry.

Just as there was reason to be cautious about the lack of results in the test of Securities Act filings, so there is reason to be cautious about the positive results here. The Exchange Act filing dates are tightly clustered—roughly 95% of our sample filed during April and May 1935. There was a steady trend of improved spreads and liquidity from late 1934 through early 1935 as economic conditions improved, so our results could be picking up general market movements rather than the effects of Exchange Act filings. We attempt to control for these effects using a difference in differences test.

II. Difference in Differences Estimates

The before-and-after analyses to this point are simple comparisons of means. In the case of Securities Act filings, the offering itself has an information content separate from that of the accompanying disclosures for which we have not controlled. Fortunately, we have a reasonable—but small—control sample consisting of companies that made

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[6] Once again, these results are robust to using a shorter window after the Form 10 filings.

private placements. Any changes in spreads, liquidity, or volatility caused by the fact of raising new capital should be similar between the registered and unregistered offerings. Only the former, however, were subject to mandatory disclosure under the Securities Act.

Table 5 shows the post-filing change in spreads, liquidity, and volatility for the companies making registered public offerings and private placements, respectively, and the difference between them. The signs of the difference-in-differences do not reliably indicate reduced informational asymmetry and none of the estimates is significantly different from zero. In general, the post-filing behavior of the unregistered offerings is quite similar to that of the registered offerings, suggesting that any changes are a consequence of capital raising rather than disclosure.

We lack a similar control sample for Exchange Act filers because all exchange-traded companies were required to file a Form 10 registration statement in the first half of 1935. Accordingly, we exploit the small differences in the timing of filings among our sample companies.

We create two subsamples from our sample of Exchange Act filings as diagrammed in Figure 3. An "early filer" subset consists of those companies that filed Form 10s during the period April 1-15, 1935 and a "late filer" subset consists of filers during the period May 16-30, 1935. For both subsets, we calculate each of our measures of informational asymmetry during the month of March 1935 (the "first measurement period" shown in Figure 3) and again for the period April 16-May 15, 1935 (the "second measurement period"). Each of the "early filer" companies filed a Form 10 between these two periods, while none of the "late filer" companies did so; their filing status was unchanged from the first to second measurement period. If Exchange Act filings reduced

informational asymmetry, then the early filers should show improvement from the first to second measurement period while the late filers should not. If, by contrast, the changes we have observed in informational measures resulted from general market conditions, both subsets should behave similarly.

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We then repeat the test comparing measures during the second measurement period (April 16-May 15) and the month of June 1935 (the "third measurement period" shown in Figure 3). In this case the late filers filed Form 10s between the second and third measurement periods, while the early filers had already filed by April 15 and therefore did not change their filing status between measurement periods. If Exchange Act filings contain information, the late filer group, but not the early filer group, should show improvements in information asymmetry measures. Combining the two tests, each subset serves as a control group for the other, permitting us to use a difference-in-differences estimator.

Table 6 shows the before-and-after changes for the early and late filer subsets. Panel A shows the changes from the first to second measurement periods, while Panel B shows the changes from the second to third measurement periods. In Panel A, each of the 5 measures is in the direction indicating reduced informational asymmetry for both subsets, and 4 of the 5 are significantly different from zero. In Panel B, by contrast, most of the changes are not significantly different from zero for either subset and in some cases the signs are not as expected. Most important, the difference-in-differences, reported in the last row of each panel, are small and not statistically different from zero in each case.

(These results show that the apparent improvement in informational asymmetry around the time of Exchange Act filings is only apparent—companies that did not file until later showed identical improvement to companies that filed in early April. PM: I do not understand what this means.) The improvement in bid-ask spreads and liquidity was a market-wide phenomenon probably reflecting the temporary economic recovery in 1935. The difference between Panel A and Panel B also shows that the market-wide moves are largely concentrated in the early part of the sample period.

We cannot, of course, rule out the possibility that market-wide improvements were themselves a consequence of the new regulatory structure. There may have been some uncertainty in early 1935 about whether NYSE firms would be able and willing to comply with the Exchange Act. Some companies announced that they would challenge the constitutionality of the registration requirement. Perhaps once it became clear that most NYSE listed companies would submit to SEC oversight, that uncertainty was largely resolved and market conditions improved in consequence. The tests described in section 6 are designed to deal with this possibility.

III. Regression-adjusted model

One possible concern with the difference in differences results for Exchange Act filers is that the companies that filed in early April could differ systematically from those that filed in late May. There is no readily apparent evidence that the filings were strategically timed—it appears that companies whose fiscal years ended in September, October or November tended to file earlier than those whose fiscal years ended at December 31. Nevertheless, we use a cross-sectional regression to control for other differences among filers. In particular, we consider firm size, as measured by the log of

average market capitalization for the month of March 1935. We also employ the industry dummy variables defined by Fama and French (1997).

