The NASDAQ Restructuring: Do Names Even Matter?

Kevin D. Broom[1]

[1] Department of Health Management & Policy, Saint Louis University, United States

Correspondence: Kevin D. Broom, Assistant Professor, Department of Health Management & Policy, Saint Louis University, United States. E-mail: kbroom3@slu.edu

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Abstract

This paper examines the impact of NASDAQ's July 2006 restructuring to create the new Global Select and Global Markets. The new tiers changed NASDAQ from a two-tiered marketplace (National and Capital Markets) to a three-tiered marketplace (Global Select, Global, and Capital Markets). I examine the asset-pricing impact on NASDAQ-listed firms affected by the restructuring, as well as any changes to NASDAQ's ability to compete with the NYSE for new listings. While initial data analysis indicates a potential announcement effect for Global Select Market stocks, further analysis indicates little more than a momentum effect from overall market movement in the weeks prior to the creation of the new tier. Additionally, analysis shows that NASDAQ became less competitive against NYSE in attracting new listings after the restructuring. These findings cast doubt on any utility resulting from the restructuring.

Keywords: NASDAQ, global select, NYSE, competition, tiered, momentum, IPO

1. Introduction

On February 15, 2006, the Nasdaq Stock Market, Inc. (referred to hereafter as NASDAQ) announced the creation of a new market tier for publicly traded companies on the NASDAQ Stock Market. The newest tier, named the "NASDAQ Global Select Market (GSM)," would have financial and liquidity requirements higher than any other market in the world. On June 26, 2006, a subsequent NASDAQ announcement specified the approximately 1,200 companies that qualified for the new market tier. Less than one week later, on July 3, 2006, the new listing structure took effect.

Bob Greifeld, NASDAQ President and Chief Executive Officer, promoted the new tier as "a blue chip market for blue chip companies." His announcement implies, at least in some manner, that NASDAQ's intent was to create a new, unique marketplace for blue chip companies. On the other hand, an article in MarketWatch pronounced that the new tier "means little" to investors (Jaffe, 2006). Furthermore, the article went on to state "the NASDAQ's designations are transparent and ultimately have more to do with marketing than markets (Jaffe, 2006)." Ultimately, whether or not NASDAQ's creation of the Global Select Market (GSM) represents an attempt to enhance NASDAQ's reputation is an empirical question.

From an economic perspective, does the existence of a tiered marketplace somehow represent a competitive response to maximize utility for an exchange? Jickling (2007) provides evidence that NASDAQ's listings have dropped 39% during the 1995-2006 timeframe. If a tiered structure assists in attracting new listings (which produce higher listing fees) or new traders (which produce more commissions on trading volume), a tiered structure would maximize NASDAQ shareholders' wealth. Is the recent restructuring a response to a decade of declining listings, designed to maximize NASDAQ shareholders' wealth? More importantly, did it increase shareholder wealth?

This study examines if tiered structures are an attempt by an exchange to enhance their reputation. I first analyze NASDAQ-listed stocks to determine if the restructuring signaled lower risk and greater prestige for NASDAQ through its impact on stocks listed on the new Global Select Market (GSM) and Global Market (GM) tiers. Did the new tier assist GSM stocks in increasing the investor bases (i.e. visibility), reducing their cost of capital, and increasing their market value? Any collective impact on GSM stocks would represent an *indirect* reputation effect for NASDAQ. The analysis focuses on stocks affected by the restructuring, namely the former NASDAQ National Market stocks that were re-categorized as the Global Select Market (GSM) and Global Market (GM) stocks.

The second part of the study examines if the restructuring enhances NASDAQ's competitiveness in the marketplace for new listings by focusing on any impact on its ability to compete for new IPO listings with other U.S. exchanges. The analysis focuses on any changes in NASDAQ's ability to compete for new listings in the IPO market. A direct change in NASDAQ's competitiveness could also represent a reputation effect resulting from the restructuring. If a higher proportion of new firms that are eligible for listing on multiple exchanges chose to list on NASDAQ after the restructuring, this increase provides support for a reputation effect.

The evidence indicates that NASDAQ-listed companies did not receive any announcement effect as a result of the restructuring, and NASDAQ is less (not more) competitive in the competition for listing with the NYSE. My analysis indicates NASDAQ-listed stocks demonstrated a momentum effect that started before the restructuring, and continued well beyond the restructuring, with no noticeable change in the direction of the stock price momentum. My analysis also indicates the probability of NASDAQ acquiring a new listing actually fell significantly after the restructuring, indicating a weakened competitive state for the exchange.

The rest of the paper is organized as follows. Section 2 reviews related literature and provides hypotheses. Section 3 describes the data and methodology. Section 4 presents the empirical findings, and Section 5 concludes.

2. Literature Review and Hypotheses

Merton's (1987) investor attention hypothesis states that when a firm increases its investor base (i.e. visibility), it can lower their expected returns, reduce their cost of capital, and increase their market value. Thus, increased visibility can serve as a proxy for higher reputation. This study seeks to determine if NASDAQ's 2006 restructuring resulted in any material changes in NASDAQ's reputation and their competitiveness in the marketplace for listings.

Under the Chemmanur and Fulghieri (2006) framework, exchanges face a trade-off between the value resulting from a higher reputation and the value of expected cash flows from firms listing on the exchange. The optimal listing standards maximize the combination of these two offsetting values. Consider an alternative motivation under this theoretical approach. The ability to create a tiered structure might allow a market to alter this tradeoff between the reputation value and the value of expected cash flows.

Consider a single-tiered market with only one listing criterion, market capitalization, and the exchange lists only firms with a minimum market capitalization of $100M. If the exchange decides to create a new lower tier, with a minimum market capitalization of $25M for the new lower tier (ceteris paribus), the exchange doesn't appear to create materially different tiers. If the trading structure is the exact same, the exchange is simply allowing a new set of "lower reputation" firms to list in a trading environment with the same market frictions (again, assuming the same trading technology, the same trading rules, etc.). The exchange can then signal that the new lower tier is a specialized tier for smaller, emerging companies, while continuing to promote the higher listing standards of the original tier. Figure 1 shows this relationship.

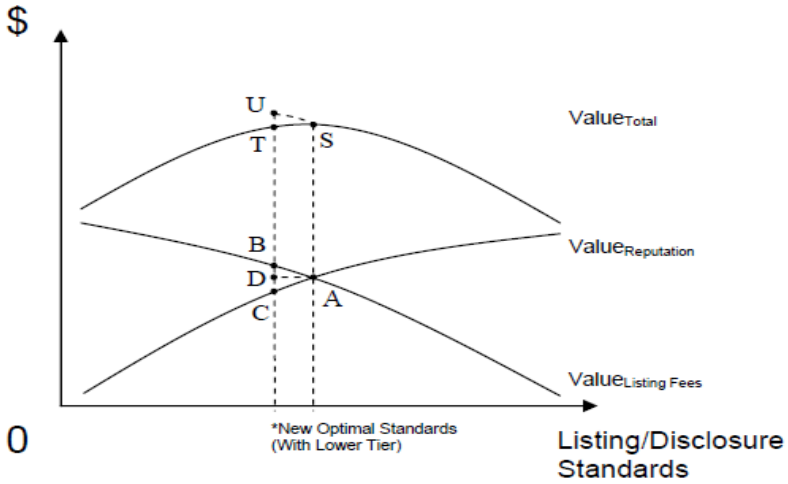

Figure 1. Optimal listing standards (with lower tier)

Under the optimal standards for an exchange having only one tier, Point S denotes the point where the total value of listing fees plus reputation value is maximized. If the exchange were to lower listing standards, their cash flows from listing fees would increase (from Point A to Point B) as they attracted new firms to list on their exchange (that were ineligible for listing under the old listing standards), but their reputation value would be reduced (from Point A to

Point C) as investors view the exchange as becoming a "lower reputation" exchange. The trade-off between reputation value and value from listing fees would result in a shift along the Total Value Curve (from Point S to Point T), but a minimal change in the total value of the exchange. On the other hand, a tiered structure could have a different effect.

The creation of a lower tier could allow the exchange to maintain their "high reputation" while increasing their cash flows from listing fees. As long as the exchange successfully markets the lower tier as being a specialized market for emerging companies, while minimizing similarities with the higher tier, the exchange could allow new companies to list on the lower tier. If successful, their cash flow would increase (from Point A to Point B) while the reputation value would remain stable (from Point A to Point D). The end result would be an upward shift in total value from Point S to U.

