

## Who Benefited from the Mandated Disclosures of the 1964 Securities Acts Amendments?

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**Abstract:** The 1964 Securities Acts Amendments extended disclosures mandated of NYSE firms to most firms trading in the Over-the-Counter (OTC) market. Although some prior evidence suggests substantial value increases for OTC firms due to the “value enhancing” mandated disclosures, we find no statistical difference in announcement returns for OTC firms moving to the NYSE before or after the legislation. One purported advantage to investors from the 1964 legislation was increased financial reporting. Yet, we document that the bulk of OTC firms analyzed in prior studies were already providing investors financial information before the legislation. Apparently, investors did not value the mandated disclosures. We do find evidence that the NYSE benefited from the legislation by increasing the number of OTC firms switching to their exchange around its passage.

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## 1. Introduction

Disclosure mandates have long been a cornerstone of the financial regulatory framework. In the wake of the October 1929 stock market, Anderson (1974, page 318) notes that "reform of the securities markets became a significant political issue in the 1932 presidential campaign primarily because of the specific abuses associated with the stock market boom and crash of the twenties, but also because of ... the failure of both state regulation and industry self-regulation." This sentiment ultimately led to the passage of the Securities Act of 1933, which imposed disclosure requirements for the issuance of new securities, and the Securities Exchange Act of 1934, which extended many of the requirements that the 1933 Act imposed on new issues to existing securities. Politicians have once again seized upon poor regulatory oversight as a major contributor to the financial crisis that began in 2008 and have called for increased disclosure mandates as part of a more extensive regulation of the U.S. financial system.<sup>1</sup>

Stigler (1964b, page 420) notes that "information costs money, and no society is rich enough to get all of the available information." Federally mandated disclosure may be no more cost-effective than a combination of voluntary disclosure, market discipline, and the ability to litigate. On the other hand, Mahoney and Mei (2006, page 2) note that proponents of mandatory disclosure believe that "voluntary or contractual disclosures are sub-optimal or insufficiently credible." Ultimately, the tradeoff between costs and benefits of disclosure mandates is an empirical issue. Given the potential costs associated with mandated disclosure, it seems prudent to re-examine the evolution and the market impact of prior disclosure mandates. In this paper, we investigate the impact of the 1964 Securities Act Amendments, which extended the disclosures

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<sup>1</sup> See, for example, the corporate governance and compensation disclosure provisions of the Dodd-Frank Wall Street Reform and Consumer Protection Act which was signed into law on July 21, 2010.

required of firms listed on the New York Stock Exchange (NYSE) and the American Stock Exchange (AMEX) to firms trading in the Over-the-Counter (OTC) market.

The 1934 Securities Exchange Act subjected firms listed on the NYSE and AMEX to four mandatory disclosure rules relating to matters like registering securities with the SEC and the filing of annual reports. The 1964 Securities Acts Amendments extended to most OTC firms each of the four disclosures mandated by the 1934 Securities Exchange Act. We begin by reasoning that if mandated disclosure creates value as suggested by papers like Greenstone, Oyer, and Vissing-Jorgensen (2006) and Ferrell (2007), OTC firms announcing a move to the NYSE prior to the passage of the 1964 legislation should see significantly higher announcement returns (due to the increased disclosure mandates) than similar OTC firms announcing moves after the passage.

Research has shown that a firm's stock price rises on average when it announces it is moving to the NYSE. We examine the short-term abnormal returns associated with the announcement by OTC firms of intentions to list on the NYSE before and after the 1964 Amendments to estimate the economic impact of the increased disclosure mandates in the OTC market. Our use of a narrow window to gauge the market's reaction of intentions to move to the NYSE lessens estimation concerns often created by lengthy regulatory processes (see Mulherin (2007)). If the market valued the 1964 legislation, the average abnormal announcement period returns prior to 1964 should exceed the average abnormal announcement period returns after 1964 by an amount equal to the market's assessment of the legislation.

We find, however, no significant announcement return differences for OTC firms moving to the NYSE between the two sample periods. Specifically, we find an average three-day raw announcement return of 103 basis points for a sample of 98 OTC firms listing on the NYSE prior

to the legislation compared to average returns of 100 basis points for 190 new listings after the passage. When we use excess returns or expand the return window to eleven days, we also find no significant or economically important announcement return differences before or after passage of the 1964 legislation. As these differences in average announcement period returns between periods are not statistically significant, we interpret our results as evidence that the market placed little value on the disclosures mandated by the 1964 Securities Act Amendments.

To better understand these results, we next examine whether the 1964 legislation altered the regulatory and informational environment for these firms. Allegedly, the new mandate for regular reporting of financial statements resulted in greater disclosure. Following the legislation, many OTC firms apparently would start filing annual and semi-annual financial statements with the SEC in Washington D.C. This additional disclosure theoretically could cause information asymmetry between managers and investors to decline, thus increasing OTC firm values.

However, as noted in Section IX of the 1963 SEC's Special Study, most OTC firms with stock quotes published in the financial press were already required by the National Association of Securities Dealers (NASD) to send annual certified financial statements to shareholders and to the NASD. Consistent with this requirement, we report that prior to the 1964 Amendments, financial information could be obtained from either a *Moody's Manual* or from the SEC for over 90% of the OTC firms for which there are bid/ask quotations in *Barron's Over-the-Counter Market* section on January 7, 1963.

We also show that, *at the very least*, investors seeking contemporaneous financial information could obtain the most recently reported fiscal or interim earnings for over 97% of these firms. Our evidence suggests that the OTC firms with quotation data available in *Barron's* were already engaging in sufficient disclosure *before* the 1964 Amendments for investors to

obtain material financial information. Thus, one reason for the lack of announcement return differentials before and after the 1964 Amendments is that the mandated disclosure had no value since many firms were already reporting financial information to investors.

Our results suggest that the Securities Acts Amendments of 1964 did not create value for OTC firms. Prior research has shown that laws or rule changes are often implemented for the specific benefit of a particular group or organization. Mahoney (2003) finds, for example, that small banks lobbied for passage of blue-sky laws. These laws, passed between 1911 and 1931, greatly assisted small banks by restricting competition for their depositors' money. If the 1964 Amendments did not help investors or OTC firms, who might have benefited from its passage?

One possible beneficiary of the law was the NYSE. Mahoney (1999) notes the primary justification for federal security laws was to eliminate stock price manipulation by stock pools. He finds on page 343, however, that the "conclusion of Congress that the pools were manipulative is inconsistent with the evidence produced by the Senate's own investigation" and concludes that "congressional and presidential desires to increase political control of the New York Stock Exchange was a more important motivation" for the imposition of federal securities laws.

Arnold et al. (1999) note that many large, established firms moved from regional stock exchanges to the NYSE in response to more stringent state blue-sky laws and the increased disclosure requirements mandated by the 1934 Securities Act Amendments, which raised the cost of listing on a regional stock exchange relative to listing on the NYSE. Following this logic, we conclude our analysis by investigating whether the 1964 Securities Act Amendments benefited the NYSE by removing a barrier faced by OTC firms contemplating a move to the NYSE: disclosure mandates.

We first examine the behavior of NYSE seat prices (e.g., trading rights) around the passage of the 1964 Amendments. If the market for NYSE seats is efficient, Schwert (1977a) notes that changes in seat prices should be related to changes in the profitability of trading on the NYSE. We find no evidence that NYSE seat prices increased as a result of the disclosure legislation. This result is consistent with the argument that the 1964 legislation was expected by the market, a case that seems quite plausible given the numerous attempts to pass this legislation between 1936 and 1964.

We next examine whether the legislation is associated with a change in the number of companies moving from the OTC to the NYSE and find evidence that the extension of the disclosure legislation to the OTC market is associated with an increase in transfers. About 3.5 more OTC firms moved to the NYSE each quarter in the period around the passage of the 1964 Amendments. Consistent with the gains in listings for the NYSE following the 1934 legislation (see Arnold et al. (1999)), we find that the 1964 Amendments had a similar effect. This suggests that the real beneficiaries of the 1964 Amendments were not investors, but rather the members of the NYSE.

Shortly after passage of the 1934 Securities Exchange Act, the NYSE went on a multi decade campaign to equilibrate disclosure requirements with itself and the OTC market. This suggests the NYSE did not view mandated disclosures and increased regulation as a competitive advantage. We find that the sole beneficiary of the 1964 Amendments appears to have been the NYSE. Our evidence suggests that most OTC firms were already providing investors with relevant financial information and that investors, through announcements reactions from OTC to NYSE moves, assigned no value to the disclosures. Our findings call into question the previously documented gains associated with the government's imposition of mandated disclosures on

publicly traded firms and are consistent with the findings of Bushee and Leuz (2005), who find a majority of firms trading in the OTC Bulletin Board market delist when similar disclosure mandates are extended to that market starting in July 1999.

In the next section, we discuss the events that led to the passage of the initial disclosure legislation and to the extension of this legislation to the OTC market. In Section 3 we review the literature. In Section 4 we develop our hypotheses more formally. In Section 5 contains a description of our sample selection criteria and our data. We present our results in Section 6 and Section 7 concludes.

## **2. The events that led to the passage of the 1964 Securities Act Amendments**

In an attempt to help investors protect themselves against financial fraud, New Deal government officials pushed for greater disclosure by publicly traded firms. The resulting 1934 Securities Exchange Act subjected firms listed on the NYSE and AMEX exchanges to four mandatory disclosure rules. Firms listed on exchanges were required to 1) register their securities with the Securities Exchange Commission (SEC); 2) file annual and semi-annual reports and to disclose material events as they occur; 3) provide proxy statements in advance of shareholder meetings or votes; and 4) report the identities and holdings of officers, directors, and large shareholders.<sup>2,3</sup>

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<sup>2</sup> These firms were also required to report on a monthly basis the changes in the stock holdings of officers, directors, and large shareholders. In theory, these disclosures made it possible for company shareholders to identify any trading profits earned by insiders initiating and unwinding their positions in company stock in fewer than six months.

<sup>3</sup> This classification of disclosure requirements is based on Section III of Greenstone et al. (2006). Firms that did not exceed size and shareholder thresholds were not subject to the 1964 legislation.

