Does the Market Value Mandated Disclosure?

Robert Battalio  
Mendoza College of Business  
University of Notre Dame  
rbattali@nd.edu

Brian Hatch  
College of Business  
University of Cincinnati  
brian.hatch@uc.edu

Tim Loughran  
Mendoza College of Business  
University of Notre Dame  
Loughran.9@nd.edu

February 22, 2008

Abstract: Prior to the passage of the 1964 Securities Acts Amendments, firms moving from the Over-The-Counter (OTC) market to the New York Stock Exchange (NYSE) subjected themselves to more stringent mandated disclosure requirements in return for the greater visibility and liquidity available on the exchange. The passage of the 1964 Securities Acts Amendments eliminated the differences in the mandated disclosures between these markets. Prior literature finds that firms experience significant abnormal returns when they announce intentions to list their shares on the NYSE. If investors value mandated disclosure, the returns generated by announcing a move from the OTC market to the NYSE should be lower after the passage of the 1964 Amendments. We examine the returns for 288 firms announcing intentions to move from the OTC market to the NYSE before and after the passage of the 1964 Amendments. We report no difference in the announcement period returns. This suggests investors place little value on mandated disclosure.

*We would like to thank Utpal Bhattacharya and Harold Mulherin for their helpful comments. We are grateful to Betsy Laydon and Sandro Santoro for excellent research assistance.
Does the Market Value Mandated Disclosure?

1. Introduction

“The keystone of the entire structure of Federal securities legislation is disclosure. Making available to investors adequate financial and other information about securities in which they might invest or have invested is the best means of enabling them to make intelligent investment decisions and of protecting them against securities frauds.” – the Securities and Exchange Commission on mandated disclosure in the 1963 Special Study on Securities Markets.

There is an extensive accounting, finance, and law literature investigating disclosure by publicly traded firms. A vast majority of this literature focuses on the implications of voluntary disclosure. Given the dearth of relevant regulatory events (see Leuz and Wysocki (2006)), we have very limited evidence regarding the economic impact of mandated disclosure. Proponents argue that since securities research is in many ways a public good, mandated disclosure can increase the breadth of value-relevant information and reduce costly duplication of effort by investment analysts. Indeed, Greenstone, Oyer, and Vissing-Jorgensen (2006) provide empirical evidence suggesting the mandatory disclosure rules contained in the 1964 Securities Acts Amendments created between $3.2 to $6.2 billion (in 2005 dollars) for shareholders.

Although mandated disclosure may appear to be a panacea, Stigler (1964b) notes that “information costs money, and no society is rich enough to get all the available information.” Opponents question whether mandated disclosure is more cost-effective than the combination of voluntary disclosure and the ability to litigate. Recent examples of increases in mandated disclosure are the extension of disclosure requirements to OTC Bulletin Board stocks in 1999 and passage of the Sarbanes-Oxley Act in 2002. This paper contributes to this debate by using a natural experiment to assess the economic impact of mandatory disclosure.

Prior to the passage of the 1964 Security Acts Amendments, the SEC did not require firms trading exclusively in the Over-The-Counter (OTC) market to make the same disclosures as firms trading on the New York Stock Exchange (NYSE). As a result, firms choosing to move from the OTC market to the NYSE subjected themselves to an increased level of mandated disclosure in return for the improved liquidity, greater visibility, and certification associated with listing and trading on the NYSE (see Kadlec and
McConnell (1994)). The 1964 Amendments required larger firms trading on the OTC to make the same disclosures as firms trading on the NYSE. Thus, firms moving from the OTC market to the NYSE after the passage of the Security Acts Amendments did not face increased mandated disclosure. If we assume mandated disclosure is valued by investors, the passage of the Securities Acts Amendments reduced the benefits of listing on the NYSE.

Prior research has shown that, on average, a firm’s stock price rises when it announces it is moving to the NYSE (for example, see Ule (1937), Sanger and McConnell (1986), and Kadlec and McConnell (1994)). In an efficient market, one would expect this increase in stock price to equal the discounted present value of the benefits of trading on the NYSE relative to trading in the OTC market. Since the Security Acts Amendments did not affect firms trading on the NYSE, the primary difference in the benefits of moving from the OTC market to the NYSE listing before and after the 1964 Amendments is the discounted present value of the increased mandated disclosure. In this paper we examine the abnormal returns associated with the announcement by OTC firms that they are applying to list on the NYSE before and after the 1964 Amendments to obtain an estimate of the economic impact of increased mandated disclosure in the OTC market. Assuming that firms are value maximizing, this estimate should represent an upper bound on the value of mandated disclosure in the OTC market.

Recent literature suggests mandated disclosure may be valued by equity market participants. For example, in their examination of the 1964 Securities Acts Amendments Greenstone, Oyer, and Vissing-Jorgensen (2006), hereafter GOV, find that the OTC firms most affected by the newly mandated disclosures experience abnormal excess returns ranging from 1,100 to 2,200 basis points over the twenty-three month period beginning when the Amendments were first proposed and ending when they were first enforced. When a tighter event-window is used, GOV find that the most affected OTC firms have abnormal excess returns of 35 basis points per week in the ten-week period beginning eight weeks prior to the week in which these firms make their first mandatory filing. The authors interpret their results as evidence that mandated
disclosure creates value by reducing the conflicts of interests between controlling insiders and outside shareholders.