We estimate the following regression for each of our five proxies for informational asymmetry:

$$\Delta ASYMM_i = \alpha + \beta CAP_i + \gamma \mathbf{IND}_i + \delta D_i \ , \qquad (1)$$

where for each stock i, $\Delta ASYMM_i$ is the change in the various measures from March 1935 to mid-April/mid-May 1935 (the first to second measurement periods of Figure 2), CAP_i is the log of market capitalization, ***IND*** is a vector of industry dummies, and D_i equals one if the company is an early filer and zero otherwise. We then repeat the regressions with the second measurement period of Figure 2 as the "before" and the third measurement period as the "after" period. For those regressions, we define D_i as one for late filers and zero for early filers. In all regressions, therefore, the coefficient δ estimates the effect of filing a Form 10 registration statement.

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The results, with industry dummies suppressed, are shown in Table 7. Market capitalization enters significantly in many of the specifications. However, in none of them is there a significant difference between the early and late filer categories, and the estimated coefficients often have the wrong sign.[7] To this point, then, we have no strong evidence that Securities Act or Exchange Act filings are associated with reductions in informational asymmetry.

[7] We estimated similar regressions for the Securities Act filings, but because of the small sample they have very low power and almost none of the estimated coefficients are significantly different from zero. We do not report those results here.

IV. Another Measure of Information Asymmetry

As a final check, we use a conditional measure of information asymmetry inspired by Wang (1994) and Llorente et al. (2001). They note that the price changes induced by large liquidity trades are likely to reverse in the short run, while those induced by large informed trades are likely to continue. The intuition is that the price move induced by a large liquidity trade is a consequence of market makers' costs of accommodating the trader and are likely temporary. By contrast, the price move induced by a large informed trade is permanent. Indeed, the initial trades of an informed trader may result in only partial incorporation of their information into prices. Thus, returns in the next period will likely have the same sign as the information is more fully incorporated (Wang 2004). Llorente et al. hypothesize and provide evidence that returns, conditioned on volume, are positively correlated when informed trading dominates and negatively correlated when liquidity trading dominates. Grishchenko, Litov and Mei (2002) suggest that the direction and magnitude of return autocorrelation conditioned on turnover may function as a measure of information asymmetry in an emerging market.

We estimate the following regression designed to capture the dynamic volume-return relation before and after Securities Act or Exchange Act filings:

$$RET_{i,t+1} = \alpha + \beta RET_{i,t} + \gamma RET_{i,t} * TURNOV_{i,t} + \theta RET_{i,t} * TURNOV_{i,t} * D_{i,t}, \qquad (2)$$

where for stock *i* on date *t*, $RET_{i,t}$ is return, $TURNOV_{i,t}$ is turnover, and $D_{i,t}$ equals one if day *t* is in the post-filing period for stock *i* and zero otherwise. Because the time series of daily turnover is nonstationary (Lo and Wang, 2000), Llorente et al. use the log of turnover and detrend by subtracting a 200-day moving average. We use two

specifications of TURNOV, consisting of nominal turnover and the natural log of turnover, in each case divided by its prior 200-day moving average.

In the model, the coefficient β measures the unconditional correlation between returns on consecutive days, while γ measures the change in return autocorrelation conditional on turnover. A positive value of γ suggests that returns on a high-volume day and the following day are generally of the same sign, suggesting that informed trading dominates and therefore that information asymmetry is relatively large. If Securities Act and Exchange Act filings reduce informational asymmetry, we would expect γ to drop in value from the pre-filing to the post-filing period, producing a negative θ coefficient.

Table 8 presents the regression results. The regression is jointly estimated across all stocks in the Securities Act filing sample (Panel A) or the Exchange Act filing sample (Panel B), in each case using 30 trading days of pre-filing data and 30 trading days of post-filing data. The β coefficient is positive and significant, suggesting that there might be some under-reaction to news or private information trading. The coefficient for γ is negative but not significant. The estimated coefficient θ has the expected sign but is insignificant. We also find that the results are quite robust to different specifications of TURNOV. Once again, we fail to find evidence that securities law filings reduced informational asymmetry.

6. Effects of earnings reports

Another means of determining whether the securities laws improved the informational environment is to consider the effects of earnings reports. Securities law *filings* may not be informative even though the securities laws improved the

informational environment for listed companies. Once listed companies realized that they would be subject to SEC filing requirements on an ongoing basis, they may have improved the quality of their voluntary disclosures to match the information they would be disclosing in regulatory filings. This would tend to decrease the informational impact of the regulatory filings themselves. Bailey, Kaorlyi and Salva (2004) find that the market impact of earnings announcements increases when non-U.S. firms list in the United States, which is consistent with the hypothesis that shifting to a better disclosure regime improves the quality of earnings announcements.

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To investigate this possibility, we test whether shareholder reports and earnings announcements became more informative after enactment of the federal securities laws. We hand-collect corporate earnings reports from the *New York Times* during two sample periods. The first is January through March 1927, a period when the federal securities laws, the rapid run-up in equity prices of 1928-29, and the 1929 market crash were all in the future. The second period is January through March 1935, after enactment of both of the principal securities laws and the creation of the SEC.