The 1934 Act also sought to extend these disclosures to the OTC market by granting the SEC the authority to subject brokers and market makers trading OTC securities to rules giving investors trading exchange-listed securities protection similar to the protection granted by the 1934 Amendments. Loomis (1959, pages 219-220), however, mentions that this idea was abandoned in 1936 because the consequences associated with the "failure by an issuer's management to conform to the desired standards fell not on the issuer or its management, but upon brokers, dealers and investors who wished to trade in its securities." Loss (1961) notes that this created a void in investor protection.

In the 30 years following the 1934 Act, several attempts were made to raise the disclosure requirements in the Over-the-Counter market to a level commensurate with that on exchanges. These attempts were made not because there was strong empirical support for the disclosure mandates, but rather because certain market participants (i.e., the NYSE) found it in their best interest to point out the inherent unfairness in the existing regulatory structure. For example, as early as 1938 the NYSE's board of governors took the position that it would be in the public interest if all major corporations were subject to the disclosures mandated by the 1934 Act. The board of governors viewed the disclosure mandates as a disincentive to listing on the NYSE.

In 1946, the SEC proposed extending the disclosures mandated by the 1934 Act to any company with more than \$3 million in assets and more than 300 shareholders. This proposal was put forward in a bill introduced by Senator Frear in 1949. The Frear Bill was endorsed by the President, the major exchanges, the OTC market, and the Securities Traders Association. The major opponents to the bill were corporate managers.

Loss (1961, page 1157) notes that the principal argument against the Frear Bill "was that companies which did not voluntarily choose to list their securities on an exchange should not be



put in a disadvantageous competitive position as against companies of substantially the same size but with fewer than 300 security holders." In a February 10, 1950 *New York Times* article Ewing Boles, president of the Investment Dealers of Ohio, noted that stockholders "who are the real owners of corporations already are provided with adequate means of obtaining information concerning their corporations" and that "...small companies would become fair game for any unprincipled giants because the small companies will be required to divulge to the general public, including all competitors, detailed information concerning sales, costs, working capital and the like." The Frear Bill never made it to a vote.

In 1955 Senator Fulbright introduced a bill that was similar to the Frear Bill, yet this bill also never passed. A few years later, however, the release of the SEC's Special Study of Securities Markets in April of 1963 provided the impetus for passage of the 1964 Securities Act Amendments, which extended the disclosures mandated by the 1934 Act to larger companies in the Over-the-Counter market. In an article in *Barron's National Business and Financial Weekly*, Ralph Colman Jr., publisher of the Over-the-Counter Securities Review, noted with respect to the 1964 Amendments that "while purporting to extend the long arm of federal regulation over-the-counter, its thrust is aimed at the bigger unlisted companies, many of which long ago voluntarily embraced full disclosure. Small, speculative or fraudulent O-T-C ventures, which led to the heaviest losses in recent years, will come under no greater SEC scrutiny in future than in the past... What the new law has done, however, is more disturbing than what it fails to do. In particular, the looming threat of regulation has touched off a massive flight of corporate enterprise from the over-the-counter market to an organized exchange."<sup>4</sup> Indeed, Silberman

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<sup>4</sup> According to Philip A. Loomis, Jr, director of the SEC's Division of Trading and Exchanges, as of June 30, 1958, a total of 1,151 issuers were required to make the disclosures mandated by the 1934 Act.

(1964, page 26) notes that "a number of companies anticipating enactment of the stiffened standards already have switched to the New York and American exchanges to benefit from the prestige, increased public notice and other advantages of listed status. The exchange's gain in increased trading fees and member commissions is the nonmember firms' loss in terms of potential profits."

According to Sclar (1965), the two primary industries that fought the extension of mandated disclosures to the over-the-counter market were insurance companies and banks. In both cases, lobbying groups for both industries argued their constituents were already subject to disclosure mandates. Sclar concludes, however, that these mandates fell short of those required by the 1964 Amendments.

### **3. Literature review**

#### *3.1. Disclosure theory*

Theoretical models of effective disclosure suggest that firms can improve the liquidity of their equity, reduce their cost of capital, improve their share price accuracy, improve corporate governance and managerial decision making, increase analyst following, and attract institutional investors through their disclosure decisions. Leuz and Wysocki (2008) provide a detailed discussion of the costs and benefits of disclosure.

Are federal mandates necessary to achieve an optimal level of disclosure? No. Huddart et al. (1999) provide a rational expectations model of exchanges and listing firms which suggests that exchanges will engage in a 'race for the top' in which exchange disclosure requirements increase and trading costs fall.

Are federal disclosure mandates socially desirable? Leuz and Wysocki (2008) describe two scenarios in which they might be. First, when firms have severe agency problems, outside owners may wish to pre-commit managers to disclose information. In this case, it may be that mandated disclosure enforceable by criminal penalties at the federal level is better than alternatives such as actions at the state level against fraud, stock exchange rules, and reputational capital (see Easterbrook and Fischel (1984), Rock (2002), and Stulz (2009)).

A second social rationale for federal disclosure mandates is the effect of externalities. As a public good, arguments can be made that left to their own devices, managers will not provide the socially optimal level of disclosure, leading to over- or under-production of information. While federally mandated disclosure may mitigate “both the (private) over- and under-production of information,” Leuz and Wysocki note that disclosures can have negative externalities and conclude that it is an empirical question as to whether mandatory disclosures enhance social welfare.

Despite the purported benefits, there are reasons why firms may rationally choose not to make public disclosures. First, the direct costs of preparing, certifying, and disseminating corporate information can be onerous for small firms. Second, and perhaps more important, Verrecchia (1983) argues that firms may avoid making public disclosures to prevent competitors, regulators, employees, and politicians from using the disclosed information against them. Finally, Hermalin and Weisbach (2007) find that while disclosure can improve decision-making, it can also make agency problems even worse.

As suggested by the unraveling argument of Ross (1979), Grossman (1981), and Milgrom (1981), if agency costs were minimal, information production and dissemination cheap, and managers were knowledgeable about the optimal disclosure policies for their firm, managers

would voluntarily choose the amount of disclosure that signaled their quality and maximized firm value. In such a situation there is no need for disclosure mandates as we expect management is more knowledgeable than regulators about disclosure strategies that maximize firm value. Leuz and Wysocki (2008) note that “in well-functioning capital markets, firms can trade off the costs and benefits of disclosure and, presumably, they are better informed about these trade-offs than the regulators or policy makers.”

### *3.2. Empirical literature on disclosure mandates*

The early empirical literature on disclosure mandates investigates the impact of the Securities Act of 1933, which required that securities intended to be sold to the public first file a registration statement with the SEC, and the Securities Exchange Act of 1934, which established the four disclosure mandates later extended by the 1964 Amendments to the OTC market. Chow (1983) compares stock and bond returns for OTC firms with those for firms listed on the NYSE from July 1932 through March 1933 and concludes the Securities Act of 1933 reduced shareholder wealth through interfirm wealth transfers, out of pocket compliance costs, and reduced opportunity sets. He also finds weak evidence that the 1933 securities legislation enhanced bondholder wealth. Merino et al. (1987) note that since the Securities Act of 1933 affected all firms, Chow's comparison of OTC and NYSE firms amounts to a comparison of two treatment groups. Merino et al. also question the appropriateness of the lengthy event window used by Chow.

Stigler (1964a) finds lower returns and lower variance for securities issued after the introduction of disclosure mandates and concludes that the regulation shifted the issuance of

riskier securities to less regulated markets.<sup>5</sup> Benston (1973) finds no difference in the volatility of stock returns of firms that voluntarily disclosed information prior to the Securities Exchange Act of 1934 and those that began to disclose information as a result of it. He finds the change in volatility around the Act was the same for both sets of firms and concludes “the disclosure provisions of the ‘34 Act were of no apparent value to investors.” This result has been disputed by Friend and Westerfield (1975), who note that many of the firms in Benston's control sample had previously disclosed financial information such as net income and balance sheet data.

In their examination of bid-ask spreads around the imposition of the 1934 Act, Daines and Jones (2007) argue that if disclosure mandates reduce information asymmetries, the onset of disclosure mandates should cause a reduction in quoted spreads. They are unable to identify specific newly required disclosures that reduce information asymmetries or improve liquidity. Mahoney and Mei (2006) examine whether additional disclosures mandated by the 1933 and 1934 Acts on NYSE-listed firms provide useful information to the market. Their focus is different than most other papers that examine these Acts in that they look for short-run changes in trading behavior as opposed to the long-run focus of other researchers. Their examination of spreads, return autocovariance, turnover, and volatility provides virtually no evidence of a reduction in information asymmetry. Mahoney and Mei (2006, page 4) conclude that the additional disclosure mandates “did not add measurably to the content and credibility of the NYSE’s existing disclosure requirements.”

The 1964 Securities Acts Amendments extended the disclosures mandated of NYSE-listed firms by the 1934 Act to most OTC firms. Ferrell (2007) compares the return volatility and abnormal returns of OTC firms and NYSE-listed firms around the passage of the 1964

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<sup>5</sup> Jarrell (1981) and Simon (1989) find similar results.

legislation. Ferrell finds the imposition of federal disclosure mandates on OTC firms is associated with a significant reduction in volatility among OTC firms compared to benchmark NYSE firms and interprets this as evidence of improved price efficiency. He also finds the returns of a long/short portfolio (long OTC firms and short NYSE-listed firms) generate positive abnormal returns of approximately 6% in 1963. However, this result may be attributable to the combination of a long event window and the fact that the sample OTC firms were much smaller than the NYSE-listed firms used as controls.

Using a sample of OTC firms appearing in *Barron's* Over-the-Counter Market section on January 7, 1963 that are also listed in either the 1962 *S&P Annual Dividend Record* or the 1963 *Moody's Manuals*, Greenstone et al. (2006) also study the effects of the 1964 Amendments on returns. They begin by classifying each OTC firm by the number of federal disclosure mandates they were subject to prior to the 1964 Amendments (x) and by the anticipated number of disclosure mandates that will affect them after the passage of the 1964 Amendments (y).

Greenstone et al. place each of their OTC firms into an x-y category. OTC firms in the 0-4 category were expected to be most affected by the 1964 Amendments as they were not subject to any federal disclosure mandates prior to 1964 and were expected to be subjected to each of the four federal mandates afterwards. While the 1964 Amendments increased the number of federally mandated disclosures required of OTC firms, the legislation may not have had much impact on the informational environment for these firms if they were making sufficient voluntary disclosures.