In the case of NASDAQ, this effect could help explain the motivation to move away from its original single-tiered structure as first developed in 1971. In the early 1980s, as the NASDAQ firms began to diverge into distinct classes of larger and smaller firms, the NASDAQ divided into the NASDAQ National Market and the NASDAQ Small-Cap Market. NASDAQ's success with a tiered structure may have motivated European exchanges in Belgium, Germany, France, and Holland to adopt similar market segments in order to attract high growth companies (Mendoza, 2007). Today, the dominant European exchange using a tiered structure is the London Stock Exchange with its Alternative Investment Market.

Conversely, now consider the same single-tiered market with only one listing criteria, market capitalization, and the exchange lists only firms with a minimum market capitalization of $100M. If the exchange creates a second higher tier, with a minimum market capitalization of $250M for the new higher tier (ceteris paribus), the exchange doesn't appear to create materially different tiers. If the trading structure is still the exact same, the exchange is simply reclassifying an already existing subset of its listed companies as being "higher reputation" firms, and this new tier still has the same market frictions (again, assuming the same trading technology, the same trading rules, etc.). The exchange can then signal that the new higher tier is a "blue chip" tier for larger, established companies, in an attempt to compete with other high reputation exchanges. The exchange would promote the higher listing standards ("a blue chip market for blue chip companies") in an effort to enhance their reputation value.

If successful, the exchange would reap a higher reputation value by promoting the virtues of the highest tier, while continuing to collect listing fees from the lowest tier. Figure 2 shows this relationship. Under the optimal standards for an exchange having only one tier, Point S denotes the point where the total value of listing fees plus reputation value is maximized. If the exchange were to increase their listing standards, their reputation value would increase (from Point A to Point B), but their cash flows from listing fees would be reduced (from Point A to Point C) as some firms would no longer meet the higher listing standards. The trade-off between reputation value and cash flows from listing fees would result in a shift along the Total Value Curve (from Point S to Point T), but a minimal change in the total value of the exchange. On the other hand, a tiered structure could have a different effect.

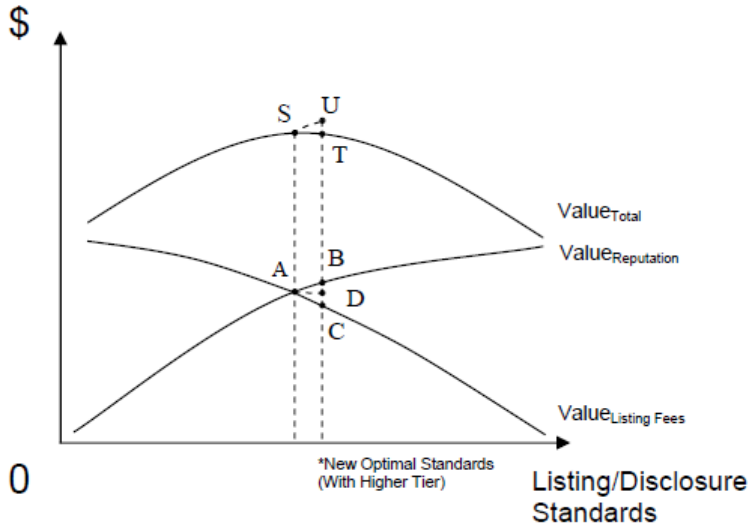

Figure 2. Optimal listing standards (with higher tier)

The creation of a higher tier could allow the exchange to continue collecting cash flows from listed companies that do not exceed the "high reputation" threshold of the upper tier. As a result, the value from listing fees would remain stable (a shift from Point A to Point D). The reputation value would increase (from Point A to Point B) if the exchange could successfully promote the merits of the higher tier while minimizing awareness of the similarities with the lower tier. The end result would be an upward shift in total value from Point S to Point U.

In this example, the tiers might not exhibit market quality differences beyond the market capitalization and public float of stocks listed on each tier. The entire market, regardless of tier, could be viewed as one big market with all stocks exhibiting the same trading frictions, differing only by a scale effect (i.e. the tiers are little more than liquidity tiers with the same frictions). Thus, the exchange could maximize their total value by implementing higher standards through the creation of an upper tier.

Under this scenario, the exchange benefits by establishing a tiered-structure and promoting the benefits of a high-reputation, upper tier in order to enhance their reputation value while maintaining their cash flows from listing fees. If so, the only material differences in market quality between the tiers, ceteris paribus, should result primarily from firm size and public float. The entire marketplace, regardless of tier, could be viewed as one big market with all stocks exhibiting the same trading frictions, but differing only in scale (i.e. the tiers are little more than liquidity tiers with similar trading frictions). This "Reputation Hypothesis" may explain NASDAQ's motivation for a tiered market structure.

NASDAQ's current competitive environment, defined by a highly competitive marketplace for new listings and an ongoing wave of consolidation in exchanges and trading platforms (in an attempt to garner market share), might have created the need to create the new Global Select Market. Having already restructured to gain a competitive advantage at the lower end of the market, the GSM restructuring appears aimed at gaining a competitive advantage at the upper end of the market.

While the theoretical motivation simply provides a justification for the reason why NASDAQ restructured (i.e. to enhance their reputation value), the empirical portion of this study attempts to measure whether the restructuring actually enhanced NASDAQ's reputation. Two techniques previously used to measure an impact on a firm's reputation include visibility and competitiveness approaches.

For publicly traded firms, an asset pricing approach measures changes in a firm's "visibility" to serve as a proxy for changes in their reputation. Since NASDAQ began publicly trading on the NASDAQ Stock Market in 2005, any reputation effect can be measured directly on NASDAQ's stock. If NASDAQ's restructuring was designed to draw new attention to their marketplace, any positive reputation impact should result in a positive stock pricing effect. Additionally, the reputation effect could be indirect, specifically to stocks listed on the newest NASDAQ tier.

While researchers have yet to specifically measure any reputation effect with exchanges, ample evidence does exist that reputation (i.e. visibility) is priced in stocks. Kadlec and McConnell (1994) find that visibility changes are an important determinant in explaining firm decisions to move their listing from NASDAQ to NYSE. Thus, firms seek the reputation effect from moving to the higher-reputation setting (i.e. from NASDAQ to NYSE). Jain and Kim (2006) find that firms experience positive cumulative abnormal returns upon switching their listing from NASDAQ to the NYSE.

Papaioannou, Travlos, and Viswanathan. (2008) analyze changes in operating performance resulting from the increased visibility of firms moving their listing to NYSE. They find that increased visibility leads to increased operating performance. Likewise, Baker, Powell, and Weaver (1999) argue that visibility is important to firms. The increased visibility may increase information flow about a firm (reduces uncertainty) and enhance the efficiency of trading in their stock (reduces information asymmetries). However, they find that the increased visibility results from changes in market capitalization, and not simply from the listing decision.

Thus, the following hypotheses will be tested:

H_0: The NASDAQ reorganization had no positive impact on their reputation (i.e. no indirect reputation effect).

H_1: The NASDAQ reorganization had a positive impact on their reputation through the stocks listed on their exchange (i.e. an indirect reputation effect).

On the other hand, Barber and Odean (2008) propose evidence that any asset pricing effect resulting from the restructuring may be only temporary, resulting from the increased attention around the timing of the announcement. They show that investors are net buyers of attention-grabbing stocks, and that attention-driven buying does not result in superior returns. Consequently, any reputation effect may simply be a temporary attention effect due to the restructuring announcement. Therefore, the asset pricing analysis will include determining if any reputation effect is permanent or temporary.

For exchanges in particular, the competitiveness approach measures changes in their ability to compete for listings, and this change in competitiveness also serves as a proxy for reputation. NASDAQ's enhanced ability to attract new listings (from existing or new public firms) could lead investors to expect higher future cash flows. Easley and O'Hara (2007) state that exchanges collect revenues both through listing fees and transaction fees, both of which would increase if a higher proportion of firms choose to list on NASDAQ. Higher cash flows could lead to an expectation of higher earnings, and thus to a positive impact to their stock price as investors upwardly revise their valuations of the exchange's stock.

Under the Chemmanur and Fulghieri (2006) framework, high-reputation exchanges set high listing and disclosure requirements, resulting in more precise information available to outsiders when evaluating firms listed on the exchange. Exchanges can attempt to use market segments (tiers) to enhance their reputation impact by implementing higher standards and forming a new higher tier. If successful, the exchange could exploit the new tier to better compete for listings with other high-reputation exchanges. Coffee (2002) refers to this competition through higher listing standards as the "race to the top" scenario. Thus, the following hypotheses will be tested to determine if the restructuring had any impact on NASDAQ's reputation through their ability to attract new listings:

H_0: The NASDAQ reorganization had no impact on their competitiveness in the marketplace for listings (i.e. no reputation effect).

H_2: The NASDAQ reorganization had a positive impact on their competitiveness in the marketplace for listings (i.e. a positive reputation effect).