Bushee and Leuz (2005) examine the extension of mandatory disclosure from the exchange-listed and the OTC markets to the OTC Bulletin Board (OTCBB) market and find that firms already in compliance with the new disclosure rules generated positive abnormal returns around key announcement and phase-in dates. They attribute these abnormal returns to positive externalities associated with the imposition of mandatory disclosure on other OTCBB firms. Together, the results in Bushee and Luez (2005) and GOV (2006) suggest that mandated disclosure may have a positive effect on stock prices.

Despite these findings, it is still not clear whether mandated disclosure produces net economic benefits to publicly traded companies. Schwert (1981) notes that “the main difficulty with measuring the effects of regulatory change on security prices is identifying when the market first anticipates the effects of the change on future profitability.” This problem plagues each of the studies mentioned in the prior paragraphs to varying degrees. In an attempt to isolate the impact of mandated disclosure on their sample firms, both GOV and Bushee and Leuz create different groups of firms based on their exposure to the new disclosure mandates.

GOV essentially compare three groups of firms: a group unaffected by the mandatory disclosure rules because they are already in full compliance (the 4-4 group), a group marginally affected by the mandatory disclosure rules (the 2-4 group), and a group they expect to be significantly affected by the mandatory disclosure rules (the 0-4 group). GOV find no difference in the returns of the 2-4 group and the 0-4 group in the tests that use the ten-week event window. Bushee and Leuz find that over 74% of the firms in their sample of OTCBB firms that were not previously disclosing information with the SEC did not comply with the mandatory disclosure requirements of the “Eligibility Rule” and were removed from the OTCBB. Bushee and Leuz conclude that “for the vast majority of OTCBB firms, the costs of mandatory SEC
disclosures appear to outweigh the benefits.” Together, these results suggest the market may not value mandatory disclosure.

To varying degrees, prior to the passage of the 1964 Securities Acts Amendments firms were subject to several mandatory disclosure requirements.\(^1\) Firms listed on the NYSE and OTC firms that had issued securities of sufficient market value after May of 1936 were required to register their securities with the SEC and to file annual and semiannual reports and to report material events as they occurred to the SEC. Firms listed on exchanges were also required to provide proxy statements in advance of shareholder meetings or votes and they were required to report the identities and the holdings of officers, directors, and large shareholders. These firms were also required to report on a monthly basis the changes in the holdings of officers, directors, and large shareholders. These disclosures made it possible for shareholders to determine, and then recover, the trading profits earned by insiders initiating and unwinding their positions in company stocks in fewer than six months. After the passage of the 1964 Securities Acts Amendments, all firms were subject to these mandatory disclosure requirements.

Anecdotal evidence suggests the NYSE’s disclosure requirements kept some OTC firms away from the NYSE. For example, in September 1955, a New York Times article by Burton Crane notes that, “There are some disadvantages to listing (on the NYSE). Listed companies are required to make much fuller reports to the exchange than those that are not.” He also notes that “some companies do not like the SEC proxy rules and so defer listing” and that “some executives and directors object to being required to report their ‘insider’ trading in the stock.” A New York Times article by Louis Kohlmeier published on the day after the Securities Acts Amendments were signed into law notes that “some corporations are listing on exchanges now because they no longer feel a major incentive for staying off.” The same article notes that the impact of the Securities Acts Amendments on NYSE-listed firms would be “limited, because the New York Stock Exchange already requires all of its listed companies to solicit proxies.”

\(^1\)Much of this discussion draws heavily on Section III. of Greenstone, Oyer, and Vissing-Jorgensen (2006).
We contribute to this debate by examining the returns generated by firms that announce they are moving from the OTC market to list on the NYSE in the eight years prior to 1963 (when the 1964 Securities Acts Amendments were initially proposed) and in the six years after 1964 (when President Johnson signed the 1964 Securities Acts Amendments into law). Other than the Securities Acts Amendments, we are aware of no other material regulatory or market structure changes that would impact the incremental value to OTC firms of listing on the NYSE during our sample period. We find that firms announcing a move from the OTC to the NYSE prior to the 1964 Amendments earn a three-day market-adjusted average return of 106 basis points and an eleven-day market adjusted mean return of 209 basis points.

If we attribute all of the announcement period returns to the increased disclosures mandated on the NYSE, these results suggest the maximum market value of mandated disclosure is around 200 basis points. We document a three-day market adjusted mean return of 83 basis points for OTC firms announcing a move to the NYSE between 1965 and 1970. The corresponding eleven-day market adjusted average return is 172 basis points. Since the differences in the average announcement period returns before and after the 1964 Securities Acts Amendments are not statistically different, we interpret our results as evidence that the market did not value the disclosures mandated by the 1964 Securities Act Amendments.

In Section 2 we discuss the theoretical disclosure literature, the empirical literature on mandated disclosure, and the empirical literature on the value of exchange listings. In Section 3 we describe our sample selection criteria and our data. Section 4 describes our results and Section 5 concludes.