Greenstone et al. compare the abnormal returns of their 0-4 OTC firms to a set of NYSE/AMEX-listed firms that were unaffected by the new regulation (4-4 firms) over two horizons. In a ten-week window that ends one week after firms make their first SEC filing, they

find 0-4 OTC firms generate abnormal returns of 350 basis points, which implies an annualized excess return of 18.20%. Surprisingly, they document similar abnormal returns over this horizon for a set of 2-4 OTC firms that had been registering their securities with the SEC and filing reports with the SEC prior to the 1964 Amendments. Thus, their own empirical evidence suggests no difference in market responses for OTC firms that were most affected by the new legislation (0-4 firms) compared to OTC firms which were already subject to half the new mandates (2-4 firms) over a ten-week period.

In the 23-month period between the initial proposal of the 1964 Amendments and the time they were enforced, Greenstone et al. (2006, Table IV) find the 0-4 firms generate abnormal returns of 1,150 to 2,210 basis points. The point estimate from the CAPM model used to generate the lower bound of 11.5%, however, is not even significant at the 10% level. Further, the stock return performance between the 0-4 OTC firms and the matched NYSE/AMEX 4-4 group are small and statistically insignificant over the 23-month time period.

The use of a long time frame to gauge the market's response has been criticized by Fama (1998) and Mitchell and Stafford (2000). Fama (1998) points out that most long-run return results tends to disappear with reasonable changes in the method for estimating abnormal performance. Thus, the long-event window analysis of Greenstone et al. not only has methodological issues, but also the results often lack robustness (see Mulherin (2007) and Durnev et al. (2009)).

More recently, several pieces of regulation have addressed corporate disclosures.<sup>6</sup> Only one, however, does not have confounding disclosure effects. Bushee and Leuz (2005) examine

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<sup>6</sup> Regulation Fair Disclosure, adopted by the SEC in October 2000, and the Sarbanes-Oxley Act of 2002 both address either the content or the distribution of disclosure; however, economic impact of the

the extension of the 1934 Securities and Exchange Act's disclosure mandates to firms trading in the OTC Bulletin Board (OTCBB) market between July 1999 and June 2000. They find that more than three quarters of their sample of OTCBB firms which had not previously disclosed information to the SEC chose to leave the OTCBB market rather than to comply with the disclosure mandates. As a result of their delisting, these firms suffered dramatic decreases in liquidity thereby hurting the investors the legislation was meant to help. This is an example of the unintended consequences of public interest legislation (Mulherin (2007)). Obviously, the costs of mandatory disclosures outweighed the benefits for the delisting OTCBB firms.

To summarize, most of the empirical literature has found the introduction of federal disclosure mandates to U.S. securities markets creates little, if any, value. The major exception is the work by Greenstone et al. and Ferrell (2007), who find the federal disclosure mandates imposed on the OTC market by the 1964 Securities Acts Amendments are associated with a substantial rise in OTC market values.

#### **4. Hypothesis development**

##### *4.1. Why move to the NYSE?*

In its 1963 "Special Study on Securities Markets," the SEC notes that in many cases the decisive factor for firms deciding where their equity will trade "is the sharp difference in statutory requirements governing issuers whose securities are traded in exchange markets and over-the-counter markets ... Given a freedom of choice, many issuers apparently choose to remain over-the-counter in order to avoid requirements and burdens associated only with

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resulting change in disclosure is complicated by confounding factors. See Leuz and Wysocki (2008) for a review of the impacts of these regulations.



listing.” The SEC suggests that corporate managers may also “be strongly influenced by such objectives as wider distribution of their securities, ‘better’ prices, advantageous publicity, and general prestige.” Finally, the SEC suggests exemption from certain state blue-sky laws or geography may play a role in a firm’s listing decision.

Based on these arguments and on prior literature, we assume that before the passage of the 1964 Amendments OTC firms rationally chose to move to the NYSE if the net present value (NPV) of the decision was positive:

NPV (liquidity, visibility, increased investor base, & signaling) +

$$\text{NPV (federally mandated disclosure) - NPV (NYSE listing fees)} > 0. \quad (1)$$

After the passage of the 1964 Securities Acts Amendments, the federal disclosure mandates for OTC firms moving to the NYSE did not change after the listing. As a result, OTC firms rationally chose to move to the NYSE if:

$$\text{NPV(liquidity, visibility, increased investor base, & signaling)-NPV (NYSE listing fees)} > 0. \quad (2)$$

We are aware of no major regulatory or market structure changes that occurred during our sample period that altered the NPV of the benefits associated with increased liquidity, improved visibility, increased investor base, and signaling associated with an NYSE-listing or of the costs of listing on the NYSE. Thus, we can subtract equation 2 from equation 1 and see that the difference in the abnormal returns associated with announcing a move to the NYSE before and after the 1964 Amendments is attributable to the net economic benefit of the increased disclosure mandate.

For this to be a valid interpretation of the difference in abnormal returns, however, the characteristics of the pre- and post-1964 samples must be similar. For example, if the net present value of the federally mandated disclosures is indeed positive, then the pre-1964 sample may be

more heavily populated by the types of firms that stand to gain the most by an increase in their disclosure mandate. This would imply that the net benefit from increased liquidity, improved visibility, a wider investor base, and signaling benefits need not be as high prior to the 1964 Securities Acts Amendments to justify a switch to the NYSE.

Bushee and Leuz (2005) suggest that the types of firms that have the most to gain from an increase in mandated disclosures are larger, more capital intensive, more levered, and more profitable.<sup>7</sup> Characteristics related to the costs and benefits of disclosure mandates as prescribed by Lang and Lundholm (1993, 2000) and Healy and Palepu (2001) include market values, book value of assets, financial leverage (the ratio of long term debt to total assets), and return on assets (the ratio of net income to total assets). If the firms moving from the OTC market to the NYSE before and after the 1964 Securities Acts Amendments are similar along these dimensions, the difference in average abnormal announcement period returns should reflect the market's valuation of the disclosures mandated by this legislation.

#### *4.2. Hypotheses*

We begin by examining whether the 1964 Amendments impacted the type of OTC firm that chose to list on the NYSE. If firm value is sensitive to the federally mandated disclosure of information and if OTC managers attempt to maximize shareholder value through their choice of

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<sup>7</sup> Bushee and Leuz (2005) examine the reaction of firms trading in the OTC Bulletin Board market to the 1999 Eligibility Rule, which imposed the disclosures mandated by the 1934 Securities Act on the OTC Bulletin Board market. Bushee and Leuz classify firms as either Already Compliant with all of the disclosure mandates (e.g., firms that voluntarily made the disclosures before the Eligibility Rule), Newly Compliant with all of the disclosure mandates (e.g., firms that began making the disclosures after they were mandated), and Noncompliant (e.g., firms that chose not to comply with the disclosure mandates and leave the OTC Bulletin Board market). If the management of an OTC Bulletin Board firm perceives any benefit to an increased disclosure mandate, that firm would be in the Already Compliant group. Our characterization of those firms in our sample that are most likely to have some net economic benefit associated with an increase in mandated disclosures is based on Bushee and Leuz's characterization of the Already Compliant group.

listing venue, the types of firms moving to the NYSE may be different before and after the 1964 legislation is passed. Those that switch before the 1964 Amendments should show characteristics that suggest sensitivity to disclosure mandates. A move from the OTC market to the NYSE does not involve a change in disclosure regimes after 1964 (see equation 2).

Conversely, the value of mandated disclosure factors into a firm's listing decision prior to 1964 (see equation 1). As a result, if federally mandated disclosure had a positive first order effect, we would expect firms moving to the NYSE prior to 1964 to have characteristics indicating their value is more sensitive to the disclosure mandates. On the other hand, if the increased disclosures associated with an NYSE-listing prior to 1964 were not onerous, we would expect the characteristics of firms relocating to the NYSE to be the same before and after the 1964 legislation.

**Hypothesis 1:** The market values of firms announcing a move from the OTC market to the NYSE prior to the passage of the 1964 Securities Acts Amendments were positively related to the more regimented mandated disclosure environment on the NYSE. As a result, firms moving to the NYSE prior to 1964 will have a larger market value, more total assets, a higher ratio of long term debt to total assets, and a higher return on assets than firms moving to the NYSE after 1964.

A failure to reject Hypothesis 1 will suggest that federal disclosure mandates played a role in the decision of OTC firms to move to the NYSE and will make it difficult to interpret a comparison of abnormal announcement period returns before and after the 1964 Amendments. A rejection of Hypothesis 1 will suggest either that the possibility of becoming subject to federally mandated disclosures did not factor into the decisions of firms deciding to move to the NYSE prior to the 1964 Securities Acts Amendments or that the value of the mandated disclosures was approximately the same for all OTC firms moving to the NYSE. Contingent on the rejection of Hypothesis 1, we propose our second hypothesis.

**Hypothesis 2:** If investors valued the disclosure mandates of the 1964 Securities Acts Amendments, the average abnormal returns for firms announcing a move to the NYSE prior to 1964 Amendments will be larger than for those making the announcement afterward.

Assuming there is no difference in a relocating firm's stock price sensitivity to disclosure mandates before and after the 1964 legislation, the difference in the average abnormal returns for OTC firms announcing a move to the NYSE before and after the passage of the 1964 Securities Acts Amendments should represent the market's valuation of the federal disclosure mandates. Of course, even if the type of OTC firm moving to the NYSE is unaffected by the 1964 legislation, the market's response to the announcement of intentions to move to the NYSE may be larger for firms that are expected to benefit more from increased disclosure mandates.

**Hypothesis 3:** If firm value is significantly related to the disclosures mandated by the 1964 Securities Acts Amendments, the abnormal returns for firms announcing a move to the NYSE prior to 1964 should be more sensitive to the costs and benefits of disclosure mandates than the abnormal returns of firms moving after 1964. These proxies include firm size, financial leverage, and return on assets.

We conclude by investigating who could have gained from the 1964 legislation. Our prior arguments implicitly assume that the NPV(federally mandated disclosures) is positive. Given the NYSE's attempts to equilibrate the disclosure mandates between the exchanges and the OTC market between 1936 and 1964, it is seems apparent that the NYSE did not view the mandates as a competitive advantage. This suggests members of the NYSE may have expected the equilibration of disclosure regulation on exchanges and in the OTC market to result in an increase in NYSE seat prices and in the number of OTC firms seeking to have their stock traded on the NYSE. This leads to our final hypothesis.

**Hypothesis 4:** If the disclosures mandated by the 1964 Securities Act Amendments imposed costs on OTC firms, all else equal, the value of NYSE seat prices and the number of OTC firms moving to the NYSE will increase following the passage of this legislation.