3. Data and Methodology

This study has two sample sets. The first set consists of all NASDAQ-listed stocks that were listed on the GSM and NGM for the six months surrounding the restructuring. The GSM is important for analyzing any potential positive asset pricing impact when NNM stocks were "elevated" to the new GSM. The remaining NNM stocks that were "left behind" in the new NGM are also analyzed in order to determine if they had any negative asset pricing impact for not meeting the new higher standards of the GSM.

The Center for Research in Security Prices (CRSP) database serves as the primary data source for identifying all NASDAQ-listed stocks, as well as to which tier they are assigned. The sample set consists of the 1,210 stocks listed on the GSM and the 1,354 stocks listed on the NGM from 1 July – 31 Dec 2006 (thus eliminating the NCM). This provides a total of 2,564 stocks for the asset pricing analysis via event study.

A two-step procedure is used to calculate abnormal returns using the Fama-French three-factor model (1993) as a benchmark. In the first stage, the benchmark parameters are estimated, using a 255-day estimation period that ends 46 days before each event date, using equation 1.

$$R_{jt} = \hat{\alpha}_j + \hat{\beta}_j R_{mt} + \hat{s}_j SMB_t + \hat{h}_j HML_t + \varepsilon_t \quad (1)$$

In equation 1, R_{mt} represents the rate of return of a market index (S&P 500) for day t, SMB_t represents the average return on three small market-capitalization portfolios minus the average return on three large market-capitalization portfolios, and HML_t represents the average return on two high book-to-market equity portfolios minus the average return on two low book-to-market equity portfolios, and ε_t is a random variable assumed to have an expected value of zero, be homoskedastic, and be uncorrelated with R_{mt} or R_{kt} (for any $k \neq t$), or ε_s (for any $s \neq 1$). Abnormal returns are then estimated in the second stage. The abnormal return will be calculated using equation 2.

$$A_{jt} = R_{jt} - \hat{R}_{jt} = R_{jt} - \left(\hat{\alpha}_j + \hat{\beta}_j R_{mt} + \hat{s}_j SMB_t + \hat{h} HML_t\right) \quad (2)$$

For the event study analysis, I use four measures to analyze abnormal returns in order to identify any potential asset pricing effect resulting from NASDAQ's restructuring. These measures are average abnormal return, cumulative

average abnormal return, buy-an-hold abnormal return, and average compounded abnormal return. The functional forms of each abnormal measure are displayed in equations 3-6.

Average Abnormal Return:

$$AAR_t = \frac{\sum_{j=1}^{N} A_{jt}}{N} \tag{3}$$

Cumulative Average Abnormal Return:

$$CAAR_t = \frac{1}{N}\sum_{j=1}^{N}\sum_{t=T_1}^{T_2} A_{jt} \tag{4}$$

Buy-and-Hold Abnormal Return:

$$BHAR_{j,T_1,T_2} = \left[\prod_{t=T_1}^{T_2}\left(1+R_{jt}\right)-1\right] - \left[\left(1+\hat{a}_j\right)^{(T_2-T_1+1)}-1\right] - \hat{\beta}_j\left[\prod_{t=T_1}^{T_2}\left(1+R_{mt}\right)-1\right] \tag{5}$$

Average Compounded Abnormal Return:

$$ACAR_{T1,T2} = \frac{1}{N}\sum_{j=1}^{N} BHAR_{j,T1,T2} \tag{6}$$

The event study test statistic is the non-parametric generalized sign test (Cowan, 1992). The generalized sign test controls for the normal asymmetry between positive and negative returns during the estimation period. The generalized sign test is a better test for event studies than the Patell test (1976) due to the Patell test's assumption of cross-sectional independence in the abnormal return.

For sensitivity analyses, I use the Fama-French four-factor model with a momentum factor, recommended by Carhart (1997), to measure abnormal returns.

$$R_{jt} = \hat{\alpha}_j + \hat{\beta}_j R_{mt} + \hat{s}_j SMB_t + \hat{h} HML_t + \hat{u}_j UMD_t + \varepsilon_t \tag{7}$$

In equation 7, $R_{mt,}$ $SMB_{t,}$ and HML_t represent the same variables as the Fama-French three-factor model. In addition, UMD_t represents the average return on two high prior-return portfolios minus the average return on two low prior-return portfolios. Additionally, ε_t is a random variable assumed to have an expected value of zero, homoskedastic, and uncorrelated with R_{mt}, R_{kt} (for any $k \neq t$), or ε_s (for any $s \neq 1$). Abnormal returns are then estimated in the second stage. The abnormal return will be calculated using equation 7.

$$A_{jt} = R_{jt} - \hat{R}_{jt} = R_{jt} - \left(\hat{\alpha}_j + \hat{\beta}_j R_{mt} + \hat{s}_j SMB_t + \hat{h}_j HML_t + \hat{u}_j UMD_t\right) \tag{8}$$

The same four measures of abnormal return (equations 3-6) will be used to measure any asset pricing impact due to NASDAQ's restructuring.

I test for an asset pricing impact using three alternate event dates. The *Press Release Date* is the date of NASDAQ's original press release announcing the restructuring (15 Feb 2005). The *Identification Date* is the date NASDAQ identified the specific stocks designated for listing on the new GSM (26 June 2006). The *Effective Date* is first trading day of the new NASDAQ structure (3 July 2006). As a component of the sensitivity analysis, these alternate dates will consider whether any pricing impact occurred on the initial announcement of the restructuring, or on the date that specific stocks were identified for each tier, rather than simply the first day of trading on the new tier.

The second data set consists of all IPOs that went public in the five years surrounding the NASDAQ reorganization (30 months prior until 30 months after). The Field-Ritter dataset identifies all IPOs during this time period. I exclude all stocks without a CRSP share class code of 11 or 12 (excludes all closed end funds, REITs, certificates, ADRs,

unit trusts, etc.). The CRSP and Compustat databases provide additional company-specific data used in the multivariate analysis.

An initial analysis of the IPO market from 2004-2008 indicates that a total of 803 firms conducted IPOs in the 5-year period. A total of 462 firms conducted IPOs in the thirty months before the restructuring, compared with 341 afterwards. During the 5-year sample period, NASDAQ attracted 40% of their IPOs after the restructuring, versus 60% in the same timeframe before it, implying that the restructuring may not have helped them become more competitive.

This analysis does take into consideration that not all stocks qualify for listing on all three major exchanges (NYSE, AMEX, and NASDAQ). Many firms qualify for listing on NASDAQ, but not NYSE, due to NASDAQ's lower listing requirements. For the analysis in the results section, these smaller firms were excluded from the sample set, thereby establishing a condition that firms chose NASDAQ conditional upon their being qualified to choose between NASDAQ, AMEX, and NYSE.

Previous research by Corwin and Harris (2001) on IPO exchange listing choice identified that IPOs are more likely to list on the same exchange as their industry peers. Additionally, smaller and riskier firms tend to list on NASDAQ. Consequently, the Corwin and Harris study provides three controls for examining any potential impact of the restructuring on NASDAQ's competitiveness (industry concentration, firm size, and firm risk).

For this analysis, I'll conduct a probit model using the control variables identified in the Corwin and Harris (2001) study. The probit model takes the form of:

$$Prob(NASDAQ = 1) = \Phi(\underline{\gamma} * \underline{Z})$$

where $\Phi(\text{-})$ denotes the standard normal distribution, $\underline{\gamma}$ denotes a vector of coefficients, and $\underline{Z}$ denotes a vector of independent (i.e. explanatory) variables. In this analysis, the dependent variable will equal one if the IPO listed on NASDAQ, and will equal zero otherwise (i.e. the firm chose to list on NYSE or AMEX). The explanatory variables comprising $\underline{Z}$ will include:

-*NASDAQ industry share*: indicates the percentage of firms within a company's industry, using the four-digit SIC to identify industry, that are listed on NASDAQ (peer-firm listings),

- *Market value*: indicates the IPO's post-listing market value (shares outstanding times share price),

-*Standard deviation*: indicates the IPO's level of risk by using the standard deviation, as calculated using the five-day close-to-close returns in the 100 trading days immediately following its listing,

-*Post_Restructuring_IPO*: indicates a dummy variable equal to one if the IPO occurred after 1 July 2006, and equal zero to otherwise; this variable is the variable of interest, and will be interpreted as support for H_2 (i.e. the restructuring enhanced NASDAQ's reputation) if positive and significant.

For sensitivity analysis, I also conduct a logistic regression model using the same functional form.