During both periods, some companies issued "preliminary" earnings announcements before filing their financial statements with the NYSE and submitting annual reports to shareholders. Some also made quarterly earnings announcements. For other companies, the newspaper reports summarized either the NYSE filings or shareholder reports. In all, we found 222 earnings reports during the first quarter of 1927 and 452 during the first quarter of 1935. The number could be smaller in 1927 because only companies with relatively good news to report made public earnings announcements during the pre-SEC era, although this does not seem likely. The *New York Times*

presumably had access to annual reports and NYSE filings whether or not given them by the companies. Moreover, roughly 40% of the news stories we found from 1927 reported lower earnings in comparison to the relevant period of the prior year. It therefore seems likely that the difference reflects decisions by the newspaper rather than the companies. [PM: How many stocks were in 1927 vs 1935? The difference might explain fewer observations in 1927.]

Figures 4 and 5 show cross-sectional averages of bid-ask spreads, turnover, and stocks not traded before and around the time of earnings reports. In comparison to Figure 2, these show much more conventional patterns of temporary moves immediately around the time of a voluntary disclosure with some information leakage in the day or two prior.

Importantly, the plots do not show a larger reaction to earnings reports in 1935, suggesting that traders did not view them as more credible or high-quality than in 1927. We test whether this is so by looking at the comparative post-announcement changes in our microstructure measures, focusing on a short event window. Following Bhattacharya et al.'s (2000) study of earnings announcements in Mexico, we focus on days -1 to +2 in event time, where day zero is the day the report appeared in the *New York Times*.

Table 9 shows post-announcement changes in bid-ask spreads, turnover, no-trade days and volatility for the 1927 and 1935 earnings reports. Because our event window is only 4 days long, we do not measure return autocovariance. In both 1927 and 1935, liquidity increases by an economically and statistically significant amount around the time of earnings reports. Bid-ask spreads decrease in both instances, although only the 1927 difference is significantly different from zero. There is, however, strong evidence that earnings reports in both years reduce informational asymmetry.

Importantly, the reduction is not greater in 1935. Not surprisingly, background market conditions are much better in 1927—trading costs as measured by bid-ask spreads are much lower and liquidity is much higher. But the percentage improvement in these measures around the time of an earnings report is in each case either greater than or the same as that in 1935. This result is robust to controlling for market capitalization, whether the earnings increased or decreased year-on-year, and whether the earnings report is described as "preliminary." There is no evidence that the securities laws improved the informativeness of company disclosures generally.

7. Conclusions

This paper employs a new methodology for evaluating the effects of mandatory disclosure. We look for changes in the short-run trading behavior of the affected stocks around the time the company filed a disclosure document, using high frequency (daily) data and focusing on microstructure measures that can provide evidence of reduced informational asymmetry. We fail to find evidence that the securities laws of the 1930s improved the informational environment for investors in companies already traded on the NYSE. Our results, like those of Simon (1989), suggest that the NYSE's disclosure requirements already provided investors with information of equivalent content and reliability to that available under the securities laws.

There are, however, two important limitations to keep in mind when considering lessons for other markets. First, the NYSE had a dominant market position and was therefore able to induce companies to agree to disclosure standards that they may not have otherwise been willing to accept. In that sense, the NYSE's experience in enforcing

a contractual disclosure system may be better than could be achieved by a less powerful securities exchange.

Second, the United States in 1930 had a well-functioning legal system capable of enforcing contracts and deterring fraud. The federal securities laws added another "cop on the beat," but (despite the claims of the laws' proponents) the market was not completely lawless prior to the SEC's arrival. In the context of an efficient and non-corrupt legal system, our findings suggest that a securities regulator may not improve much on the results of voluntary and contractual disclosures.

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Table 1: Securities Act filings, NYSE companies, 1933-35

Company	Filing Date	Type of security
Laclede Gas and Light Co.	19330828	debt
	19350731	debt
Peerless Motor Car Corp.	19331009	common stock
	19341006	common stock
Mathieson Alkali Works, Inc.	19331205	common stock
Western Dairy Products Co.	19331229	preferred and common stock
American Type Founders Co.	19340203	certificate of deposit
American Water Works and Electric Co.	19340208	debt, common stock
Univeral Pipe and Radiator Co.	19340224	common stock
Electric Auto-Lite Co.	19340331	unknown
Callahan Zinc Lead Co.	19340719	common stock
National Distillers Products Corp.	19340731	common stock
	19350502	debt
Thermoid Co.	19341006	convertible preferred
Republic Steel Corp.	19341027	convertible preferred
Follansbee Brothers Co.	19341119	certificate of deposit
Chesapeake Corp.	19341201	convertible debt
American Writing Paper Inc.	19341208	certificate of deposit
Mengel Co.	19341226	certificate of deposit
Kelly Springfield Tire Co.	19350223	certificate of deposit
Consolidated Oil Corp.	19350228	debt
Pacific Gas and Electric Co.	19350311	debt
	19350607	debt
	19350910	debt
Standard Gas and Electric Co.	19350316	debt
United Biscuit Company of America	19350316	debt
Commercial Credit Corp.	19350328	convertible preferred
Marlin Rockwell Corp.	19350330	common stock
Union Bag and Paper Corp.	19350330	common stock
Southern California Edison Co.	19350330	debt
	19350611	debt
	19350823	debt
Reynolds Metals Co.	19350330	convertible preferred
Addressograph-Multigraph Corp.	19350408	debt
Union Oil Company of California	19350412	debt and convertible debt
National Steel Corp.	19350506	debt
Glidden Co.	19350507	common stock
Brooklyn Manhattan Transit Corp.	19350509	debt
American Rolling Mill Co.	19350513	convertible debt
Monsanto Chemical Co.	19350517	convertible debt
Bethlehem Steel Corp.	19350611	debt
Edward G. Budd Manufacturing Co.	19350612	common stock
Allegheny Steel Co.	19350624	common stock