## 5. Sample Selection and Data

### 5.1. Sample selection

Greenstone et al. (2006) note that the “political climate [surrounding] extending mandatory disclosure requirements to OTC securities changed in the wake of the SEC’s release of the first part of the ‘Special Study’ in April 1963.” Therefore, we assume that before 1963 investors were unaware that mandated disclosure would be extended to all OTC firms and that market participants understood the ramifications of the 1964 Amendments within a few months of its passage. For this reason, we identify OTC firms that begin NYSE trading between January 1, 1955, and December 31, 1962 (the “pre-period”) and between January 1, 1965, and December 31, 1970 (the “post-period”).

Following Sanger and McConnell (1986), we use the *Weekly Bulletin* published by the NYSE on Fridays to identify when firms trading in the OTC market announced that they were seeking to list on the NYSE. The date that firms announce their intentions to list is the relevant date, as the exchanges discourage firms from making their intentions to move public until the actual filing of a listing application. Sanger and McConnell (1986) note that between 1966 and 1977 in no case was a formal application to list on the NYSE rejected, and that in each case, the NYSE’s announcement of a firm’s application to list in its *Weekly Bulletin* was the first published source of news regarding the firm’s intentions. We also obtain the date OTC firms begin trading on the NYSE from the *Weekly Bulletin*. We obtain electronic copies of historical *Weekly Bulletins* from the NYSE and from GSI Edgar.

Our initial sample includes 169 OTC firms in the pre-period and 229 OTC firms in the post-period.<sup>8</sup> Following Greenstone et al., we then eliminate banks and insurance companies from the sample since they have multiple regulators and are treated differently from other firms by the 1933 Act, the 1934 Act, and the 1964 Amendments. We use the Fama and French (1997) classifications to define a firm as a bank or an insurance company: if it has a primary SIC code of 6000-6199 (bank) or 6300-6411 (insurance).

Our analysis requires at least eleven days of bid and ask prices around the date the OTC firms announced their intentions to move to the NYSE. We require for inclusion in the sample that the quotations of our sample firms were regularly published in the *New York Times*, which we access electronically via the ProQuest Historical Newspaper database. We also obtain dividend and stock split information for our OTC firms from the *New York Times*. On the few days a firm's bid and ask prices in the *New York Times* were either unavailable or illegible, we obtained quotes from the *Wall Street Journal* or the *Chicago Tribune*.

We are unable to identify quotation data for 61 OTC firms that listed on the NYSE prior to the 1964 Amendments and for 12 firms listing after the 1964 Amendments. We obtain the closing price and the number of shares outstanding on the first day of NYSE trading from the Center for Research in Security Prices (CRSP) database. Our final sample is comprised of 98 OTC firms in the pre-period and 190 OTC firms in the post-period.

We include in our sample OTC firms that moved to the NYSE between January 1, 1955, and December 31, 1962, and between January 1, 1965, and December 31, 1970, but a few firms announced their intentions to move outside these time periods. Four sample firms announced

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<sup>8</sup> We are unable to identify the dates three OTC firms announced their intentions to list on the NYSE in the pre-period and four OTC firms in the post-period.

their intentions to move in December 1954 and six in the fourth quarter of 1964. Table 1 describes the years our sample firms announced their intentions to move to the NYSE. It is important to note that the calendar year immediately after the signing of the 1964 Amendments (1965) had the largest number of announcements. This is consistent with the NYSE being a beneficiary (through increased listings) of the legislation. This will be examined in more detail in section 6.4.

## **6. Empirical results**

### *6.1. Comparison of sample characteristics*

Hypothesis 1 posits a difference in the characteristics of firms moving to the NYSE in the pre- and post-periods if the federal disclosure mandates significantly impact firm value. Recall that our proxies for the costs and benefits of disclosure mandates include share price, market value, total assets, return on assets, and financial leverage.<sup>9</sup>

Table 2 reports average stock prices, market values, and initial size deciles for the sample. Panel A of Table 2 reveals that the average closing prices on the first day of NYSE trading were \$33.78 in the pre-period and an almost identical value of \$33.35 in the post-period. The minimum price was \$8.875 in the pre-period and \$10.625 in the post-period. The maximum price was \$104 in the pre-period and was \$121.75 in the post-period. The absence of low-priced stocks coupled with the similarity in share prices before and after the passage of the 1964 Amendments reduces the likelihood that microstructure factors are affecting our results.

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<sup>9</sup> In untabulated results, when we use Fama and French (1997) classifications to sort sample firms into 48 industries, no industry represents more than 11% of the sample in either period. Generally, the sample is fairly well distributed across industries in both periods.

Firms moving from the OTC market to the NYSE between 1955 and 1962 had an average market value of nearly \$86 million (in constant 1964 dollars) on the first day of trading on the NYSE. The smallest firm in the pre-period had a market value of \$12.6 million and the largest, the Ralston Purina Company, had a market value of \$579 million. OTC firms moving to the NYSE after 1964 are larger, with an average market value of \$120 million (in constant 1964 dollars) on the first day of trading on the NYSE. In the post-period, the smallest firm had a market value of \$18.2 million, and the largest, Eli Lilly, had a market value of \$2.4 billion. While these results suggest firms moving to the NYSE in the post-period were larger than those moving to the NYSE in the pre-period, the value-weighted market index increased by 326% from January 1955 through December 1970.

In Panel B of Table 2 we use the market value at the time of listing to place firms into their relative NYSE size decile. We create annual size deciles by ranking all NYSE firms by the market value each December from 1954 through 1969. By construction, size decile 1 contains the smallest firms listed on the NYSE and decile 10 contains the largest. Although, the median size decile for new listings in both time periods is 5, it appears that new listings are slightly smaller in relative terms during the 1965-1970 period. Before the legislation, 45% of new listings were in deciles 6 to large compared to 33% in the post period.

Are other firm characteristics different between the pre and post legislation samples? Table 3 reports the mean and median total assets, ROA, and leverage for the two periods. To adjust for growth due to inflation, total asset values are reported in 1964 dollars using inflation statistics from the Bureau of Labor Statistics.

The Table 3 results show no statistically significant difference at the 5% level in either the mean (Panel A) or median (Panel B) values between the two time periods. For example, in



Panel A of Table 3, the mean total assets of the post-period sample (\$96.38 million) is larger than the pre-period sample, but this difference is not statistically significant. Similarly, the median return on assets in Panel B for the two samples, 6.88% in the pre-period and 6.97% in the post-period, are not statistically different from one another. Finally, the mean financial leverage ratios in the two samples, 16.38% in the pre-period and 19.31% in the post-period, are also not statistically different from each other.

To summarize, on the dimensions of market value, stock price level, and sensitivity to disclosure mandates, our pre- and post-period samples are similar. Based on the results in Tables 2 and 3, Hypothesis 1 is rejected. This suggests that disclosure mandates did not play role in a firm's decision to move to the NYSE prior to the passage of the 1964 Securities Acts Amendments.

## *6.2. Returns associated with announcement of intentions to move to the NYSE*

Fama (1991) notes that the use of daily data to gauge the market response to a news announcement lessens the joint-hypothesis problem (i.e., market efficiency must be jointly tested with an asset pricing model). Since Brown and Warner (1985) find the choice of return-generating model does not make much of a difference in short-run event studies, we present results for raw returns and for market-adjusted returns. We use the midpoint of the closing bid and ask quotes to compute raw returns. We obtain similar results when we compute returns using closing bid prices. Given the median size decile of 5 for our NYSE new listings, we compute market-adjusted returns by subtracting the return on the CRSP equal-weighted index from the raw return.

Figure 1 presents average cumulative raw returns for firms announcing their intentions to trade on the NYSE beginning five trading days before these intentions are made public in the

*Weekly Bulletin* and ending five trading days after the announcement (an eleven-day period). The dashed line represents the average cumulative raw return for firms that moved to the NYSE in the pre-period and the solid line the mean cumulative raw return for firms that moved to the NYSE in the post-period.

In general, there is very little difference in average cumulative raw returns before and after the imposition of mandated disclosure in the OTC market. The difference in average cumulative raw returns is greatest four days prior to the announcement, but disappears three days after firms announce their intentions to move to the NYSE. Overall, Figure 1 suggests there is little difference in the average returns generated by firms announcing a move to the NYSE before and after the passage of the 1964 Securities Acts Amendments.

To ensure that the results in Figure 1 are not the result of a market trend, we present average cumulative market-adjusted returns for our sample firms in Figure 2, following the same design for the pre- and post-periods. A comparison of Figures 1 and 2 indicates that the market adjustment slightly widens the difference in the average return generated by OTC firms announcing a move to the NYSE before and after the 1964 Amendments.

Since we have the exact dates that OTC firms first announce their plans to move to the NYSE, we examine announcement period returns using a three-day window. With announcements typically made on Fridays, the three-day window assumes that information regarding a firm's plan to move to the NYSE was fully incorporated into the firm's stock price by the close of trading on the following Monday. We also examine returns in an eleven-day window to give the market more time to process the information in the announcement.

Table 4 reports the average announcement buy-and-hold returns using the three- and the eleven-day event windows. In the first column of Table 4, we see that the OTC firms moving to

the NYSE in the pre-period generate a three-day excess return of 106 basis points and an eleven-day excess return of 209 basis points (both different from zero at the 0.01 significance level).<sup>10</sup>

In the post-period we document average abnormal announcement period returns that are significantly different from zero over both three-day and eleven-day windows: an average three-day excess return of 83 basis points and an eleven-day excess return of 172 basis points. The latter result is consistent with Sanger and McConnell (1986), who document a ten-day market-adjusted average abnormal return of 192 basis points for firms announcing a move from the OTC market to the NYSE between 1966 and 1970.

Focusing on Panel A of Table 4, there is a statistically insignificant 3 basis point difference in the average three-day announcement period raw buy-and-hold returns generated in the pre- and the post-periods. While the difference increases to 23 basis points when the three-day returns are market-adjusted, this difference is also statistically insignificant at conventional levels.

Panel B presents average eleven-day returns for both periods. The eleven-day average raw returns in the pre- and the post-period are within 17 basis points of each other and are statistically indistinguishable from each other. While the difference grows to 37 basis points when the returns are market-adjusted, this difference is also statistically insignificant.