2 Literature Review

2.1 Disclosure Theory

Firms can increase the liquidity of their shares trading in secondary markets, lower their cost of capital, improve corporate governance and managerial decision making, increase analyst following, and
Verrecchia (2001) establishes a theoretical link between disclosure and market liquidity. Corporate disclosure can reduce the likelihood of trading with informed equity traders by making it harder to become privately informed and by reducing uncertainty about firm value. Merton (1987) argues that disclosure by lesser-known firms can make investors aware of their existence and increase their investor base. Lambert (2001, 2006) demonstrates how disclosure can reduce agency problems.

Despite these benefits, there are reasons why firms may choose not to make public disclosures. First, the direct costs of preparing, certifying, and disseminating corporate information can be onerous for smaller firms. Second, and perhaps more important, Verrecchia (1983) argues firms may avoid making public disclosures to prevent competitors, regulators, employees, and politicians from using the disclosed information. Leuz and Wysocki (2006) 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 tradeoffs than the regulators or policy makers.”

Given the prior discussion, it is not clear that mandatory disclosure is socially desirable. Leuz and Wysocki (2006) describe two scenarios in which it might be. First, when firms have severe agency problems, outside owners may wish to precommit managers to disclose information. In these situations, it may be that mandated disclosure enforced by the government with criminal penalties is superior to alternatives such as actions at the state level against fraud, stock exchange rules, and reputation capital (see Easterbrook and Fischel (1984)). If so, the value of firms with severe agency problems should increase after the imposition of mandatory disclosure. A second rationale for mandated disclosure are externalities. While mandated disclosure may mitigate “both the (private) over- and under-production of information,” Wysocki and Leuz note that disclosures can have negative externalities and conclude that it is an empirical question whether mandatory disclosures increase social welfare.

2.2 Empirical Literature on Mandated Disclosure

The early empirical literature on mandated disclosure investigates the impact of the Securities Exchange Act of 1934, which created four mandatory disclosure requirements that applied to firms listed on

---

2Verrecchia (2001) establishes a theoretical link between disclosure and market liquidity. Corporate disclosure can reduce the likelihood of trading with informed equity traders by making it harder to become privately informed and by reducing uncertainty about firm value. Merton (1987) argues that disclosure by lesser-known firms can make investors aware of their existence and increase their investor base. Lambert (2001, 2006) demonstrates how disclosure can reduce agency problems.
exchanges and to larger OTC firms. As noted by Daines and Jones (2007), the specific disclosure items were largely taken from the NYSE’s listing requirements for new firms. Stigler (1964a) finds securities issued after the introduction of mandatory disclosure have lower returns and lower variance than those issued prior to the new regulations and concludes the regulation shifted the issuance of riskier securities to less regulated markets.³

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 the Act. 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.” Finally, Daines and Jones (2007) examine bid-ask spreads around the imposition of the 1934 Act. Daines and Jones argue that if mandated disclosure reduces information asymmetries, the onset of mandated disclosure should cause a reduction in bid-ask spreads. They are unable to identify specific newly required disclosures that reduce information asymmetries or improve liquidity.

Leuz and Wysocki (2006) note that the empirical findings of studies investigating the impact of the Securities Exchange Act of 1934 have “been heavily debated and repeatedly challenged.” Many of these studies do not control for changing market conditions over the period (e.g., the Great Depression) and many use long event windows. By extending these four mandatory disclosure requirements to all firms trading in the OTC market, the 1964 Amendments provided researchers a new opportunity to study the costs and benefits of mandated disclosure. Ferrell (2003) finds the imposition of mandated disclosure on OTC firms is associated with a significant reduction in volatility among OTC firms relative to benchmark NYSE firms. He interprets this as evidence of improved price efficiency.

Greenstone, Oyer, and Vissing-Jorgensen (2006), also examine OTC returns around the 1964 Amendments. They classify OTC firms by their level of mandated disclosure before the 1964 Security Acts

³Jarrell (1981) and Simon (1989) find similar results.
Amendments and their anticipated level of mandated disclosure after the Acts. GOV rely upon the extent to which a firm was subject to SEC regulation as a measure of the extent of their disclosure. Using only that information that was available prior to conception of the 1964 Securities Acts Amendments, GOV identify a set of OTC firms they feel will be most affected by the onset of mandated disclosure and refer to these firms as 0-4 firms. GOV hypothesize that the 0-4 firms have 0 disclosure requirements before the Act and each of the 4 requirements after the Act.

GOV examine the abnormal returns of these firms relative to the abnormal returns of a set of NYSE-listed firms that are unaffected by the new regulation 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. However, GOV also find that a group of firms they hypothesize to be less affected by the mandatory disclosure rules, 2-4 firms, generate similar abnormal returns over the same ten-week window. This result may be due to the fact that there was no significant difference in the information environment of these two groups of firms prior to the introduction of mandated disclosure. GOV restrict their sample to those OTC firms that appear in the January 7, 1963 issue of Barron’s.