4. Evidence

The results of the event study on the NASDAQ restructuring, first focusing on the Global Select Market stocks, are reported in Table 1. Panel A shows the announcement effect when NASDAQ first announced the restructuring on 15 February, 2006. At the initial announcement, NASDAQ did not specify which firms would be listed on which tiers. While the event study results do indicate statistically significant negative returns for GSM stocks in the days following the initial announcement, the negative returns are consistent with the overall movement in GSM stocks in the days leading up to the press release. On average, GSM stocks had a cumulative abnormal return of -2.25% in the 30 trading days leading up to the announcement. If you reset the abnormal return to zero after the close of trading the day before the announcement, the GSM stocks continued, on average, to have a -2.96% abnormal return over the subsequent 30 trading days.

Table 1. Event study results, NASDAQ global select market (FF3FM)

	Panel A: Press Release Date				Panel B: Identification Date				Panel C: Effective Date			
Day	Mean Abnormal Return	Cumulative Abnormal Return	Positive/ Negative Ratio	Generalized Signed Z-statistic	Mean Abnormal Return	Cumulative Abnormal Return	Positive/ Negative Ratio	Generalized Signed Z-statistic	Mean Abnormal Return	Cumulative Abnormal Return	Positive/ Negative Ratio	Generalized Signed Z-statistic
-30	-0.03%	-0.03%	581:628	0.009	0.28%	0.28%	733:487	8.601***	0.28%	0.28%	720:500	7.851***
-15	-0.08%	-2.37%	501:709	-4.622***	-0.16%	1.75%	543:679	-2.342**	0.51%	1.62%	782:440	11.341***
-14	0.04%	-2.33%	585:625	0.212	0.41%	2.16%	800:422	12.376***	0.74%	2.36%	826:396	13.861***
-13	-0.16%	-2.49%	522:688	-3.413***	0.15%	2.31%	675:547	5.218***	-0.05%	2.31%	531:691	-3.034***
-12	-0.39%	-2.88%	438:772	-8.247***	0.57%	2.88%	797:425	12.204***	-0.11%	2.20%	542:680	-2.404**
-11	-0.28%	-3.16%	479:731	-5.888***	-0.23%	2.65%	502:720	-4.690***	-0.22%	1.98%	532:690	-2.976***
-10	-0.05%	-3.21%	549:661	-1.86*	0.51%	3.16%	787:435	11.632***	0.09%	2.07%	646:576	3.552***
-9	-0.20%	-3.41%	505:705	-4.392***	0.75%	3.91%	824:398	13.751***	-0.10%	1.97%	612:610	1.605
-8	-0.08%	-3.49%	583:627	0.097	-0.05%	3.86%	531:691	-3.029***	-0.02%	1.95%	527:695	-3.263***
-7	0.07%	-3.42%	595:615	0.787	-0.13%	3.73%	543:679	-2.342**	0.10%	2.05%	666:556	4.698***
-6	0.17%	-3.25%	690:520	6.253***	-0.22%	3.51%	530:692	-3.086***	-0.14%	1.91%	516:706	-3.893***
-5	0.11%	-3.14%	596:614	0.845	0.10%	3.61%	654:568	4.015***	0.34%	2.25%	713:509	7.389***
-4	-0.24%	-3.38%	491:719	-5.197***	-0.10%	3.51%	608:614	1.381	0.04%	2.29%	647:575	3.610***
-3	0.15%	-3.23%	707:503	7.231***	-0.02%	3.49%	519:703	-3.716***	0.14%	2.43%	668:554	4.812***
-2	0.11%	-3.12%	656:554	4.297***	0.09%	3.58%	659:563	4.301***	0.01%	2.44%	593:629	0.517
-1	0.04%	-2.25%	614:596	1.880*	-0.14%	3.44%	514:708	-4.003***	-0.56%	1.88%	417:805	-9.562***
0	-0.01%	-0.01%	553:657	-1.63	0.33%	0.33%	709:513	7.165***	-0.23%	-0.23%	499:723	-4.866***
1	-0.19%	-0.20%	508:702	-4.219***	0.04%	0.37%	649:573	3.729***	-0.04%	-0.27%	579:643	-0.285
2	-0.32%	-0.52%	471:739	-6.348***	0.13%	0.50%	670:552	4.931***	-0.09%	-0.36%	567:655	-0.972
3	-0.25%	-0.77%	499:711	-4.737***	0.00%	0.50%	590:632	0.35	0.13%	-0.23%	694:528	6.301***
4	0.10%	-0.67%	667:543	4.930***	-0.57%	-0.07%	416:806	-9.615***	0.23%	0.00%	745:477	9.222***
5	-0.23%	-0.90%	484:726	-5.600***	-0.23%	-0.30%	497:725	-4.976***	0.14%	0.14%	627:595	2.464**
6	0.01%	-0.89%	549:661	-1.860*	-0.04%	-0.34%	582:640	-0.108	-0.11%	0.03%	565:657	-1.086
7	-0.06%	-0.95%	545:665	-2.090**	-0.09%	-0.43%	570:652	-0.796	0.19%	0.22%	715:507	7.504***
8	-0.21%	-1.16%	553:657	-1.63	0.13%	-0.30%	696:526	6.420***	0.16%	0.38%	709:513	7.160***
9	-0.06%	-1.22%	533:677	-2.78***	0.22%	-0.08%	741:481	8.997***	0.51%	0.89%	798:424	12.257***
10	-0.24%	-1.46%	476:734	-6.060***	0.14%	0.06%	622:600	2.182*	0.46%	1.35%	761:461	10.138***
11	-0.17%	-1.63%	492:718	-5.140***	-0.11%	-0.05%	569:653	-0.853	-0.11%	1.24%	588:634	0.231
12	-0.21%	-1.84%	556:653	-1.43	0.20%	0.15%	718:504	7.680***	0.04%	1.28%	652:570	3.896***
13	0.30%	-1.54%	734:475	8.816***	0.16%	0.31%	708:514	7.108***	0.16%	1.44%	697:525	6.473***
14	0.15%	-1.39%	678:531	5.593***	0.51%	0.82%	804:418	12.605***	0.26%	1.70%	668:554	4.812***
15	-0.01%	-1.40%	555:655	-1.515	0.45%	1.27%	760:462	10.086***	-0.03%	1.67%	561:661	-1.315
30	-0.32%	-2.96%	451:759	-7.499***	0.11%	1.25%	636:584	3.041***	0.21%	2.28%	621:597	2.234**
	Cumulative Abnormal Return	Generalized Signed Z-statistic	Compound Abnormal Return	Generalized Signed Z-statistic	Cumulative Abnormal Return	Generalized Signed Z-statistic	Compound Abnormal Return	Generalized Signed Z-statistic	Cumulative Abnormal Return	Generalized Signed Z-statistic	Compound Abnormal Return	Generalized Signed Z-statistic
-30,-2	-3.12%	-8.304***	-3.42%	-9.052***	3.59%	11.517***	3.29%	11.345***	2.42%	10.196***	2.12%	9.337***
-1,0	0.03%	1.593	0.03%	1.362	0.19%	3.385***	0.18%	3.156***	-0.79%	-9.677***	-0.81%	-9.906***
0,+1	-0.20%	-3.356***	-0.20%	-3.413***	0.37%	8.024***	0.36%	7.737***	-0.27%	-3.034***	-0.28%	-3.148***
+1,+30	-2.94%	-7.902***	-3.14%	-9.398***	0.92%	6.592***	0.62%	5.619***	2.52%	9.680***	2.25%	8.592***

n=1,210 *, **, *** denotes statistical significance at the .1, .05, .and .01 levels of significance.

Similarly, Panel B shows the results around the date NASDAQ identified the stocks that would migrate to the GSM. The results indicate the opposite effect around the identification date. In the 30 trading days after the announcement, GSM stocks, on average, had positive abnormal returns. Nevertheless, this pattern follows the GSM market-wide pattern in the days leading up to the announcement. In the 30 trading days before the identification date, GSM stocks had accumulated, on average, an abnormal return of 3.44%. If you reset the abnormal return on the close of trading on the day preceding NASDAQ identifying the future GSM stocks, the stocks only gained on average an additional 1.25% of abnormal return in the next 30 trading days.

Panel C shows the results on the effective date that trading commenced on the new GSM, July 3, 2006. These results are consistent with the identification date (overall positive movement in the GSM stock prices in the 30 days leading up to the announcement). Given the short timeframe between the identification date and the announcement date (one trading week), this result is not surprising.