In untabulated results, when we use bid prices to compute returns, the difference in the three-day average market-adjusted returns in the pre- and the post-period is 14 basis points, and the difference in eleven-day mean returns is 38 basis points. We also examine returns after excluding utilities, since they are a regulated industry, and we find the difference in market adjusted returns is 26 basis points in the three-day window and 11 basis points in the eleven-day

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<sup>10</sup> We obtain similar results when the CRSP value-weighted index is used to deflate raw returns.

window. None of these differences are significantly different from zero at conventional levels. Together, these results lead us to reject Hypothesis 2 and conclude that, on average, the market did not value the disclosures mandated by the 1964 Securities Acts Amendments.

While the 1964 Amendments appear to have added little value to the average OTC firm, it might be that investors did value the imposition of federal disclosure mandates on a subset of OTC firms. As earlier noted, results in Bushee and Leuz (2005) suggest that larger, more capital intensive, and more levered firms have the most to gain from disclosure mandates. This implies that before the passage of the 1964 Amendments, the abnormal return associated with the announcement of intentions to move to the NYSE should be higher for firms with more assets, with higher return on assets, and with higher long term debt to asset ratios. After the disclosure legislation is passed, these variables should not lead to higher announcement period returns since the disclosure environments are the same for both the NYSE and for the OTC market. This leads us to estimate the following regression model:

$$RET_i = \alpha + \beta_1 I_{Before\ 1964} X_i + \beta_2 X_i + \varepsilon_i, \quad (3)$$

where  $RET_i$  is the market adjusted abnormal announcement period buy-and-hold return for the  $i$ th firm,  $I_{Before\ 1964}$  is an indicator variable that is equal to 1 if the firm announced its intentions to move to the NYSE prior to the passage of the 1964 Amendments,  $X_i$  represents the variable(s) associated with a firm's potential gain from disclosure mandates, and  $\varepsilon_i$  is the error term. We estimate the model separately for each of the three disclosure proxies and once with all of the disclosure proxies. If the market valued the disclosures mandated by the 1964 Securities Acts Amendments, we expect  $\beta_1$  to be significantly positive. We present the results in Table 5.

Panel A of Table 5 contains results for the four specifications of our regression run using excess returns computed over a three-day announcement window. A quick inspection of Panel A reveals that the coefficients of interest are insignificant in each of the four specifications and the explanatory power of each regression is very low. Panel B of Table 5, which contains the results for the four specifications of our regressions run using excess returns computed over an eleven-day announcement window reveals very similar results. Thus, even when focusing on those OTC firms for which mandated disclosure is thought to be most value enhancing, we are unable to find any evidence that mandated disclosure created value for shareholders.

### *6.3. The availability of financial information for OTC firms*

Given that OTC firms moving to the NYSE would have to follow additional alleged value enhancing disclosure rules before 1964, why don't we see higher stock returns on the announcement of the new listing? If Greenstone et al. (2006) and Ferrell (2007) report that federally mandated disclosure requirements added sizeable value to OTC-listed companies, why did investors fail to fully react to the information of the move to the NYSE? One possibility of the failure is that firms were already providing investors with relevant financial disclosures prior to the 1964 Acts and the results in Greenstone et al. (2006) and in Ferrell (2007) are not robust.

Starting with every OTC firm listed in *Barron's* Over-the-Counter Market section on January 7, 1963 for which there are bid/ask quotes, Greenstone et al. hand collect stock price and other data to analyze the economic impact of the 1964 Amendments. Each firm must also appear in either the 1962 S&P Annual Dividend Record or the 1963 Moody's Manuals to be included in their sample. In an effort to better understand how the 1964 legislation altered the OTC market,

we first examine how the 1964 Securities Acts Amendments affected the availability of financial information for the OTC firms in the Greenstone et al. (2006) and Ferrell (2007) samples.

Table 6 characterizes the availability of financial information for the set of firms (excluding banks and insurance companies) appearing in the Over-the-Counter Market quotation section of the January 7, 1963 issue of *Barron's*. Over 74% of the 1,476 OTC firms covered by *Barron's* had recent financial information in a *Moody's Manual*. Investors could obtain financial information from the SEC for 245 of the remaining 379 OTC firms. Investors could obtain the most recently reported fiscal or interim earnings for 91 of the remaining 134 OTC firms from the January 7, 1963 issue of *Barron's*.

To summarize, new investors seeking financial information could, *at the very least*, obtain the most recently reported fiscal or interim earnings from *Barron's* for over 97% of the 1,476 OTC firms appearing in the January 7, 1963 issue of *Barron's*. This percentage climbs to 97.9% if we eliminate 12 of the remaining 43 OTC firms because they do not have bid and ask quotes in *Barron's*. Together, these data suggest that those OTC firms with enough trading activity to be quoted in *Barron's*, the same set of firms analyzed by Greenstone et al. (2006) and Ferrell (2007), were engaging in sufficient voluntary disclosure before the 1964 Amendments for investors to obtain material financial information.

#### *6.4. Did the NYSE benefit from the legislation?*

If the act did not improve the market valuations of OTC firms, who might have benefitted from its passage? Public choice theory suggests one possible beneficiary of the act was the NYSE. Prior research has used seat prices to model the effect of regulatory changes on the NYSE (see Schwert (1977a) and Jarrell (1984)). Schwert (1977a) finds, for example, that seat

prices on the NYSE fell unexpectedly by about 50% when the Securities Exchange Act of 1934 was first considered by Congress. In contrast to the 1934 Act, NYSE seat prices might have risen as a result of the 1964 legislation, which equalized the regulatory and disclosure costs for NYSE-listed and OTC firms.

Following Schwert (1977a, 1977b), Jarrell (1984), and Keim and Madhavan (2000), we assume that NYSE seat prices are a function of expectations of future cash flows generated by having a seat on the floor trading. The higher are participant's expectations of the value which is derived from possessing a seat on the NYSE, the higher will be the seat's value. Thus, we expect NYSE seat prices to rise if the 1964 Amendments were expected to cause an increase in the number of OTC firms choosing to relocate to the NYSE.

We obtain NYSE seat prices from the weekly NYSE bulletins for the period around the legislation, 1961-1966. Following Keim and Madhavan (2000), we take the average of the last posted bid and ask seat prices each month to create the price time-series. Two obvious valuation measures for seat prices are the level of the stock market and trading volume. Higher levels of stock prices and trading volume have been shown to be positively linked to the value of NYSE seat prices (see Keim and Madhavan (2000)).

Figure 3 reports the monthly time series trend in NYSE seat prices versus the level of the CRSP value weighted stock market while Figure 4 presents the pattern of seat prices and NYSE trading volume. Consistent with the prior literature, there is a strong positive correlation between seat prices and the level of the market (0.80) and for seat prices and NYSE trading volume (0.67). It is often difficult to pinpoint exactly when the financial markets incorporated the impact of the proposed regulations into prices. As an example, when Schwert (1977a) examined the impact on NYSE seat prices of the Securities Exchange Act of 1934, he focused on when the

initial version of the Act was introduced in Congress (February, 1934) instead of when the Act was signed into law (June, 1934). When Arnold et al. (1999) analyzed the impact of regional exchange mergers, they examined seat price changes in the three months prior to the announcement relative to three months following the merger.

One obvious starting point in trying to gauge the market's reaction is the April 1963 release of the SEC's Special Study recommending the imposition of the NYSE's disclosure rules on the OTC market. This study helped spark momentum for passage of the 1964 Securities Acts Amendments. In August of 1964, President Johnson signed the legislation into law. In Figures 3 and 4, the first vertical line represents the SEC's Special Study release date while the second vertical line indicates when the legislation was formally signed.

From the figures, it does not appear that the seat prices reacted more positively to the possibility of legislation passage than would have been expected from changes in market levels or trading volume. For example, although the mid-point of NYSE seat prices rose from April 1963 to August 1964, the increase was actually less than the rise in the value weighted stock market (5% versus 15%).<sup>11</sup>

Although NYSE seat prices did not experience a significant rise in value, it might be that the 1964 legislation induced more firms to switch than otherwise might have been the case. Due to the unavailability of all OTC stock returns and accounting information, in a computer readable format, we cannot replicate the procedure used in Cowan et al. (1992). In their paper, the four authors examine a sample of Nasdaq firms that qualified to list on the NYSE rather than only

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<sup>11</sup> When we regress the monthly NYSE seat prices returns against the monthly market return of the CRSP value weighted index, the change in monthly trading volume, and a dummy set to one if the month was between April 1963 to August 1964, the coefficient on the 17 months following the SEC's Study is statistically insignificant. In this regression, there are 72 monthly observations (January 1961 to December 1966).



those that actually changed exchanges. They find that the most significant influence on the listing decision is the length of time the firm has been qualified to move to the NYSE. The longer the Nasdaq firm was eligible to list on the NYSE, the less likely it was to move.

Table 7 reports the regression results using the number of quarterly OTC firms (including banks, insurance companies, and firms with missing OTC quotation data) that move to the NYSE as the dependent variable during 1955-1970. Using a quarterly window to calculate transfers, the average and median new listings are both about only 7. For the independent variables, we use the lagged CRSP value weighted market level, the lagged number of quarterly new listings, the prior market return over a one-year window, and a dummy variable for the time before and after the signing of the 1964 legislation. The pre/post 1964 Acts dummy variable is equal to one if the quarter is during April 1963 to December 1964, otherwise zero. Since we are using quarterly data, the number of observations in the regressions is 64.

Our choice of a long window to capture the impact of the legislation is due partly to NYSE Rule 500 (also known as the Roach Motel rule). This rule, in place from 1939 to 2003, required a supermajority of shareholders to approve a delisting from the NYSE. Thus, a decision by an OTC firm to list on the NYSE required some thought and analysis since it was quite difficult to ever leave.

The first model of Table 7 uses lagged market level, lagged number of listings, and prior market returns as the explanatory variables. Both lagged market level and lagged listings have the expected sign (positive) and are statistically significant. Thus, higher market levels and number of listing in the prior quarter is linked to more firms transferring from the OTC to the NYSE. As the level of the market increases, more OTC firms should be expected to be above the NYSE's minimum market capitalization cutoff and thus be eligible to transfer.

In model 3, we add a dummy variable indicating the period surrounding the legislation signing. In this model, the coefficient on the dummy variable (3.450) is significant. Thus, after controlling for the level of the market and the number of prior listings, the period around the 1964 Acts saw about 3.5 more firms per quarter move to the NYSE from the OTC. This is an economically meaningful number since the typical number of quarterly listings is 7. The last column of Table 7 reports that when the pre/post 1964 Acts dummy is the sole independent variable. The coefficient on the variable (5.078) is positive with a significant t-statistic (3.93).