Spiegel May Stern Inc.	19350626	common stock
Pure Oil Co.	19350627	debt and common stock
B.F. Goodrich Co.	19350628	debt
Reynolds Spring Co.	19350628	common stock
Commercial Investment Trust Co.	19350629	convertible preferred
American Seating Co.	19350629	convertible debt
Brown Shoe Inc.	19350710	debt
Cudahy Packing Co.	19350715	debt
Loose-Wiles Biscuit Co.	19350725	preferred stock
Granite City Steel Co.	19350729	common stock
Socony-Vacuum Oil Co.	19350823	debt
American Zinc, Lead and Smelting Co.	19350827	preferred stock
Detroit Edison Co.	19350905	debt
Pacific Lighting Co.	19350918	debt
Anaconda Copper Mining Co.	19350925	debt
Crown Cork and Seal Co., Inc.	19350927	debt
A.P.W. Paper Co.	19350928	debt and common stock
Ludlum Steel Co.	19351002	common stock
Allis-Chalmers Corp.	19351014	convertible debt
Columbia Pictures Corp.	19351022	convertible preferred
Auburn Automobile Co.	19351102	convertible debt
International Cement Corp.	19351104	convertible debt

The table identifies every NYSE-listed firm that filed a Securities Act registration statement prior to November 5, 1935 (data availability determined the cut-off date). When a company filed two registration statements within less than 2 months' time, we omit the second. Companies listed as registering certificates of deposit are undergoing reorganization because of financial distress. In those instances, the filer is technically a protective committee for a series of debt securities.

Table 2
Securities Act filers compared to industry portfolios and private sellers

	Market Capitalization ($ thousands)	Bid-ask spread (%)	Return Autocovariance (x 1000)	Daily Turnover (%)	No-trade days (%)	Volatility (%)
			Panel A: Companies making a registered public offering (n=58)			
Mean	36,010	4.426	-0.407	0.233	16.288	3.578
Standard deviation	62,049	5.351	1.263	0.449	22.566	3.012
Median	15,264	1.945	-0.077	0.093	3.333	2.678
			Panel B: Industry-matched portfolios (n=58)			
Mean	50,661	5.863	-0.319	0.224	22.416	3.570
Standard deviation	45,558	3.880	0.426	0.603	15.268	1.088
Median	39,599	5.393	-0.213	0.103	21.368	3.533
			Panel C: Companies making a private placement (n=18)			
Mean	57,790	4.609	-0.198	0.098	26.558	3.430
Standard deviation	64,412	5.898	0.510	0.127	31.813	3.310
Median	25,929	3.201	-0.012	0.050	8.333	2.334
Difference in means, Panel A vs. B (p-value)	0.108	0.094	0.614	0.925	0.058	0.985
Difference in means, Panel A vs. C (p-value)	0.405	0.908	0.310	0.045	0.216	0.866

The sample in Panel A consists of all NYSE listed companies that filed registration statements for public securities offerings between July 7, 1933 and November 15, 1935. The measurement period consists of the 30 trading days ending 20 trading days prior to the filing. Market capitalization is the average value of publicly traded equity during the measurement period. Bid-ask spread is the time series average of closing ask price minus closing bid price, divided by their average. Autocovariance is the time series covariance between returns and returns lagged by one day, which we multiply by 1000 for ease of presentation. Turnover is the time series average of daily shares traded divided by shares outstanding. No-trade days is the percentage of days during the measurement period on which there were no transactions in the company's stock. Volatility is the time-series standard deviation of returns during the measurement period. Each sample company from Panel A is matched in Panel B with a portfolio of every other NYSE company with

the same 4-digit SIC code. We calculate the time series measures for each portfolio company for the same 30 trading-day period and then calculate a cross-sectional average for each portfolio. The sample in Panel C consists of all NYSE companies that made private placements of newly-issued securities between July 26, 1933 and December 31, 1935. The measurement period for these companies is the 30 trading days ending 20 trading days before the offering date.

Table 3
Informational asymmetry Measures before and after Securities Act filings

删除的内容: Spreads, liquidity, and volatility

	Bid-ask spread (%)	Return Autocovariance (x 1000)	Turnover (%)	No-trade days (%)	Volatility (%)
Before filing	4.381	-0.399	0.218	15.88	3.520
After filing	3.949	-0.172	0.204	11.06	3.277
Difference	-0.432	0.227	-0.014	-4.81*	-0.243
(standard error)	(0.435)	(0.150)	(0.037)	(2.04)	(0.215)

* denotes significance at the 5% level.
The "Before filing" period is the 30 trading days ending 20 trading days before the relevant sample company filed a Securities Act registration statement. The "After filing" period is the 30 trading days beginning 20 trading days after the same filing. The "before filing" totals are not identical to those in Panel A of Table 2 because the Table 2 averages include each filing company only once, while the present table includes multiple filings by some sample companies. All variables are defined consistently with Table 2.