Table 2 shows the results of a sensitivity test using the Fama-French Four Factor model, which includes Carhart's momentum factor. The findings for all three announcement dates are similar to the three-factor model. GSM stocks show post-announcement abnormal return patterns that are consistent with the short-term momentum within the GSM group of stocks leading up to the announcement. Stocks are falling both before and after the press release, and rising both before and after the identification and effective dates. These results are displayed graphically in Figures 3 and 4. Figure 3 shows the abnormal returns, starting from the event days, whereas Figure 4 shows the abnormal returns dating back to the beginning (-30) of the pre-event window.

Table 2. Event study results, NASDAQ global select market (FF4FM)

	Panel A: Press Release Date				Panel B: Identification Date				Panel C: Effective Date			
Day	Mean Abnormal Return	Cumulative Abnormal Return	Positive/ Negative Ratio	Generalized Signed Z-statistic	Mean Abnormal Return	Cumulative Abnormal Return	Positive/ Negative Ratio	Generalized Signed Z-statistic	Mean Abnormal Return	Cumulative Abnormal Return	Positive/ Negative Ratio	Generalized Signed Z-statistic
-30	-0.03%	-0.03%	592:617	0.636	0.26%	0.26%	712:508	7.365***	0.28%	0.28%	721:499	7.868***
-15	-0.07%	-2.36%	505:705	-4.398***	-0.17%	1.62%	537:685	-2.717***	0.46%	1.47%	776:446	10.956***
-14	0.04%	-2.32%	583:627	0.09	0.41%	2.03%	791:431	11.829***	0.74%	2.21%	826:396	13.820***
-13	-0.16%	-2.48%	522:688	-3.420***	0.13%	2.16%	657:565	4.155***	-0.01%	2.20%	568:654	-0.955
-12	-0.39%	-2.87%	433:777	-8.541***	0.55%	2.71%	786:436	11.542***	-0.08%	2.12%	559:663	-1.47
-11	-0.28%	-3.15%	479:731	-5.894***	-0.23%	2.48%	505:717	-4.550***	-0.21%	1.91%	534:688	-2.902***
-10	-0.05%	-3.20%	544:666	-2.154**	0.48%	2.96%	781:441	11.256***	0.09%	2.00%	646:576	3.512***
-9	-0.20%	-3.40%	507:703	-4.283***	0.75%	3.71%	823:399	13.661***	-0.10%	1.90%	612:610	1.565
-8	-0.08%	-3.48%	576:634	-0.313	-0.02%	3.69%	558:664	-1.515	0.02%	1.92%	545:677	-2.272**
-7	0.07%	-3.41%	587:623	0.32	-0.11%	3.58%	551:671	-1.915*	0.10%	2.02%	665:557	4.600***
-6	0.18%	-3.23%	679:531	5.614***	-0.21%	3.37%	536:686	-2.774***	-0.12%	1.90%	528:694	-3.246***
-5	0.11%	-3.12%	590:620	0.493	0.10%	3.47%	654:568	3.983***	0.33%	2.23%	709:513	7.119***
-4	-0.23%	-3.35%	487:723	-5.434***	-0.10%	3.37%	612:610	1.578	0.03%	2.26%	644:578	3.397***
-3	0.16%	-3.19%	701:509	6.880***	0.00%	3.37%	532:690	-3.003**	0.12%	2.38%	668:554	4.772***
-2	0.11%	-3.08%	649:561	3.888***	0.09%	3.46%	660:562	4.327***	0.03%	2.41%	602:620	0.992
-1	0.04%	-3.04%	615:595	1.931*	-0.13%	3.33%	524:698	-3.462***	-0.56%	1.85%	416:806	-9.659***
0	-0.01%	-0.01%	553:657	-1.636	0.32%	0.32%	707:515	7.018***	-0.21%	-0.21%	503:719	-4.677***
1	-0.20%	-0.21%	526:684	-3.190***	0.03%	0.35%	641:581	3.239***	-0.06%	-0.27%	566:656	-1.07
2	-0.32%	-0.53%	471:739	-6.354***	0.12%	0.47%	667:555	4.728***	-0.10%	-0.37%	564:658	-1.184
3	-0.25%	-0.78%	504:706	-4.456***	0.02%	0.49%	601:621	0.948	0.09%	-0.28%	650:572	3.741***
4	0.10%	-0.68%	667:543	4.923***	-0.57%	-0.08%	418:804	-9.532***	0.19%	-0.09%	733:489	8.494***
5	-0.24%	-0.92%	491:719	-5.204***	-0.22%	-0.30%	502:720	-4.721***	0.15%	0.06%	633:589	2.767***
6	0.01%	-0.91%	546:664	-2.039**	-0.06%	-0.36%	571:651	-0.77	-0.09%	-0.03%	576:646	-0.497
7	-0.07%	-0.98%	538:672	-2.499**	-0.10%	-0.46%	559:663	-1.457	0.19%	0.16%	717:505	7.578***
8	-0.21%	-1.19%	552:658	-1.694*	0.09%	-0.37%	654:568	3.983***	0.16%	0.32%	712:510	7.291***
9	-0.07%	-1.26%	551:659	-1.751*	0.19%	-0.18%	729:493	8.278***	0.50%	0.82%	794:428	11.987***
10	-0.24%	-1.50%	477:733	-6.009***	0.15%	-0.03%	626:596	2.380**	0.46%	1.28%	757:465	9.868***
11	-0.17%	-1.67%	487:723	-5.434***	-0.10%	-0.13%	582:640	-0.14	-0.10%	1.18%	586:636	0.076
12	-0.20%	-1.87%	545:664	-2.070**	0.19%	0.06%	719:503	7.705***	0.03%	1.21%	653:569	3.913***
13	0.30%	-1.57%	740:469	9.155***	0.16%	0.22%	714:508	7.419***	0.13%	1.34%	674:548	5.115***
14	0.15%	-1.42%	671:538	5.183***	0.50%	0.72%	803:419	12.516***	0.27%	1.61%	668:554	4.772***
15	-0.01%	-1.43%	551:659	-1.751*	0.45%	1.17%	763:459	10.225***	-0.04%	1.57%	560:662	-1.413
30	-0.32%	-2.98%	458:752	-7.102***	0.11%	1.14%	634:586	2.895***	0.22%	2.20%	634:584	2.939***
	Cumulative Abnormal Return	Generalized Signed Z-statistic	Compound Abnormal Return	Generalized Signed Z-statistic	Cumulative Abnormal Return	Generalized Signed Z-statistic	Compound Abnormal Return	Generalized Signed Z-statistic	Cumulative Abnormal Return	Generalized Signed Z-statistic	Compound Abnormal Return	Generalized Signed Z-statistic
-30,-2	-3.09%	-8.483***	-3.39%	-9.404***	3.45%	11.428***	3.14%	10.512***	2.40%	10.097***	2.09%	9.009***
-1,0	0.02%	1.586	0.03%	1.471	0.19%	3.525***	0.19%	3.468***	-0.77%	-9.602***	-0.79%	-9.774***
0,+1	-0.21%	-2.384**	-0.21%	-2.499**	0.35%	8.164***	0.35%	7.935***	-0.27%	-3.074***	-0.28%	-3.188***
+1,+30	-2.95%	-8.138***	-3.14%	-9.692***	0.82%	6.388***	0.53%	5.358***	2.39%	10.040***	2.13%	8.780***

n=1,210 *, **, *** denotes statistical significance at the .1, .05, and .01 levels of significance.