Thus, while investors do not appear to have valued the disclosures mandated by the 1964 Securities Acts Amendments, the legislation is associated with an increase in the number of OTC firms choosing to relocate to the NYSE. Although the escalation in listings most certainly increased the listing fees and trading revenues collected by the NYSE, the magnitude of these gains is not large enough to be detected by our analysis of seat prices. Together, our evidence suggests that members of the NYSE, not investors, were the beneficiaries of the 1964 Amendments.

## **7. Conclusions**

Theory suggests disclosure mandates can lead to better informed investors and a reduction in agency and information production costs. Disclosure, however, is costly. There are the direct costs associated with producing the information and the indirect costs associated with providing potentially sensitive information to competitors, regulators, and other adversarial parties. Given the mobility of capital in today's society, it is important to understand whether the benefits of federally mandated disclosure outweigh the costs. At some point, when the regulatory burden becomes too great, U.S. firms will look elsewhere when raising capital.

There is some disagreement in the literature as to the value of federally mandated disclosure. Greenstone et al. (2006) and Ferrell (2007) suggest that the disclosures federally mandated by the 1964 Securities Acts Amendments significantly increased the value of OTC firms. If generalizable, this result strongly suggests regulators should impose more disclosure mandates. Bushee and Leuz (2005), however, report that more than 75% of firms trading in the OTCBB market leave when disclosure mandates are introduced. Engel, Hayes, and Wang (2007) find that firms are more likely to go private after the passage of the Sarbanes-Oxley Act. Given the recent experiences with federally mandated disclosure, we feel it worth re-examining the impact of the 1964 Securities Acts Amendments.

We present evidence suggesting that, from an investor's perspective, the 1964 Amendments had a negligible impact on the informational environment in the OTC market. We find no statistically significant difference in average raw or average market adjusted returns around the announcement of intentions to move to the NYSE before and after the 1964 Securities Acts Amendments. This result holds for both three-day and eleven-day event windows and suggests the increased disclosure mandates associated with an NYSE-listing prior to the 1964 Amendments do not add to firm value.

One simple explanation for the lack of a difference in announcement stock returns between the periods is that the vast majority of OTC firms analyzed in prior studies (over 97%) were already providing investors financial information prior to the legislation. Based on our evidence, we conclude the value of the disclosures mandated by the 1964 Securities Acts Amendments is indistinguishable from zero.

Yet laws are often passed with the purpose of benefiting a particular group. We find that by equalizing the mandated disclosure costs between the OTC and NYSE, the legislation led to

about 3.5 more OTC firms per quarter moving to the NYSE. This is consistent with the Arnold et al. (1999) evidence of new transfers to the NYSE following increased costs of being on the regional exchanges from the 1934 Act and blue-sky laws.

While our focus on firms that chose to move from the OTC market to the NYSE implies we are examining larger OTC firms, Bushee and Leuz (2005) suggest the imposition of mandated disclosure on small firms is not value-enhancing. Other researchers may seek to better understand why the market's response to mandated disclosure is so tepid. Perhaps the agency problems needed to theoretically validate the imposition of mandated disclosure are not prevalent in financial markets. Maybe the market does not perceive much benefit to federal government enforcement of disclosure mandates under the threat of criminal penalties. Finally, it is possible that firms make the appropriate level of voluntary disclosure. At best, mandating disclosure appears to be an inefficient way for regulators to protect and educate investors. At worst, federally mandated disclosure mandates are making U.S. financial markets less competitive.

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Table 1  
 Years OTC Firms Announce their Intentions to List on the New York Stock Exchange

Year firm's plan to list on the NYSE first appears in the NYSE's <i>Weekly Bulletin</i>	# of applications to list	Bank or insurance company	Quotation data unavailable	Remaining firms in sample
1955 <sup>†</sup>	15	1	3	11
1956	13	1	7	5
1957	19	0	8	11
1958	8	0	4	4
1959	17	1	6	10
1960	38	3	17	18
1961	33	2	11	20
1962	26	2	5	19
Pre-Period Total	169	10	61	98
1965 <sup>††</sup>	53	2	3	48
1966	30	0	1	29
1967	30	2	2	26
1968	47	7	2	38
1969	43	9	4	30
1970	26	7	0	19
Post-Period Total	229	27	12	190

<sup>†</sup> Includes four firms that began trading on the NYSE in 1955 but applied to list on the NYSE in December 1954.

<sup>††</sup> Includes six firms that began trading on the NYSE in 1965 but applied to list on the NYSE in the fourth quarter of 1964.

The announcement day is the day a firm's plan to list on the NYSE first appears in the NYSE's *Weekly Bulletin*. Firms moving to the NYSE between 1955 and 1962 include OTC firms moving to the NYSE between January 1, 1955, and December 31, 1962. Firms moving to the NYSE between 1965 and 1970 include OTC firms moving to the NYSE between January 1, 1965, and December 31, 1970.

Table 2

Average Stock Price, Market Value, and Initial Size Decile for OTC Firms Listing on the NYSE

## Panel A – Stock price and firm value of moving firms

	98 firms moving to the NYSE during 1955 – 1962	190 firms moving to the NYSE during 1965 – 1970
First closing price on the NYSE	\$33.78 [\$16.88]	\$33.35 [\$15.31]
Market value at the time of listing (1964 \$ millions)	\$85.88 [\$98.45]	\$120.08 [\$195.07]

## Panel B – Relative size of OTC moving firms

NYSE size decile	98 firms moving to the NYSE during 1955–1962	190 firms moving to the NYSE during 1965–1970
Small	0.0%	1.6%
2	9.2%	16.3%
3	14.3%	13.7%
4	19.4%	17.4%
5	12.2%	17.9%
6	14.3%	15.8%
7	18.4%	6.8%
8	4.1%	7.9%
9	8.2%	2.1%
Large	<u>0.0%</u>	<u>0.5%</u>
Total	100.0%	100.0%

The announcement day is the day a firm's plan to list on the NYSE first appears in the NYSE's *Weekly Bulletin*. Firms moving to the NYSE between 1955 and 1962 include OTC firms moving to the NYSE between January 1, 1955, and December 31, 1962. Firms moving to the NYSE between 1965 and 1970 include OTC firms moving to the NYSE between January 1, 1965, and December 31, 1970. We present the mean and, in brackets, the standard deviation for the first closing price on the NYSE and the market value at the time of listing in Panel A. We use inflation statistics obtained from the Bureau of Labor Statistics to convert market values into 1964 dollars. In Panel B, we use the market value at the time of listing to place firms into their relative NYSE size decile. The annual size deciles are created by ranking all NYSE firms by their market value (stock price multiplied by shares outstanding) each December (1954 to 1969).

Table 3  
Mean and Median Values of Proxies for the Costs and Benefits of Disclosure Mandates

Panel A – Mean Values

	Firms moving to the NYSE prior to the 1964 Amendments (N=98)	Firms moving to the NYSE after the 1964 Amendments (N=185)	Difference- in-Means t-statistic
Total Assets (in millions of 1964 dollars)	\$73.88	\$96.38	-1.44
Return on Assets	7.93%	8.02%	-0.17
Long Term Debt / Total Assets	16.38%	19.31%	1.48

Panel B – Median Values

	Firms moving to the NYSE prior to the 1964 Amendments (N=98)	Firms moving to the NYSE after the 1964 Amendments (N=185)	Pearson chi- squared test statistic
Total Assets (in millions of 1964 dollars)	\$45.40	\$56.82	0.145
Return on Assets	6.88%	6.97%	0.836
Long Term Debt / Total Assets	12.72%	16.01%	0.088

For each firm in our sample, we use the Moody's manuals to collect the following information for each OTC firm in our sample: Total Assets, Net Income, and Long Term Debt. We obtain these data from the most recent financial statements prior to the firm's announcement of intentions to move to the NYSE. These data are unavailable for five of the OTC firms moving to the NYSE after the passage of the 1964 Amendments. Return on Assets is the ratio of Net Income-to-Total Assets. We use inflation statistics obtained from the Bureau of Labor Statistics to convert Total Assets to 1964 dollars. The last column of Panel B tests the null hypothesis that the samples were drawn from populations with the same median.

Table 4  
Announcement Period Buy-and-Hold Returns  
Panel A – Three-day event window

	98 firms moving to the NYSE during 1955– 1962 (1)	190 firms moving to the NYSE during 1965–1970 (2)	Difference (1) - (2)
Quote midpoint (raw) return	1.03% (2.33)	1.00% (3.11)	0.03% (0.05)
Equal-weighted NYSE index return	-0.03% (-0.18)	0.17% (1.29)	-0.20% (-0.90)
Excess return	1.06% (2.57)	0.83% (2.88)	0.23% (0.45)

Panel B – Eleven-day event window

	98 firms moving to the NYSE during 1955–1962 (1)	190 firms moving to the NYSE during 1965–1970 (2)	Difference (1) - (2)
Quote midpoint (raw) return	2.41% (2.84)	2.58% (4.21)	-0.17% (-0.16)
Equal-weighted NYSE index return	0.32% (1.03)	0.86% (3.29)	-0.54% (-1.25)
Excess return	2.09% (2.73)	1.72% (3.21)	0.37% (0.39)

The event day is the day a firm's plan to list on the NYSE first appears in the NYSE's *Weekly Bulletin*. Firms moving to the NYSE between 1955 and 1962 include OTC firms moving to the NYSE between January 1, 1955, and December 31, 1962. Firms moving to the NYSE between 1965 and 1970 include OTC firms moving to the NYSE between January 1, 1965, and December 31, 1970. The three-day window begins when the market closes on the Wednesday prior to the Friday announcement and ends when the market closes on the Monday following the Friday announcement. The eleven-day window begins when the market closes on the Thursday in the week immediately preceding the Friday announcement and ends when the market closes on the Friday in the week immediately following the Friday announcement. For each variable, we present the mean and, in parenthesis, the t-statistic.