Table 4

Informational asymmetry Measures before and after Exchange Act filings

删除的内容: Spreads, liquidity and volatility

	Bid-ask spread (%)	Return Autocovariance (x 1000)	Turnover (%)	No-trade days (%)	Volatility (%)
Before filing	6.966	-0.460	0.103	27.189	3.743
After filing	6.447	-0.501	0.129	24.818	3.584
Difference	-0.519**	-0.041	0.026**	-2.371**	-0.159*
(standard error)	(0.162)	(0.090)	(0.007)	(0.551)	(0.071)

*, ** denotes significance at the 5% and 1% levels, respectively.
The "before filing" period for each company consists of days -30 to -1 and the "after filing" period consists of days +1 to +30, where day zero is the day on which the SEC announced the Exchange Act filing. All variables are defined consistently with Table 2.

Table 5
Difference in Differences Estimates: Registered Public Offerings *vs* Private Placements

	Change in bid-ask spread (%)	Change in auto-covariance x 1000	Change in turnover (%)	Change in no-trade days (%)	Change in volatility (%)
Registration statement	-0.432	0.227	-0.014	-4.814*	-0.243
filed (n=65)	(0.434)	(0.150)	(0.037)	(2.044)	(0.214)
No registration	-0.538	0.024	0.031	-2.414	-0.887
statement filed (n=18)	(0.472)	(0.145)	(0.022)	(2.903)	(0.548)
Difference	0.106	0.203	-0.045	-2.400	0.643
	(0.642)	(0.209)	(0.043)	(3.550)	(0.589)

The changes in each column variable are calculated from the pre-filing period (days -49 to -20) to the post-filing period (days 20 to 49) for registered offerings. For unregistered offerings, they are calculated from a pre-offering period (days -49 to -20) to a post-offering period (days 20 to 49), where day 0 is the day of the offering. All variables are defined consistently with Table 2.

Table 6

Difference in Differences: Exchange Act Filings

	Change in bid-ask spread (%)	Change in auto-covariance x 1000	Change in turnover (%)	Change in no-trade days (%)	Change in volatility (%)
		Panel A: From March 1935 to April/May 1935			
Early filers, n=180	-1.159**	0.125	0.072**	-7.156**	-0.457**
	(0.394)	(0.147)	(0.015)	(1.176)	(0.157)
Late filers, n=200	-1.774**	0.290	0.055**	-5.957**	-0.447**
	(0.335)	(0.188)	(0.018)	(1.009)	(0.164)
Difference	0.615	-0.165	0.017	-1.199	-0.010
	(0.517)	(0.239)	(0.019)	(1.549)	(0.227)
		Panel B: From April/May 1935 to June 1935			
Late filers, n=200	0.025	-0.249	-0.026*	4.604**	-0.283*
	(0.265)	(0.187)	(0.011)	(0.846)	(0.123)
Early filers, n=180	-0.408	-0.199	-0.030	4.549**	0.001
	(0.374)	(0.154)	(0.016)	(0.958)	(0.143)
Difference	0.433	0.050	0.004	0.055	-0.284
	(0.452)	(0.246)	(0.019)	(1.273)	(0.188)

*, ** denote significance at the 5% and 1% levels, respectively.
Standard errors are in parentheses.
The change in each variable is measured from the period March 1-30, 1935 to the period April 16-May 15, 1935 (in Panel A) and from the latter period to June 1-30, 1935 (in Panel B). The "early filers" filed a Form 10 between the first and second of these periods, whereas the "late filers" filed between the second and third. All variables are defined consistently with Table 2.

Table 7

Cross-sectional Regressions: Exchange Act Filings

Panel A shows estimated coefficients for the following regression:

$$\Delta ASYMM_i = \alpha + \beta CAP_i + \gamma \mathbf{IND}_i + \delta D_i \ ,$$

where for each stock i, $\Delta ASYMM_i$ is the change in a measure of spreads, liquidity, or volatility from March 1935 to mid-April/mid-May 1935, CAP_i is the log of market capitalization, ***IND*** is a vector of industry dummies, and D_i equals one if the company is an early filer and zero otherwise. Panel B re-estimates the regression for the period mid-April/mid-May 1935 to June 1935; in this specification D_i equals one if the company is a late filer and zero otherwise.