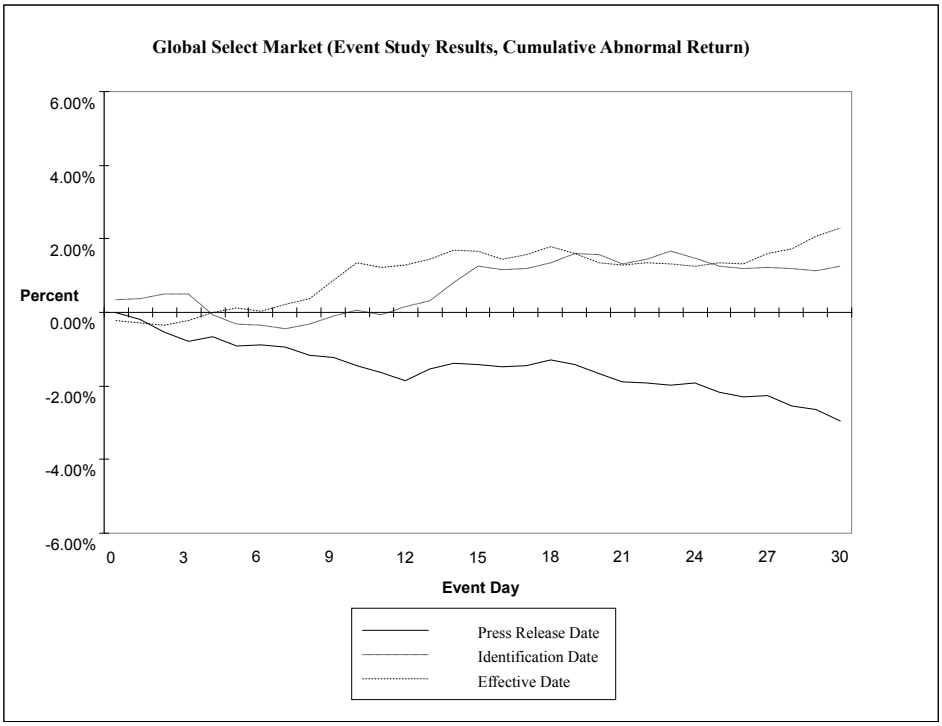

Figure 3. GSM, post-announcement window

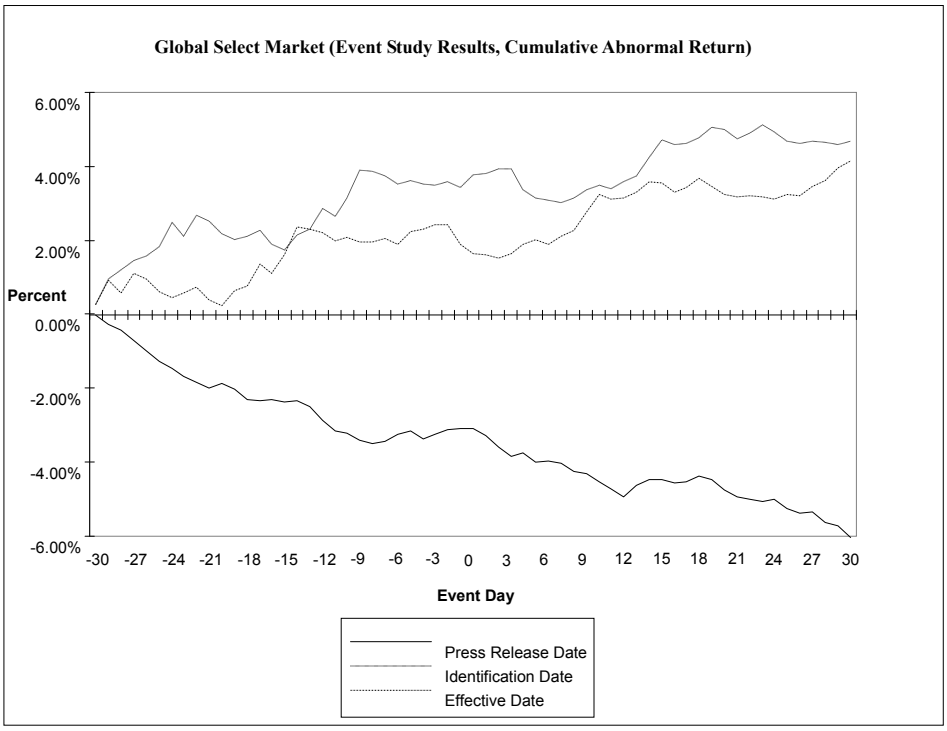

Figure 4. GSM, full 61-day event window

The stocks eventually designated for the NASDAQ Global Market show a complete opposite pattern around the same event dates. Table 3 shows the results of an event study on the 1,354 stocks that were "left behind" in the middle tier as a result of the restructuring. While the GSM stocks were clearly trending downward as a group leading up to the February 15, 2006 press release, the NGM stocks were trending upward. The results in Panel A indicate that NGM stocks had an average abnormal return of 1.9% in the 30 trading days leading up to the press release, and sustained that trend for an additional 1.25% of abnormal return in the 30 trading days after the announcement.

Table 3. Event study results, NASDAQ global market (FF3FM)

	Panel A: Press Release Date				Panel B: Identification Date				Panel C: Effective Date			
Day	Mean Abnormal Return	Cumulative Abnormal Return	Positive/ Negative Ratio	Generalized Signed Z-statistic	Mean Abnormal Return	Cumulative Abnormal Return	Positive/ Negative Ratio	Generalized Signed Z-statistic	Mean Abnormal Return	Cumulative Abnormal Return	Positive/ Negative Ratio	Generalized Signed Z-statistic
-30	-0.37%	-0.37%	550:803	-5.230***	-0.18%	-0.18%	683:724	0.96	0.02%	0.02%	704:705	2.070**
-15	-0.11%	1.32%	608:745	-2.073**	0.14%	-0.24%	717:692	2.723***	-0.15%	-0.04%	733:677	3.591***
-14	0.04%	1.36%	587:766	-3.216***	-0.21%	-0.45%	689:720	1.229	-0.47%	-0.51%	680:730	0.764
-13	-0.04%	1.32%	595:758	-2.781***	-0.01%	-0.46%	696:713	1.602	-0.13%	-0.64%	641:769	-1.317
-12	0.39%	1.71%	629:724	-0.93	-0.23%	-0.69%	662:747	-0.212	0.03%	-0.61%	626:785	-2.141**
-11	0.10%	1.81%	639:714	-0.386	0.06%	-0.63%	694:715	1.496	-0.01%	-0.62%	661:750	-0.275
-10	0.13%	1.94%	662:691	0.866	-0.15%	-0.78%	725:684	3.150***	-0.18%	-0.80%	695:716	1.538
-9	0.12%	2.06%	661:692	0.811	-0.46%	-1.24%	674:735	0.428	0.10%	-0.70%	685:726	1.005
-8	-0.03%	2.03%	675:678	1.573	-0.14%	-1.38%	636:773	-1.599	-0.17%	-0.87%	612:799	-2.888**
-7	0.00%	2.03%	643:710	-0.168	0.02%	-1.36%	612:798	-2.904***	-0.21%	-1.08%	656:754	-0.517
-6	0.02%	2.05%	674:679	1.519	-0.02%	-1.38%	660:750	-0.344	-0.07%	-1.15%	627:784	-2.088**
-5	0.03%	2.08%	649:704	0.158	-0.18%	-1.56%	696:714	1.577	-0.25%	-1.40%	632:778	-1.797*
-4	0.00%	2.08%	633:720	-0.713	0.09%	-1.47%	688:722	1.15	-0.19%	-1.59%	655:756	-0.595
-3	-0.08%	2.00%	654:699	0.43	-0.17%	-1.64%	611:799	-2.958***	0.03%	-1.56%	700:711	1.805*
-2	0.19%	2.19%	688:665	2.281**	-0.20%	-1.84%	657:752	-0.479	-0.08%	-1.64%	650:761	-0.862
-1	-0.09%	2.10%	630:723	-0.876	-0.06%	-1.90%	623:787	-2.317**	0.29%	-1.35%	706:705	2.125**
0	0.15%	0.15%	651:702	0.267	-0.25%	-2.15%	630:779	-1.920*	-0.16%	-0.16%	651:760	-0.808
1	0.05%	0.20%	641:712	-0.277	-0.19%	-2.34%	650:760	-0.877	0.23%	0.07%	707:704	2.178**
2	0.03%	0.23%	627:726	-1.039	0.03%	-2.31%	705:705	2.057**	-0.01%	0.06%	697:714	1.645
3	-0.12%	0.11%	609:744	-2.019**	-0.08%	-2.39%	650:760	-0.877	-0.10%	-0.04%	729:682	3.351***
4	-0.05%	0.06%	632:721	-0.767	0.30%	-2.09%	710:700	2.323**	-0.31%	-0.35%	688:723	1.165
5	-0.04%	0.02%	616:737	-1.638	-0.17%	-2.26%	652:758	-0.771	0.09%	-0.26%	685:726	1.005
6	0.06%	0.08%	629:724	-0.93	0.23%	-2.03%	703:707	1.950*	-0.02%	-0.28%	657:754	-0.488
7	0.13%	0.21%	644:709	-0.114	-0.02%	-2.05%	689:721	1.203	-0.38%	-0.66%	641:770	-1.342
8	0.13%	0.34%	693:660	2.553**	-0.10%	-2.15%	730:680	3.390***	-0.23%	-0.89%	666:745	-0.008
9	0.07%	0.41%	637:716	-0.495	-0.31%	-2.46%	693:717	1.416	-0.25%	-1.14%	680:731	0.738
10	-0.01%	0.40%	630:723	-0.876	0.09%	-2.37%	683:727	0.883	-0.14%	-1.28%	700:711	1.805*
11	0.17%	0.57%	654:699	0.43	-0.02%	-2.39%	650:760	-0.877	0.07%	-1.21%	689:722	1.218
12	0.12%	0.69%	694:659	2.608***	-0.37%	-2.76%	645:765	-1.144	0.10%	-1.11%	757:654	4.844***
13	-0.05%	0.64%	700:653	2.934***	-0.23%	-2.99%	670:740	0.19	-0.20%	-1.31%	680:731	0.738
14	-0.03%	0.61%	667:686	1.138	-0.25%	-3.24%	672:738	0.296	-0.25%	-1.56%	616:795	-2.675***
15	0.02%	0.63%	674:679	1.519	-0.14%	-3.38%	707:703	2.163**	0.01%	-1.55%	671:740	0.258
30	0.19%	1.24%	638:716	-0.466	-0.08%	-4.36%	687:722	1.122	-0.10%	-2.92%	635:772	-1.563
	Cumulative Abnormal Return	Generalized Signed Z-statistic	Compound Abnormal Return	Generalized Signed Z-statistic	Cumulative Abnormal Return	Generalized Signed Z-statistic	Compound Abnormal Return	Generalized Signed Z-statistic	Cumulative Abnormal Return	Generalized Signed Z-statistic	Compound Abnormal Return	Generalized Signed Z-statistic
-30,-2	2.21%	3.805***	2.01%	2.444**	-1.81%	-2.584***	-2.37%	-4.184***	-1.60%	-1.128	-2.13%	-3.315***
-1,0	0.06%	-0.44	0.07%	-0.604	-0.31%	-4.184***	-0.31%	-4.238***	0.14%	1.165	0.10%	0.898
0,+1	0.21%	0.594	0.21%	0.376	-0.43%	-2.798***	-0.44%	-3.011***	0.07%	0.685	0.06%	0.045
+1,+30	1.11%	2.363**	0.92%	0.622	-2.21%	0.296	-3.01%	-2.371**	-2.77%	-1.875*	-3.22%	-3.528***