Table 5

## Announcement Period Buy-and-Hold Returns and Sensitivity to Disclosure Mandates

Panel A – Dependent variable is the 3-day excess announcement buy-and-hold return (N=283)

	Model 1	Model 2	Model 3	Model 4
Constant	0.978 (1.84)	0.682 (1.99)	-4.256 (-0.91)	-4.122 (-0.75)
I <sub>Before 1964</sub> * ROA	6.311 (1.04)			13.852 (0.88)
ROA	-3.374 (-0.59)			-2.120 (-0.30)
I <sub>Before 1964</sub> * (L.T. Debt)/(Total Assets)		-0.419 (-0.21)		-0.745 (-0.19)
(L.T. Debt)/(Total Assets)		1.239 (0.75)		1.286 (0.69)
I <sub>Before 1964</sub> * ln(Total Assets)			0.020 (0.72)	-0.033 (-0.33)
ln(Total Assets)			0.280 (1.08)	0.268 (0.92)
R-squared	0.005	0.002	0.005	0.013

Table 5 (continued)

Panel B – Dependent variable is the 11-day excess announcement buy-and-hold return (N=283)

	Model 1	Model 2	Model 3	Model 4
Constant	2.323 (2.63)	2.148 (2.90)	3.315 (0.33)	5.568 (0.49)
$I_{\text{Before 1964}} * \text{ROA}$	-0.416 (-0.04)			-14.840 (-0.58)
ROA	-5.750 (-0.57)			-6.940 (-0.50)
$I_{\text{Before 1964}} * (\text{L.T. Debt})/(\text{Total Assets})$		1.779 (0.52)		-1.028 (-0.14)
$(\text{L.T. Debt})/(\text{Total Assets})$		-2.159 (-0.73)		-2.772 (-0.64)
$I_{\text{Before 1964}} * \ln(\text{Total Assets})$			0.016 (0.31)	0.087 (0.48)
$\ln(\text{Total Assets})$			-0.087 (-0.16)	-0.152 (-0.24)
R-squared	0.001	0.002	0.001	0.007

The event day is the day a firm's plan to list on the NYSE first appears in the NYSE's *Weekly Bulletin*. Firms moving to the NYSE between 1955 and 1962 include OTC firms moving to the NYSE between January 1, 1955, and December 31, 1962. Firms moving to the NYSE between 1965 and 1970 include OTC firms moving to the NYSE between January 1, 1965, and December 31, 1970. The three-day window begins when the market closes on the Wednesday prior to the Friday announcement and ends when the market closes on the Monday following the Friday announcement. The eleven-day window begins when the market closes on the Thursday in the week immediately preceding the Friday announcement and ends when the market closes on the Friday in the week immediately following the Friday announcement. Excess returns are created using a single factor model and the equal-weighted NYSE index return. We use the Moody's manuals to obtain each firm's return on assets (ROA), long term debt (L.T. Debt), and total assets prior to the firm's announced intentions to move to the NYSE.  $I_{\text{Before 1964}}$  equals 1 if the firm announced intentions to move to the NYSE prior to 1963 and zero otherwise. The t-statistics (in parentheses) are based on standard errors calculated using White's (1980) heteroskedasticity-consistent methodology.

Table 6

Information Environment for firms in *Barron's* Over-The-Counter Market Column on January 7, 1963.

	Primary List (# of firms)	Supplementary List (# of firms)	Combined (# of firms)	Combined (% of total)
Number of Firms:	880	596	1,476	100.00%
Firms in <i>Moody's Manual</i> prior to April 1, 1963:	<u>- 656</u>	<u>- 441</u>	<u>- 1,097</u>	<u>- 74.32%</u>
Remaining firms:	224	155	379	25.68%
Firms filing with the SEC as of 1963:	<u>- 173</u>	<u>- 72</u>	<u>- 245</u>	<u>- 16.60%</u>
Remaining firms:	51	83	134	9.08%
Firms with interim or fiscal year earnings in <i>Barron's</i> :	<u>- 44</u>	<u>- 47</u>	<u>- 91</u>	<u>- 6.17%</u>
Remaining firms:	7	36	43	2.91%
Firms with bid/ask quotes in <i>Barron's</i> :	<u>- 0</u>	<u>- 12</u>	<u>- 12</u>	<u>- 0.81%</u>
Firms without readily accessible financial information or <i>Barron's</i> quotation data:	<u>7</u>	<u>24</u>	<u>31</u>	<u>2.10%</u>

We begin by canvassing Moody's manuals for financial information for each of the firms listed in the *Barron's* Over-The-Counter Market Column on January 7, 1963, which provides bid and ask quotations for OTC firms. The Primary List includes firms quoted in the National and Eastern Daily Lists. The Supplementary List contains firms quoted in the National and Eastern Weekly Lists. For the remaining firms for which we are unable to find financial information in the Moody's manuals, we next examine whether or not they file financial statements with the Securities and Exchange Commission (SEC). Finally, for the remaining firms without financial statement information at the SEC or in the Moody's manuals, we examine whether or not interim or fiscal year earnings are reported in the January 7, 1963 issue of *Barron's*. We label the remaining firms as firms without readily accessible financial information.

Table 7  
 Determinants of Quarterly NYSE New Listings, 1955-1970

	Model 1	Model 2	Model 3	Model 4
Constant	1.156 (1.04)	1.282 (1.43)	1.519 (1.71)	6.351 (12.98)
Lagged Market Level	0.010 (3.70)	0.009 (3.95)	0.010 (4.13)	
Lagged Number of New Listings	0.265 (2.20)	0.266 (2.23)	0.149 (1.18)	
Prior Year Market Return	0.006 (0.27)			
Pre/Post 1964 Acts Dummy			3.450 (2.33)	5.078 (3.93)
R-squared	0.377	0.376	0.440	0.164

The dependent variable is the number of new listings on the NYSE in quarter  $t$ . New listings include only firms which moved from the OTC market to the NYSE during a given quarter. In the time period, the average number of quarterly new listings is 6.91 while the median is 7. The independent variables are the lagged market level, lagged number of new listings, prior year market returns, and pre/post 1964 Acts dummy variable. Lagged market level is the level of the CRSP value weighted market index (January 1954 = 100) as of the end of the prior quarter. Lagged number of new listings is the number of new listings on the NYSE during the prior quarter. Prior year market returns is the buy-and-hold return on the CRSP value weighted index over the 12 prior months. Pre/Post 1964 Acts dummy is equal to one if the quarter is during April 1963 to December 1964, else zero. The SEC's Special Study was released in April, 1963. The 1964 Securities Acts Amendments was signed by President Johnson in August, 1964. During the January 1955 to December 1970 time period, there are 64 quarters. Thus, the sample size in each regression is 64. The t-statistics (in parentheses) are based on standard errors calculated using White's (1980) heteroskedasticity-consistent methodology.



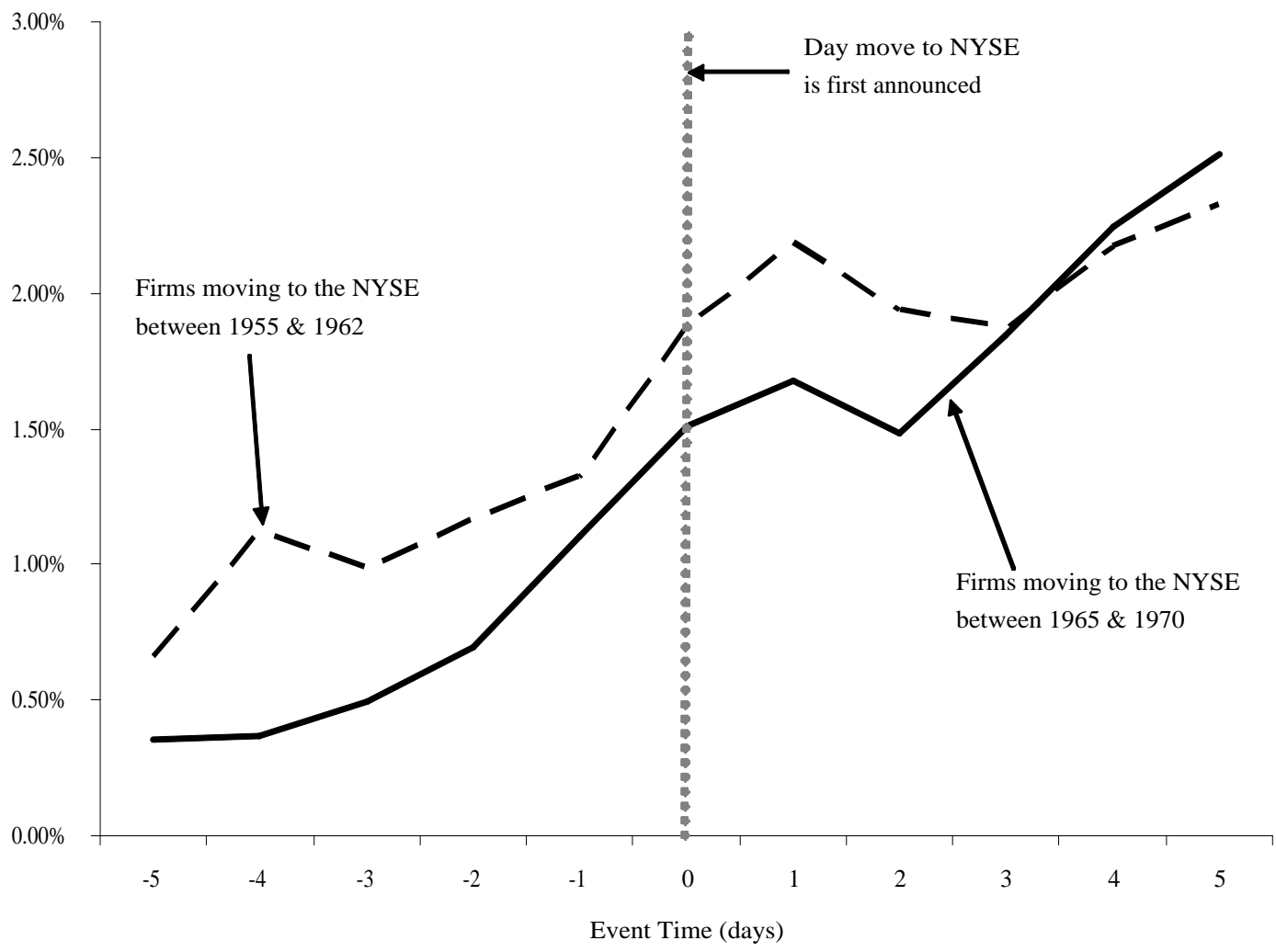


Fig. 1. Cumulative Raw Returns. The event day is the day a firm’s plan to list on the NYSE first appears in the NYSE’s *Weekly Bulletin*. Firms moving to the NYSE between 1955 and 1962 include OTC firms moving to the NYSE between January 1, 1955, and December 31, 1962. Firms moving to the NYSE between 1965 and 1970 include OTC firms moving to the NYSE between January 1, 1965, and December 31, 1970. Raw returns (adjusting for dividends and stock splits) are computed using quote midpoints.