As noted in Section IX of the 1963 SEC’s Special study, the over-the-counter companies whose securities are published in Barron’s are required by the NASD to send annual certified financial statements to shareholders and to the NASD. In the 23-month period ranging from when the regulations were initially proposed to the time that they were “put into force,” GOV find the 0-4 firms generate abnormal returns ranging from 11,500 to 22,100 basis points. Mulherin (2007) notes, however, that this result may not be generalizable as its significance is dependent on the model used to compute excess returns. Based on the evidence in their paper, GOV “conclude that investors valued the mandatory disclosure requirements imposed on 0-4 firms by the 1964 Amendments.”
More recently, several pieces of regulation have addressed corporate disclosures. Only one, however, only imposes mandated disclosure, and therefore, does not have confounding effects. Bushee and Leuz (2005) examine the extension of the mandatory disclosure rules set forth in the 1934 Securities Exchange Act to firms trading in the OTCBB market between July of 1999 and June of 2000 and find that “stock returns around key announcement and phase-in dates of the eligibility rule indicate significant costs” to firms for which the new disclosure rules were binding. Bushee and Leuz also find that firms already compliant with the new disclosure rules experience positive announcement returns around these dates, which they interpret as evidence that mandatory disclosure has positive externalities.

2.3 Exchange-Listings Literature

In their 1963 Special Study, the SEC notes that in many cases, the decisive factor for firms deciding where to have their equity traded “is the sharp difference in statutory requirements governing issuers whose securities are traded in exchange markets and over-the-counter markets, respectively. ... Given a freedom of choice, many issuers apparently choose to remain over-the-counter in order to avoid requirements and burdens associated only with listing, and some issuers perhaps to choose one exchange over another for similar reasons.” The SEC also 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 and or geography may play a role in a firm’s listing decision.

The early literature examining the value of moving from the OTC market to an exchange examined returns before and after the actual listing date. Ule (1937) examines firms that move from the OTC market to either the NYSE or the New York Curb Exchange between 1934 and 1937 and finds that relative to a market index, stock prices tend to increase prior to listing and decline after listing. Merjos (1962, 1963, and

---

4For example, Regulation Fair Disclosure, adopted by the SEC in October 2000, may lead some companies to make fewer corporate disclosures and the Sarbanes-Oxley Act of 2002 includes several confounding factors. See Leuz and Wysocki (2006) for an excellent review of the impacts of these regulations.
documents similar results for firms moving from the OTC market to the NYSE or the American Stock Exchange (AMEX) in the 1960s. Since these studies examine returns around the actual listing date rather than the original announcement date of the new listing, Sanger and McConnell (1986) note that “it is not possible, based upon their results, to determine whether firms that recently have done well subsequently decide to list, or whether the news of an impending listing triggered the price increase.”

Ying, Lewellen, Schlarbaum, and Lease (1977) attempt to distinguish the listing effect from the self selection bias that arises from firms choosing to list after a period of good performance by examining returns in the month in which firms trading in the OTC market announce they are applying to list on either the NYSE or the AMEX. The date that firms announce their intentions to list is the relevant date since 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 there were no cases in which a formal application to list on the NYSE was 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 intention to move to the NYSE.

Ying et al. find that between January 1966 and December 1968, firms announcing their intentions to list on the AMEX or on the NYSE earned market-adjusted returns of 7.54% in the month in which the listing was applied for. Sanger and McConnell (1986) find that on average, firms moving from the OTC market to the NYSE between 1966 and 1970 earn abnormal returns of 192 basis points in the two-week window centered on Friday that the listing announcement is published in the NYSE’s Weekly Bulletin.

More recently, Kadlec and McConnell (1994) analyze a sample of 273 OTC firms that listed on the NYSE over the period 1980 through 1989 and find they earn an average abnormal return of 190 basis points in the two-week window centered on the day the listing announcement is published by the NYSE. They also find evidence that the abnormal returns are related to the change in the number of individual and institutional shareholders and the change in bid-ask spread around the listing announcement and conclude that their
analysis supports both the improved liquidity and increased investor base hypotheses as explanations of the gain in stock price that accompanies new listings on the NYSE. Using transactions-level data, Christie and Huang (1994) confirm that trading costs fall significantly when firms move from the Nasdaq market to the NYSE.

Our methodology is similar to that used by Sanger and McConnell (1986). In addition to providing a careful documentation of the average abnormal returns associated with a firm’s announcement of intentions to move from the OTC market to the NYSE, Sanger and McConnell also use the differential in the announcement period returns before and after the introduction of the National Association of Securities Dealers Automatic Quotation (NASDAQ) communications system to the OTC market. The authors note that the primary contribution of the NASDAQ system was to provide the OTC with a more complete and timely method for communicating information regarding OTC dealer quotations. Sanger and McConnell find that the average two-week abnormal return centered on the day that OTC firms announce their intentions to move is significantly larger in the five-year period prior to the introduction of NASDAQ in February 1971 than it is in the subsequent seven year period. The authors conclude that their “results are consistent with the hypothesis that NASDAQ has reduced the benefits associated with listing on a major exchange.”

3. **Sample Selection and Data**

GOV note that the “political climate about 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.” Since the 1964 Amendments were passed on August 24, 1964, we assume that investors were unaware that mandated disclosure would be extended to all OTC firms prior to 1963 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 Bulletins published on Fridays by the NYSE to identify when firms trading in the OTC market announce that they are seeking to list on the NYSE. We also obtain the date on which 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.