n=1,354 *, **, *** denotes statistical significance at the .1, .05, and .01 levels of significance.

Similarly, as shown in Panels B-C, the downward trend in NGM stock prices in the 30 trading days before the identification and announcement dates was sustained over the subsequent 30 trading days. The Fama-French Four Factor models, shown in Table 4, show the same trends. Figures 5 and 6 show the results graphically. What appears in Figure 5 to be a positive announcement effect, followed by a sustained abnormal return in the subsequent short-term, appears in Figure 6 to be little more than short-term price momentum. The findings indicate that you have two significant portions of the NASDAQ market moving clearly in two different directions, over two different timeframes, as NASDAQ was initially announcing, and then implementing, a major reorganization of their listing environment.

Table 4. Event study results, NASDAQ global market (FF4FM)

	Panel A: Press Release Date				Panel B: Identification Date				Panel C: Effective Date			
Day	Mean Abnormal Return	Cumulative Abnormal Return	Positive/ Negative Ratio	Generalized Signed Z-statistic	Mean Abnormal Return	Cumulative Abnormal Return	Positive/ Negative Ratio	Generalized Signed Z-statistic	Mean Abnormal Return	Cumulative Abnormal Return	Positive/ Negative Ratio	Generalized Signed Z-statistic
-30	-0.31%	-0.31%	564:789	-4.483***	-0.22%	-0.22%	668:737	0.181	0.02%	0.02%	704:705	2.002**
-15	-0.14%	1.25%	586:767	-3.285***	0.12%	-0.45%	704:703	2.052**	-0.17%	-0.17%	701:709	1.816*
-14	0.04%	1.29%	585:768	-3.340***	-0.21%	-0.66%	679:728	0.717	-0.46%	-0.63%	677:733	0.536
-13	-0.03%	1.26%	601:752	-2.469**	-0.05%	-0.71%	681:726	0.824	-0.11%	-0.74%	655:755	-0.638
-12	0.39%	1.65%	623:730	-1.271	-0.26%	-0.97%	668:739	0.13	0.04%	-0.70%	626:785	-2.209**
-11	0.11%	1.76%	641:712	-0.292	0.06%	-0.91%	688:719	1.198	-0.01%	-0.71%	669:742	0.084
-10	0.11%	1.87%	665:688	1.014	-0.20%	-1.11%	704:703	2.052**	-0.17%	-0.88%	695:716	1.47
-9	0.13%	2.00%	662:691	0.851	-0.46%	-1.57%	673:734	0.397	0.10%	-0.78%	689:722	1.15
-8	-0.02%	1.98%	679:674	1.776*	-0.09%	-1.66%	647:760	-0.991	-0.15%	-0.93%	624:787	-2.316**
-7	-0.02%	1.96%	629:724	-0.945	0.06%	-1.60%	616:792	-2.671***	-0.20%	-1.13%	660:750	-0.371
-6	-0.03%	1.93%	664:689	0.96	0.00%	-1.60%	668:740	0.105	-0.06%	-1.19%	631:780	-1.943*
-5	0.02%	1.95%	638:715	-0.455	-0.18%	-1.78%	694:714	1.492	-0.26%	-1.45%	623:787	-2.345**
-4	-0.03%	1.92%	612:741	-1.870*	0.10%	-1.68%	689:719	1.226	-0.19%	-1.64%	652:759	-0.823
-3	-0.09%	1.83%	642:711	-0.237	-0.12%	-1.80%	630:778	-1.924*	0.02%	-1.62%	698:713	1.63
-2	0.17%	2.00%	669:684	1.232	-0.20%	-2.00%	657:750	-0.457	-0.07%	-1.69%	654:757	-0.716
-1	-0.10%	1.90%	623:730	-1.271	-0.04%	-2.04%	630:778	-1.924*	0.29%	-1.40%	707:704	2.110**
0	0.17%	0.17%	661:692	0.797	-0.26%	-0.26%	622:785	-2.326**	-0.15%	-0.15%	649:762	-0.983
1	0.10%	0.27%	650:703	0.198	-0.19%	-0.45%	651:757	-0.803	0.22%	0.07%	706:705	2.056**
2	0.02%	0.29%	626:727	-1.108	0.02%	-0.43%	695:713	1.546	-0.02%	0.05%	684:727	0.883
3	-0.11%	0.18%	619:734	-1.489	-0.06%	-0.49%	657:751	-0.483	-0.13%	-0.08%	710:701	2.270**
4	-0.05%	0.13%	624:729	-1.217	0.29%	-0.20%	706:702	2.133**	-0.34%	-0.42%	676:735	0.457
5	-0.02%	0.11%	619:734	-1.489	-0.14%	-0.34%	663:745	-0.162	0.09%	-0.33%	688:723	1.097
6	0.05%	0.16%	629:724	-0.945	0.21%	-0.13%	700:708	1.813*	-0.01%	-0.34%	666:745	-0.076
7	0.16%	0.32%	654:699	0.416	-0.03%	-0.16%	685:723	1.012	-0.37%	-0.71%	640:771	-1.463
8	0.10%	0.42%	688:665	2.266**	-0.15%	-0.31%	709:699	2.293**	-0.22%	-0.93%	670:741	0.137
9	0.13%	0.55%	656:697	0.525	-0.36%	-0.67%	675:733	0.478	-0.26%	-1.19%	680:731	0.67
10	0.02%	0.57%	650:703	0.198	0.10%	-0.57%	685:723	1.012	-0.15%	-1.34%	702:709	1.843*
11	0.16%	0.73%	652:701	0.307	0.00%	-0.57%	666:742	-0.002	0.06%	-1.28%	686:725	0.99
12	0.09%	0.82%	681:672	1.885*	-0.37%	-0.94%	640:768	-1.39	0.10%	-1.18%	758:653	4.829***
13	-0.09%	0.73%	689:664	2.321**	-0.22%	-1.16%	672:736	0.318	-0.22%	-1.40%	679:732	0.617
14	-0.05%	0.68%	659:694	0.688	-0.27%	-1.43%	670:738	0.211	-0.26%	-1.66%	613:798	-2.902***
15	-0.02%	0.66%	657:696	0.579	-0.14%	-1.57%	708:700	2.240**	0.00%	-1.66%	664:747	-0.183
30	0.17%	1.25%	627:727	-1.079	-0.08%	-2.60%	689:718	1.251	-0.10%	-3.06%	639:768	-1.417
	Cumulative Abnormal Return	Generalized Signed Z-statistic	Compound Abnormal Return	Generalized Signed Z-statistic	Cumulative Abnormal Return	Generalized Signed Z-statistic	Compound Abnormal Return	Generalized Signed Z-statistic	Cumulative Abnormal Return	Generalized Signed Z-statistic	Compound Abnormal Return	Generalized Signed Z-statistic
-30,-2	1.78%	1.776*	1.98%	3.355***	-2.01%	-2.297**	-2.58%	-3.685***	-1.67%	-1.303	-2.22%	-3.489***
-1,0	0.07%	-0.564	0.07%	-0.564	-0.30%	-4.059***	-0.30%	-4.272***	0.14%	1.203	0.10%	0.51
0,+1	0.28%	1.014	0.28%	1.178	-0.45%	-3.258***	-0.46%	-3.418***	0.07%	0.777	0.06%	0.297
+1,+30	0.91%	0.553	1.11%	2.294**	-2.33%	-0.483	-3.16%	-2.671***	-2.91%	-1.623	-3.39%	-3.702***

n=1,354 *, **, *** denotes statistical significance at the .1, .05, and .01 levels of significance.