Dependent variable:	Bid-ask spread		Return autocovariance		Turnover		No-trade days		Volatility	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
					Panel A: March to May 1935					
Constant	-4.811**	-6.225*	1.916**	2.518	0.055	0.089	-5.497	-5.195	-2.003**	-2.320
	(1.268)	(2.699)	(0.598)	(1.331)	(0.047)	(0.101)	(3.843)	(8.107)	(0.563)	(1.220)
Log capitalization	0.335*	0.499**	-0.180**	-0.214**	0.000	-0.003	-0.056	0.383	0.173**	0.138*
	(0.135)	(0.152)	(0.064)	(0.075)	(0.005)	(0.006)	(0.409)	(0.457)	(0.060)	(0.069)
Early filer	0.645	0.280	-0.199	-0.283	0.018	0.025	-1.201	-1.985	0.027	0.111
	(0.512)	(0.534)	(0.241)	(0.263)	(0.019)	(0.020)	(1.552)	(1.604)	(0.228)	(0.241)
Industry dummies?	no	yes	no	yes	no	yes	no	yes	no	yes
Adjusted R^2	0.014	0.061	0.017	0.0	0.0	0.028	0.0	0.061	0.017	0.030

Panel B: April to June 1935

Constant	-1.522	-0.404	-1.581**	-2.271	-0.022	-0.029	10.732**	11.375	0.163	-0.437
	(1.073)	(2.299)	(0.597)	(1.307)	(0.046)	(0.099)	(3.109)	(6.777)	(0.461)	(0.994)
Log capitalization	0.139	0.031	0.156*	0.232**	-0.001	-0.001	-0.696*	-0.731	-0.019	0.015
	(0.116)	(0.131)	(0.064)	(0.075)	(0.005)	(0.006)	(0.336)	(0.387)	(0.050)	(0.057)
Late filer	0.290	0.144	-0.080	-0.122	0.004	0.012	0.207	0.268	-0.285	-0.205
	(0.440)	(0.461)	(0.245)	(0.262)	(0.019)	(0.020)	(1.275)	(1.359)	(0.189)	(0.199)
Industry dummies?	no	Yes	no	yes	no	yes	no	yes	no	yes
Adjusted R^2	0.0	0.039	0.010	0.007	0.0	0.020	0.006	0.011	0.001	0.028

*, ** denote significance at the 5% and 1% levels, respectively.

Table 8

Regressions: Conditional Return Autocorrelation

Panel A shows estimated coefficients for the following regression:

$$RET_{i,t+1} = \alpha + \beta RET_{i,t} + \gamma RET_{i,t} * TURNOV_{i,t} + \theta RET_{i,t} TURNOV_{i,t} D_{i,t} + \varepsilon_{i,t},$$

where for stock *i* on day *t*, $RET_{i,t}$ is the return and $TURNOV_{i,t}$ is detrended turnover (in Model 1) or the (detrended) natural logarithm of turnover (in Model 2), and $D_{i,t}$ equals 1 if *t* is in the post-filing period for stock *i* and zero otherwise. The regression is estimated jointly for all Securities Act filers for pre-filing and post-filing periods as shown in the table. Panel B estimates the same regression jointly for all NYSE-listed companies for periods before and after the company's initial Exchange Act filing as shown in the table. Standard errors are in parentheses.

	α	β	γ	θ	Adj. R^2	n
	Panel A: Securities Act filings, days (-49,-20) and (20,49)					
Model 1:	-0.238**	1.009**	-0.013	-0.079	0.1033	3,639
Turnover	(0.080)	(0.110)	(0.148)	(0.746)		
Model 2:	-0.239**	1.053	-0.453	0.481	0.1164	3,203
Log turnover	(0.085)	(1.764)	(1.443)	(1.885)		
	Panel B: Exchange Act filings, days (-30,-1) and (1,30)					
Model 1:	-0.298**	-0.088	0.043	0.043	0.000	36,199
Turnover	(0.029)	(0.165)	(0.060)	(0.161)		
Model 2:	-0.159**	0.003	0.752	-0.687	0.0001	26,769
Log turnover	(0.024)	(0.041)	(0.455)	(0.730)		

*, ** denote significance at the 5% and 1% levels, respectively.

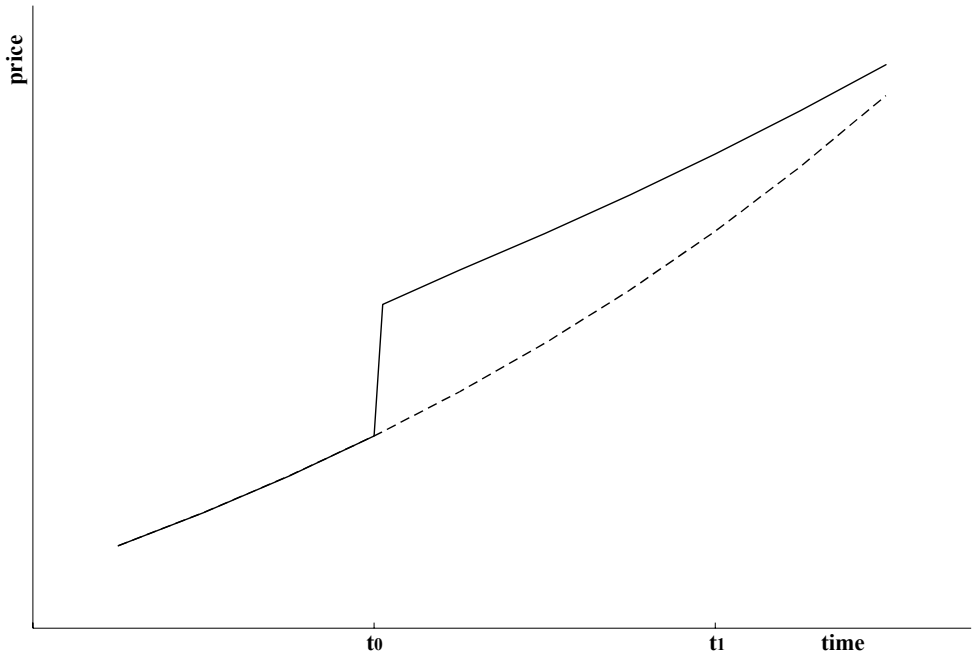
Table 9
Informational asymmetry Measures before and after earnings reports, 1927 and 1935