The initial sample includes 242 OTC firms in the pre-period and 255 OTC firms in the post-period. Following GOV, we exclude banks and insurance companies from our sample since they have multiple regulators and are treated differently than other firms by the 1933 Act, the 1934 Act, and the 1964 Amendments. We define a firm as a bank or an insurance company, using the Fama and French (1997) classifications, if it has a primary SIC code of 6000-6199 (Bank) or 6300-6411 (Insurance). After eliminating banks and insurance companies, we have 169 OTC sample-firms that move to the NYSE prior to the 1964 Amendments and 229 OTC sample-firms that make the move to the NYSE after the 1964 Amendments.

Our analysis requires at least eleven days of bid and ask prices around the date on which OTC firms announce their intentions to move to the NYSE. To be included in our sample, we require the quotations of our sample firms to be 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 when a firm’s bid and ask prices in the *New York Times* are either unavailable (e.g., because writers are on strike) or illegible, we obtain quotes from the *Wall Street Journal* or the *Chicago Tribune*. We are unable to identify quotation data for 61 OTC firms that list on the NYSE prior to the 1964 Amendments and for 12 firms 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.

*Insert Table 1 about here.*

---

3Due to corrupt electronic *Weekly Bulletin* files, we are unable to identify the date on which three OTC firms announce their intentions to list on the NYSE in the pre-period and four OTC firms in the post-period.
Since we include in our sample OTC firms that move to the NYSE between January 1, 1955 and December 31, 1962 and between January 1, 1965 and December 31, 1970, we have a few firms that announce their intentions to move outside of these time periods. Specifically, we have four sample firms that announce their intentions to move in December of 1954 and six in the fourth quarter of 1964. Table 1 presents the years in which our sample firms announce their intentions to move to the NYSE during our sample period. The data suggest our events are fairly well distributed throughout the pre-period. The fewest number of announcements, four, occur in 1958 and the most announcements, twenty, occur in 1961.

Consistent with the claim that the 1964 Amendments reduced the cost of listing on the NYSE by imposing more onerous disclosure requirements on OTC firms, we see that 48 sample firms announce their intentions to move to the NYSE in 1965. This is the highest number of firms that announce intentions to list their shares on the NYSE in any given year during our fourteen-year sample period. Overall, the data in Table 1 suggest that our events, the announcements by sample firms that they have applied to list their shares on the NYSE, are fairly well distributed through time. 

Insert Table 2 about here. 

Following the Fama and French (1997) classifications, we use four-digit SIC codes to assign our each of our sample firms to one of 48 industries. Sample firms are from 31 different industries in the pre-period and from 39 different industries in the post-period. Table 2 names the five industries with the most sample firms in the pre-period and the five industries with the most sample firms in the post-period. No industry contains more than 11% of our sample in either the pre- or the post-period. In the pre-period, approximately 20% of the firms moving from the OTC market to the NYSE are either in the Construction Materials industry (10.2%) or are Utilities (9.2%). In the post-period, the industry with the highest concentration of sample firms is Utilities, with 10.5%. Four industries have the next highest percentage of sample firms in the post-period – each has ten firms. Overall, the top five industry concentrations only contain 39% of our sample
firms in the pre-period and 32% in the post-period, suggesting that our sample is fairly well distributed across industries in both periods.

**Insert Table 3 about here.**

Table 3 indicates that firms moving from the OTC market to the NYSE between 1955 and 1962 had an average market capitalization of nearly $81 million on the first day of trading on the NYSE. The smallest sample firm in the pre-period had a market capitalization of $11.5 million and the largest, the Ralston Purina Company, had a market capitalization of $565 million. OTC firms moving to the NYSE after the 1964 Amendments are larger, with an average market capitalization of $135 million on the first day of trading on the NYSE. In the post-period, the smallest sample firm had a market capitalization of $18.7 million and the largest, Eli Lilly, had a market capitalization of $3 billion.

The average closing price on the first day of NYSE trading is $33.78 in the pre-period and $33.35 in the post-period. The minimum price is $8 7/8 in the pre-period and is $10 5/8 in the post-period. The maximum price is $104 in the pre-period and is $121 3/4 in the post-period. The lack of low-priced stocks coupled with the similarity in share prices before and after the 1964 Amendments reduces the likelihood that microstructure factors affect our results.

The next three variables presented in Table 3 are the closing quoted bid-ask spread on the day before, the day of, and the day after our sample firms announce their intentions to move to the NYSE. The average quoted spread is quite stable around the announcement. For example, in the pre-period, the average closing bid-ask spread is $2.22 on the day before the announcement, $2.20 on the day of the announcement, and $2.31 on the day after the announcement. The pattern is similar in the post-period, although mean quoted spreads are about 63% smaller.

Quoted spreads are smaller in the post-period because of a change in the way the NASD reported retail bid and ask prices. Prior to February 15, 1965, the retail bid price was the same as the wholesale bid price. As noted by Shanahan (1965), wholesale prices were “the actual prices at which dealers themselves
Chapter 7 of the 1963 Special Study on Securities Markets notes that the suggested markup for wholesale ask prices of $25 per share or less was 5%, the suggested markup for wholesale ask prices between $25 and $70 per share was between 3.6% and 5%, and the suggested markup for wholesale ask prices between $70 and $100 was between 2.5% and 3.6%.