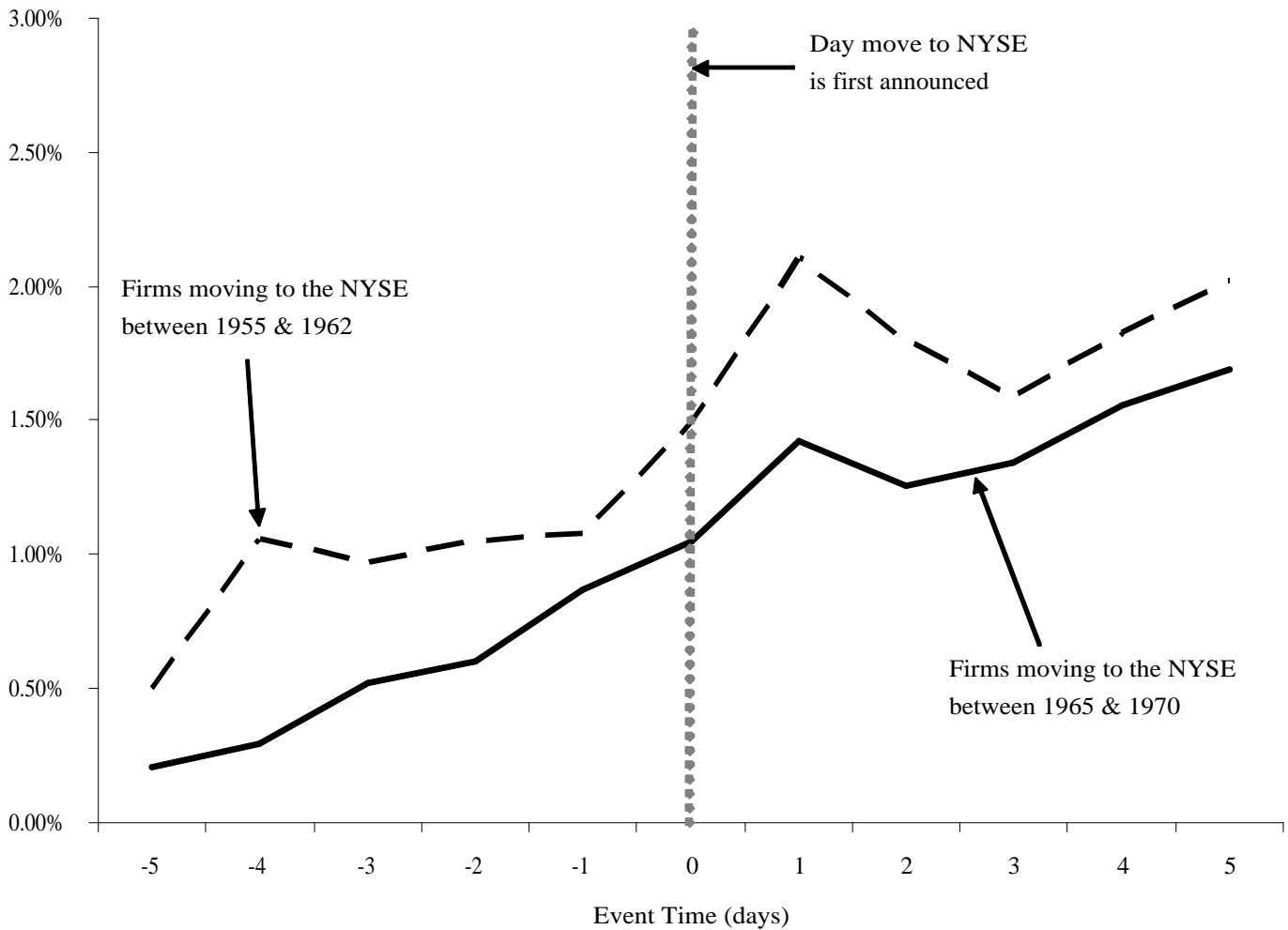


Fig. 2. Cumulative Excess Returns. The event day is the day a firm's plan to list on the NYSE first appears in the NYSE's *Weekly Bulletin*. Firms moving to the NYSE between 1955 and 1962 include OTC firms moving to the NYSE between January 1, 1955, and December 31, 1962. Firms moving to the NYSE between 1965 and 1970 include OTC firms moving to the NYSE between January 1, 1965, and December 31, 1970. Raw returns (adjusting for dividends and stock splits) are computed using quote midpoints. Excess returns are computed by subtracting the return on the CRSP equal-weighted index from raw returns.

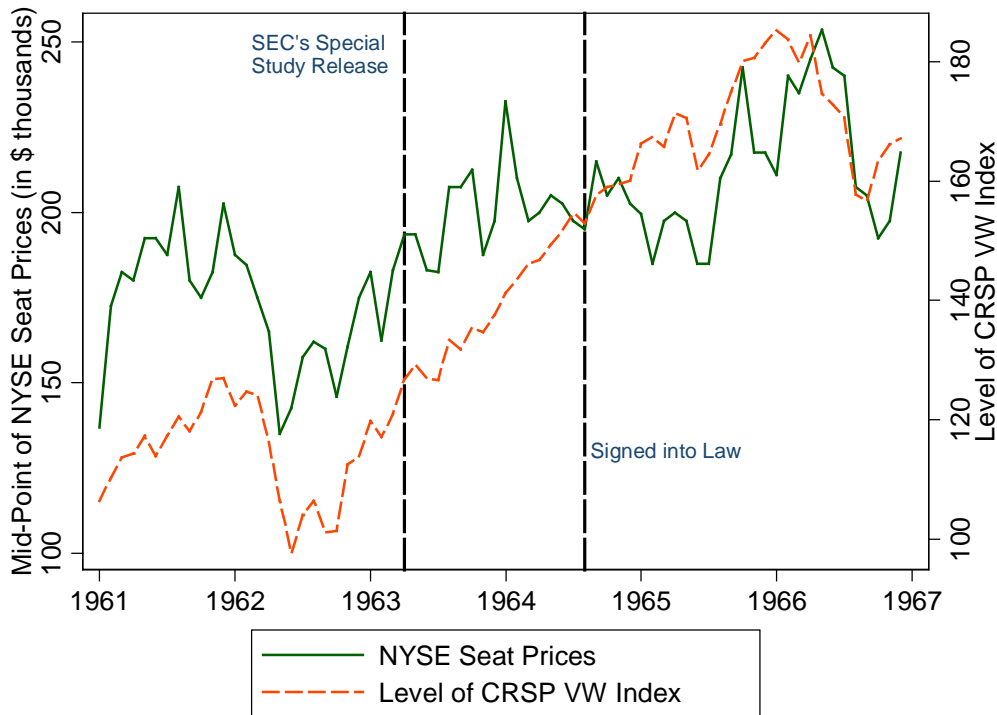


Fig. 3. Monthly time series trend in NYSE seat prices and the level of the value weighted market, 1961-1966. The SEC's Special Study was released in April, 1963. President Johnson signed the 1964 Securities Acts Amendments into law in August, 1964. The NYSE seat prices are the average of the monthly bid and ask seat prices obtained from the weekly NYSE bulletin. The level of the CRSP value weighted market index is initially set to 100 in January of 1961.

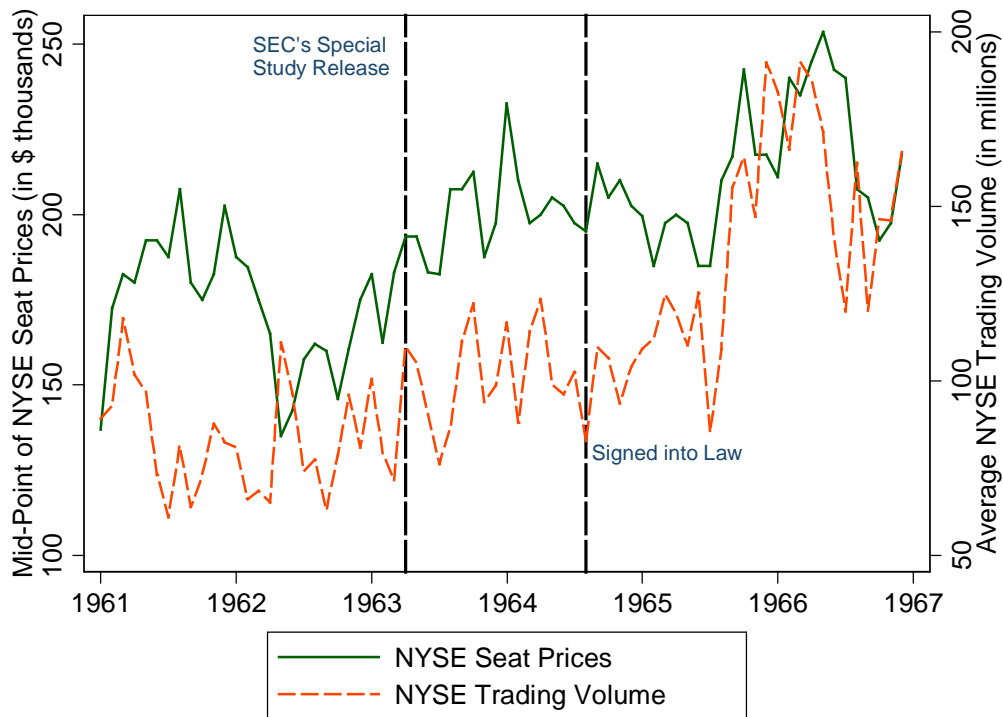


Fig. 4. Monthly time series trend in NYSE seat prices and trading volume, 1961-1966. The SEC's Special Study was released in April, 1963. President Johnson signed the 1964 Securities Acts Amendments into law in August, 1964. The NYSE seat prices are the average of the monthly bid and ask seat prices obtained from the weekly NYSE bulletin. The monthly aggregate NYSE trading volume (obtained from the NYSE's web site) includes NYSE volume in all issues traded at the NYSE and executed by NYSE.