删除的内容: Spreads, liquidity and volatility

	Bid-ask spread (%)	Turnover (%)	No-trade days (%)	Volatility (%)
	Panel A: January through March 1927 (n=222)			
Before report	2.362	0.568	19.437	1.833
After report	2.012	0.778	14.414	1.918
Change	-0.350*	0.210*	-5.023**	0.085
(standard error)	(0.152)	(0.083)	(1.252)	(0.113)
	Panel B: January through March 1935 (n=452)			
Before report	7.249	0.091	28.912	3.582
After report	7.012	0.123	25.184	3.433
Change	-0.236	0.032**	-3.727**	-0.148
(standard error)	(0.224)	(0.007)	(1.076)	(0.250)

*, ** denote significance at the 5% and 1% levels, respectively.
The pre-report period for each company is the 10 trading days ending on day -2 in event time, while the post-report period runs from days -1 to +2 in event time, where day 0 is the day on which the *New York Times* contained a story reporting the company's earnings. All variables are defined consistently with Table 2.

Figure 1. Effects of improved disclosure on long-run returns.



At time t_0, the company switches to a more transparent disclosure regime. The solid line shows expected returns thereafter, incorporating a one-time increase in price together with a lower long-run slope, representing lower returns to compensate for lower risk. The dashed line shows expected returns assuming no improvement in disclosure. If actual returns are measured shortly after t_0 and compared to the dashed line, it will appear that improved disclosure resulted in increased returns. If measured later, such as at time t_1, long-run abnormal returns will approach zero.