The retail ask price was found by adding an amount based on a NASD schedule called the Rule of Thumb to the wholesale ask. As of February 15, 1965, retail ask prices were set equal to the wholesale ask prices.

The change in quoting conventions in the OTC market is more clearly reflective in the difference in relative bid-ask spreads in the pre- and the post-period. We compute relative bid-ask spreads by dividing the quoted spread by the midpoint of the quoted bid-ask spread. The last three variables in Table 3 characterize the average relative spread on the day before, the day of, and the day after OTC firms announce their intentions to move to the NYSE. In the pre-period, the average relative spread ranges from 677 basis points to 704 basis points. In the post-period, the mean relative spread ranges from 261 basis points to 272 basis points. The average announcement day relative spread between the pre-and the post-period, 416 basis points, is roughly equal to the NASD’s suggested markup range for stocks trading at between $25 and $70 per share.

4. Empirical Results

Brown and Warner (1985) note that “daily data generally present few difficulties for event studies.” They find the choice of return generating model does not make much of a difference in short-run event studies. For this reason, 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 very similar results when we compute returns using closing bid prices. Market-adjusted returns are computed by subtracting the return on the CRSP equal-weighted index from the raw return.

Insert Figure 1 about here.

---

4Chapter 7 of the 1963 Special Study on Securities Markets notes that the suggested markup for wholesale ask prices of $25 per share or less was 5%, the suggested markup for wholesale ask prices between $25 and $70 per share was between 3.6% and 5%, and the suggested markup for wholesale ask prices between $70 and $100 was between 2.5% and 3.6%.
During our sample period, the announcement that an OTC firm is seeking to move to the NYSE is first made in the NYSE’s *Weekly Bulletin*, which is published on Fridays. 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 move to the NYSE in the pre-period and the solid line represents the mean cumulative raw return for firms that move 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. However, this difference 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.

*Insert Figure 2 about here.*

To ensure that the results in Figure 1 are not being driven by a market trend, we present average cumulative market-adjusted returns for our sample firms in Figure 2. We again use the dashed line to represent mean cumulative returns in the pre-period and the solid line to represent average cumulative returns in the post period. Comparing Figures 1 and 2, it appears that the market adjustment increases the difference in the average return generated by OTC firms announcing a move to the NYSE before and after the 1964 Amendments. We next examine whether or not this apparent difference is statistically significant.

Since we have the exact dates on which OTC firms first announce their plans to move to the NYSE publicly, we examine announcement period returns using a three-day window. Since these announcements are typically made on Fridays, the three-day window assumes that information regarding the 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 contained in the announcement.

One might argue that the announcement returns generated by firms moving to the NYSE prior to the 1964 Amendments provides an upper bound as to the value of mandated disclosure. If we assume, for example, that the NYSE does not offer increased visibility or lower transactions cost, the entire announcement period return associated with an OTC firm’s announcement of intentions to move to the NYSE can be interpreted to be the market’s response to mandated disclosures.

Table 4 reports the average announcement returns using both a three-day and an eleven-day event window. Focusing on the first column of Table 4, we see that the three-day excess return generated by OTC firms moving to the NYSE in the pre-period is 106 basis points and the eleven-day excess return is 209 basis points. Both of these returns are different from zero at the 0.01 significance level. These results suggest that at most, the market’s valuation of the increased disclosures mandated by the 1964 Amendments is about 2% of the market’s capitalization. This number is significantly smaller than the 11.5% to 22.1% abnormal excess returns documented by GOV over the period encompassing the initiation and the final passage of the legislation. It is also smaller than the 3.5% abnormal excess returns documented by GOV over the ten-week period surrounding the announcement that OTC firms had begun to comply with the legislation.

Insert Table 4 about here.

Ultimately, we are interested in obtaining more than an upper bound on the market’s valuation of mandated disclosure. We conclude our analysis by comparing the average announcement period returns generated by OTC firms moving to the NYSE prior to the 1964 Securities Acts Amendments to the mean returns generated by OTC firms that move to the NYSE after the 1964 Amendments. As is the case in the pre-period, we document average abnormal announcement period returns that are significantly different from zero over both the three-day and the eleven-day window. Specifically, we find a mean three-day excess return

\[ \text{We obtain similar results when the CRSP value-weighted index is used to deflate raw returns.} \]
of 83 basis points and an average 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 returns generated in the pre- and the post-period. While the difference grows 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 the pre- and the post-period. 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 bid prices are used 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. Neither of these differences is significantly different from zero at conventional levels. Thus, while Sanger and McConnell (1986) find a statistically significant difference in average announcement period returns before and after the introduction of the NASD’s automatic quotation system to the OTC market, we are unable to detect differences in announcement period returns before and after the introduction of mandated disclosure to the OTC market. This suggests the market does not value mandated disclosure.

5. Conclusions

Is mandated disclosure valued by the market? There are obvious benefits to disclosure – better informed investors, a potential reduction in agency costs, and a reduction in information production costs. There are also costs – the direct costs of information production and the indirect costs of providing
potentially sensitive information to others (e.g., competitors, regulators, etc.). Understanding whether the benefits of mandated disclosure outweigh the costs is important given the recent emphasis by regulators on the need for increased mandated disclosure. As noted by Engel, Hayes, and Wang (2007), if the regulatory burden on public companies becomes too severe, some firms will be forced to seek higher cost, nonpublic financing. This may lead them to forgo profitable investment projects, thereby reducing the efficiency of the economy.

Empirical evidence on the net benefits of mandated disclosure is mixed. GOV suggest that mandated disclosure increases the market capitalization for some firms by more than 20%. Others find evidence that suggests the costs of mandated disclosure may be quite onerous. Bushee and Leuz (2005) find that nearly 75% of the firms leave the OTCBB market when mandated disclosure is introduced and Engel, Hayes, and Wang (2007) find evidence that firms are more likely to go private after the passage of the Sarbanes-Oxley Act. Using a natural experiment, we contribute to this debate by obtaining an estimate as to the market’s valuation of mandatory disclosure.

Interestingly, the announcement return for firms moving to the NYSE between 1955 and 1962 provides an upper bound on the value of mandated disclosure. We estimate this upper bound to be around 200 basis points, which is significantly less than the value of mandated disclosure previously documented in the literature. We find there is no statistical difference in the average raw or the average market-adjusted returns associated with the announcement of intentions to move to the NYSE before and after the 1964 Amendments. This result holds for both the three-day and the eleven-day event window. The result also holds when we use bid prices to measure raw returns and when we use a value-weighted index to market adjust returns. We interpret this as evidence that the market did not value the disclosure requirements mandated by the 1964 Securities Acts Amendments.

Future research may seek to better understand why the market’s response to the 1964 Amendments was so tepid. Perhaps the information environment in the OTC market was sufficiently rich. Recall that the
NASD required OTC firms to send annual reports to shareholders in order to have their bid and ask prices quoted in the financial press. Perhaps the market did not perceive much benefit to having the government enforce disclosure mandates under the threat of criminal penalties. Clearly, our focus on firms that choose to move from the OTC market to the NYSE implies that we are examining larger OTC firms. Did the market value the imposition of mandated disclosure on smaller OTC firms? While our experimental design does not permit us to answer this question, the general findings of Bushee and Leuz (2005) suggest the imposition of mandated disclosure on small firms is not value enhancing.
References


Merjos, A., Like money in the bank: big board listing, the record suggests, is a valuable asset. Barron’s. July 8, 1963, pages 9 and 13.


Wall Street Journal Staff Reporter, New system of quotes for over-the-counter issues is now in effect; Published prices are those that dealers cite to each other: retail markups are not shown, Wall Street Journal, February 16, 1965, page 27.
Table 1  
Year in which OTC firms Announce their Intentions to List on the New York Stock Exchange

The announcement day is the day on which 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 includes OTC firms moving to the NYSE between January 1, 1955 and December 31, 1962. Firms moving to the NYSE between 1965 and 1970 includes OTC firms moving to the NYSE between January 1, 1965 and December 31, 1970. † Includes four firms that began trading on the NYSE in 1955 but applied to list on the NYSE in December 1954. †† Includes six firms that began trading on the NYSE in 1965 but applied to list on the NYSE in the fourth quarter of 1964.

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

Using the Fama and French (1997) industry classifications, the sample is placed into an industry on the basis of its CRSP SIC code on the first day that it trades on the NYSE. We consider the five industries with the highest concentration of sample firms moving to the NYSE between 1955 and 1962 and the five industries with the highest concentration of sample firms moving to the NYSE between January 1, 1965 and December 31, 1970. An industry is included in this table if it is one of the top five industries in either period. Sample firms are in 31 different industries in the pre-period and are in 39 different industries in the post-period.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction Materials</td>
<td>10.20%</td>
<td>3.16%</td>
</tr>
<tr>
<td>Utilities</td>
<td>9.18%</td>
<td>10.53%</td>
</tr>
<tr>
<td>Shipping Containers</td>
<td>7.14%</td>
<td>2.11%</td>
</tr>
<tr>
<td>Food Products</td>
<td>6.12%</td>
<td>3.68%</td>
</tr>
<tr>
<td>Machinery</td>
<td>5.10%</td>
<td>5.26%</td>
</tr>
<tr>
<td>Business Services</td>
<td>1.02%</td>
<td>5.26%</td>
</tr>
<tr>
<td>Consumer Goods</td>
<td>2.04%</td>
<td>5.26%</td>
</tr>
<tr>
<td>Transportation</td>
<td>3.06%</td>
<td>5.26%</td>
</tr>
<tr>
<td>Other Industries</td>
<td>56.14%</td>
<td>59.48%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.00%</strong></td>
<td><strong>100.00%</strong></td>
</tr>
</tbody>
</table>
Table 3
Summary Statistics