Figure 2. Bid-ask spreads, turnover, and no trades around Exchange Act filings

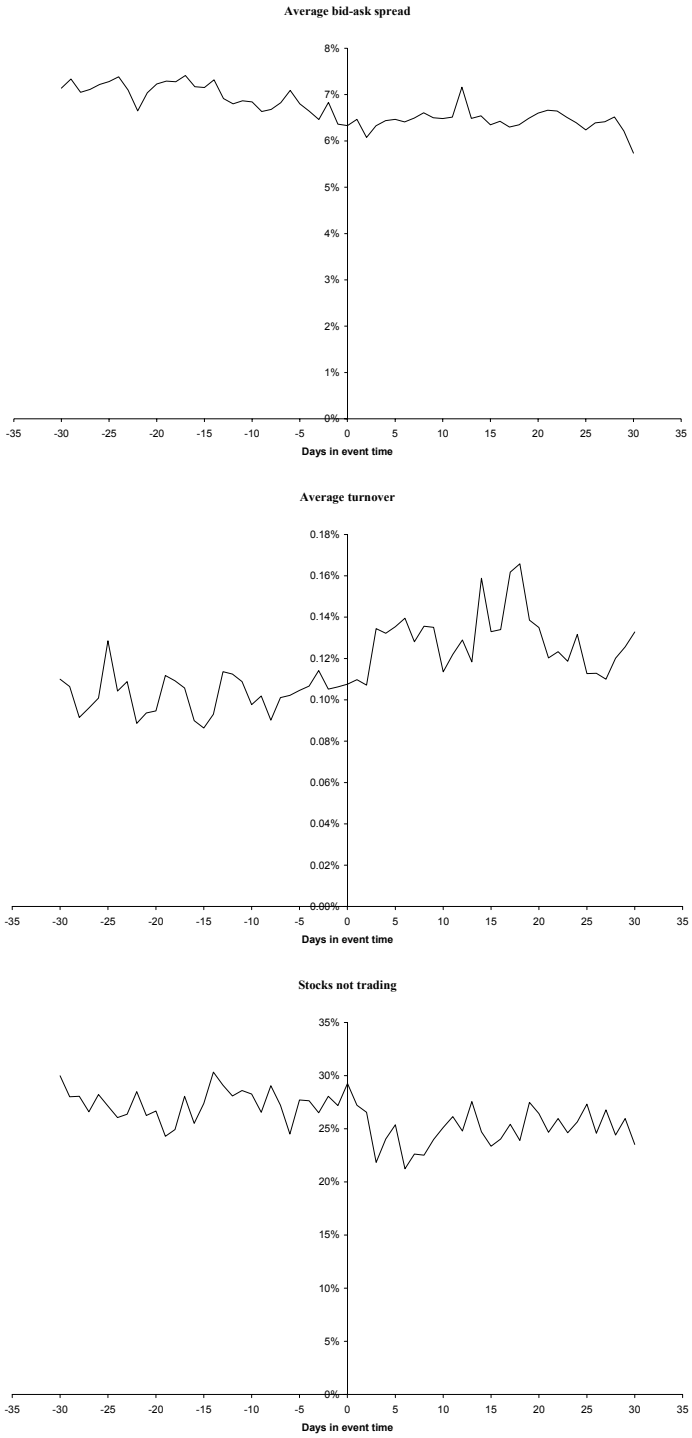


Figure 3

Early and Late Exchange Act Filers, 1935

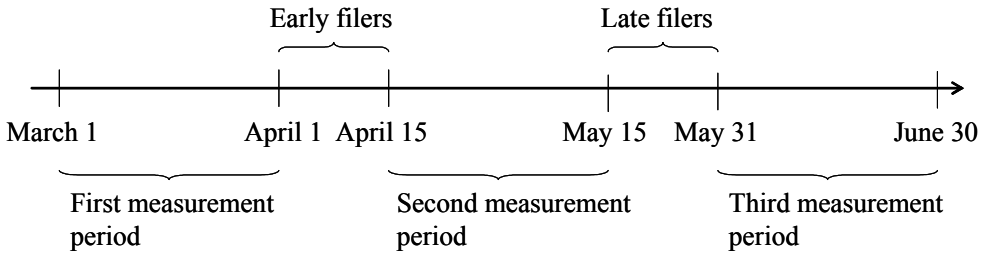


Figure 3. Bid-ask spreads, turnover, and no trades around earnings reports, 1927

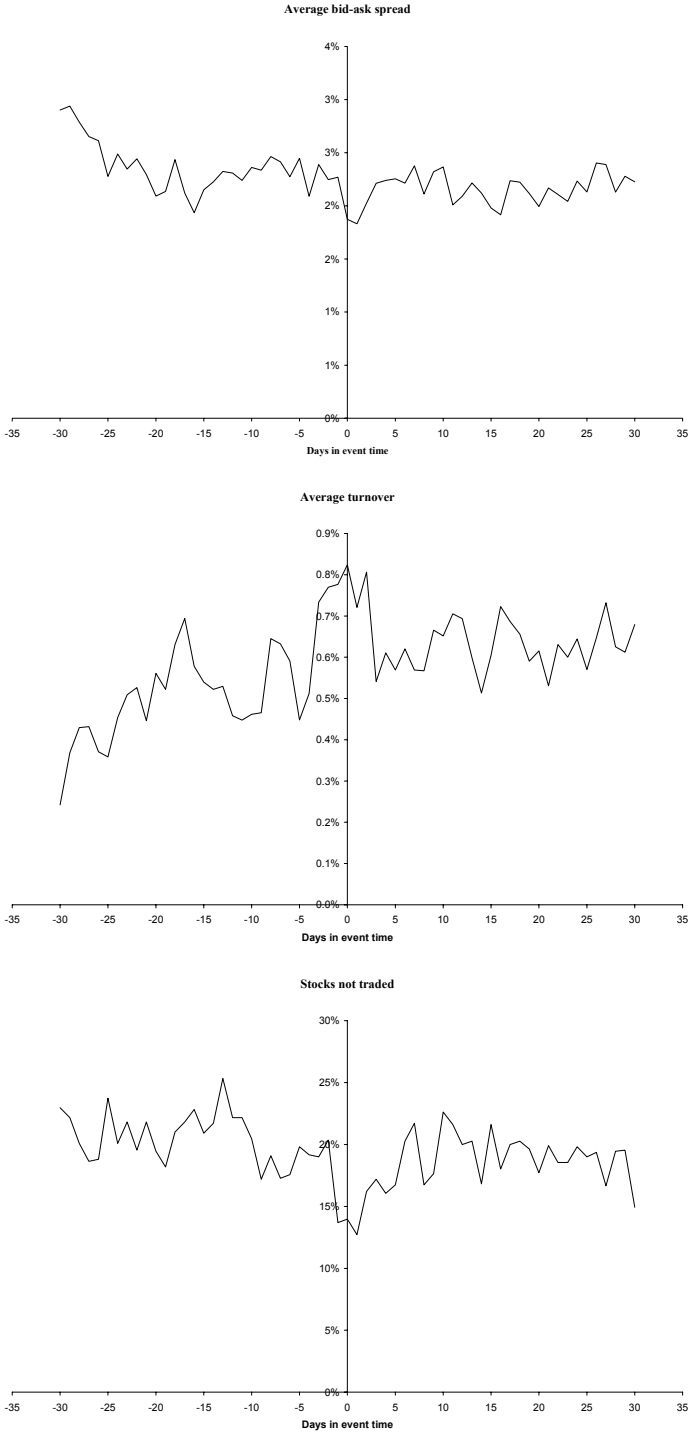


Figure 4. Bid-ask spreads, turnover, and no trades around earnings reports, 1935