The announcement day is the day on which 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 includes OTC firms moving to the NYSE between January 1, 1955 and December 31, 1962. Firms moving to the NYSE between 1965 and 1970 includes OTC firms moving to the NYSE between January 1, 1965 and December 31, 1970. Quoted spread is the closing ask price minus the closing bid price on the specified day. Relative spread is the closing ask price minus the closing bid price divided by the average of the closing ask price and the closing bid price on the specified day. For each variable, we present the mean and, in brackets, the standard deviation.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Market capitalization at time of listing (millions)</td>
<td>$80.95</td>
<td>$135.26</td>
</tr>
<tr>
<td></td>
<td>[$94.12]</td>
<td>[$238.81]</td>
</tr>
<tr>
<td>First closing price on the NYSE</td>
<td>$33.78</td>
<td>$33.35</td>
</tr>
<tr>
<td></td>
<td>[$16.88]</td>
<td>[$15.31]</td>
</tr>
<tr>
<td>Quoted spread on day prior to announcement</td>
<td>$2.22</td>
<td>$0.82</td>
</tr>
<tr>
<td></td>
<td>[$1.02]</td>
<td>[$0.51]</td>
</tr>
<tr>
<td>Quoted spread on day of announcement</td>
<td>$2.20</td>
<td>$0.80</td>
</tr>
<tr>
<td></td>
<td>[$0.98]</td>
<td>[$0.49]</td>
</tr>
<tr>
<td>Quoted spread on day after announcement</td>
<td>$2.31</td>
<td>$0.82</td>
</tr>
<tr>
<td></td>
<td>[$1.37]</td>
<td>[$0.49]</td>
</tr>
<tr>
<td>Relative spread on day prior to announcement</td>
<td>6.87%</td>
<td>2.67%</td>
</tr>
<tr>
<td></td>
<td>[1.57%]</td>
<td>[1.44%]</td>
</tr>
<tr>
<td>Relative spread on day of announcement</td>
<td>6.77%</td>
<td>2.61%</td>
</tr>
<tr>
<td></td>
<td>[1.45%]</td>
<td>[1.35%]</td>
</tr>
<tr>
<td>Relative spread on day after announcement</td>
<td>7.04%</td>
<td>2.72%</td>
</tr>
<tr>
<td></td>
<td>[2.51%]</td>
<td>[1.48%]</td>
</tr>
</tbody>
</table>
Table 4  
Announcement Period Returns

The announcement day is the day on which a firm’s plan to list on the NYSE first appears in the NYSE’s Weekly Bulletin, which is published on Fridays. 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. Firms moving to the NYSE between 1955 and 1962 includes OTC firms moving to the NYSE between January 1, 1955 and December 31, 1962. Firms moving to the NYSE between 1965 and 1970 includes OTC firms moving to the NYSE between January 1, 1965 and December 31, 1970. For each variable, we present the mean and, in parenthesis, the t-statistic.

Panel A: Three-day event window.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(1) - (2)</td>
</tr>
<tr>
<td>Quote midpoint</td>
<td>1.03%</td>
<td>1.00%</td>
<td>0.03%</td>
</tr>
<tr>
<td>(raw) return</td>
<td>(2.33)</td>
<td>(3.11)</td>
<td>(0.05)</td>
</tr>
<tr>
<td>Equal-weighted</td>
<td>-0.03%</td>
<td>0.17%</td>
<td>-0.20%</td>
</tr>
<tr>
<td>NYSE index return</td>
<td>(-0.18)</td>
<td>(1.29)</td>
<td>(-0.90)</td>
</tr>
<tr>
<td>Excess return</td>
<td>1.06%</td>
<td>0.83%</td>
<td>0.23%</td>
</tr>
<tr>
<td></td>
<td>(2.57)</td>
<td>(2.88)</td>
<td>(0.45)</td>
</tr>
</tbody>
</table>

Panel B: Eleven-day event window.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(1) - (2)</td>
</tr>
<tr>
<td>Quote midpoint</td>
<td>2.41%</td>
<td>2.58%</td>
<td>-0.17%</td>
</tr>
<tr>
<td>(raw) return</td>
<td>(2.84)</td>
<td>(4.21)</td>
<td>(-0.16)</td>
</tr>
<tr>
<td>Equal-weighted</td>
<td>0.32%</td>
<td>0.86%</td>
<td>-0.54%</td>
</tr>
<tr>
<td>NYSE index return</td>
<td>(1.03)</td>
<td>(3.29)</td>
<td>(-1.25)</td>
</tr>
<tr>
<td>Excess return</td>
<td>2.09%</td>
<td>1.72%</td>
<td>0.37%</td>
</tr>
<tr>
<td></td>
<td>(2.08)</td>
<td>(3.21)</td>
<td>(0.39)</td>
</tr>
</tbody>
</table>
Fig. 1. Cumulative Raw Returns. The event day is the day on which a OTC firm's intentions to move to the NYSE are announced in the NYSE’s Weekly Bulletin. Firms moving to the NYSE between 1955 and 1962 includes OTC firms moving to the NYSE between January 1, 1955 and December 31, 1962. Firms moving to the NYSE between 1965 and 1970 includes 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 on which a OTC firm’s intentions to move to the NYSE are announced in the NYSE’s Weekly Bulletin. Firms moving to the NYSE between 1955 and 1962 includes OTC firms moving to the NYSE between January 1, 1955 and December 31, 1962. Firms moving to the NYSE between 1965 and 1970 includes 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.