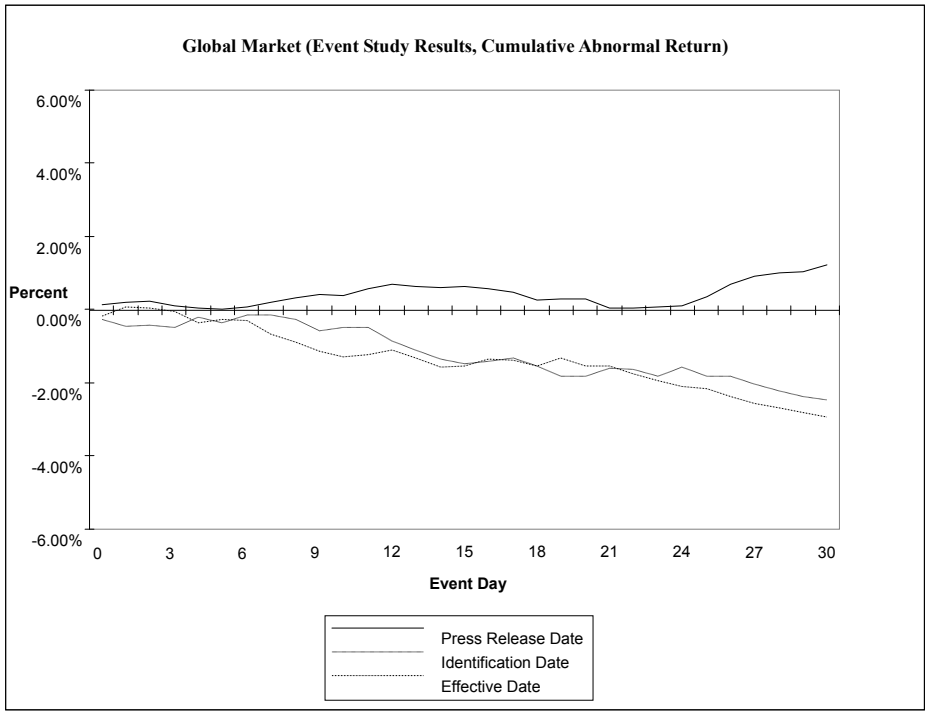

Figure 5. NGM, post-announcement window

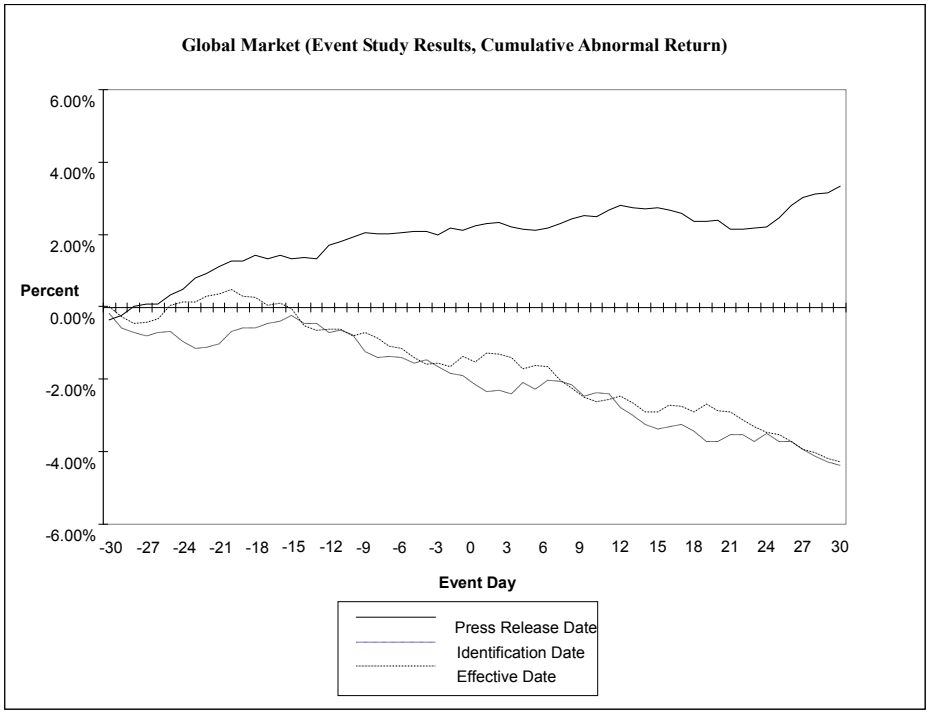

Figure 6. NGM, full 61-day event window

These event study results seem inconsistent with any positive reputation effect NASDAQ may have intended. While a brief analysis of the 0-30 trading day window would seem to indicate that GSM stocks may have benefited from being moved onto the new tier, and that the NGM stocks may have suffered, their abnormal return patterns were no different than in the weeks leading up to the announcement than they were immediately afterwards. Figure 7 shows abnormal returns for GSM and NGM stocks over the 61-day window surrounding identification and effective dates.

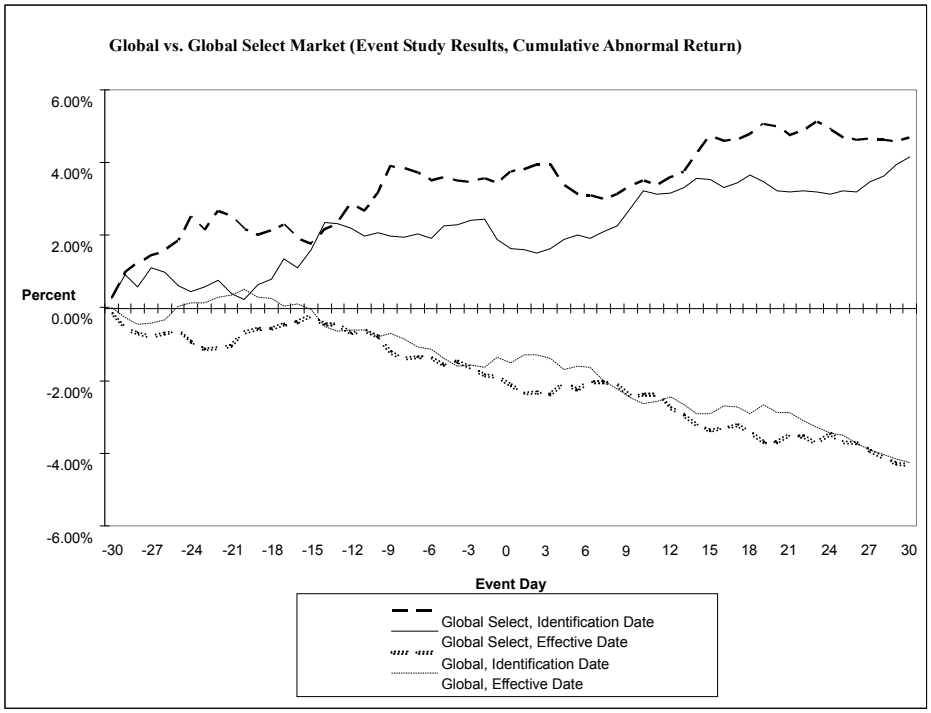

Figure 7. GSM vs. NGM, full 61-day event window

These results seem consistent with two possible explanations. First, the reorganization had little to no impact on any NASDAQ-listed firms, as their pricing appeared relatively unaffected. Any positive (negative) pricing impact for GSM (NGM) stocks could be explained away by technical analysis of short-term price movements. Second, the market may have inferred which companies would fall onto which tiers, and prices started moving well before the firms were officially announced as moving to the GSM or NGM.

If NASDAQ's new tiered structure benefits firms with any enhanced reputation effect, a better test would be to analyze when firms cross from one tier into a new tier. As NCM or NGM firms grow, become more profitable, and their stock becomes more liquid, they would meet the higher listing standards of the NGM or GSM. With a subsequent move onto a higher tier with better visibility, they could reap a positive impact on their stock price through higher levels of investor participation. Conversely, as GSM or NGM firms become less profitable, and their stock becomes less liquid, they would fail to meet the continued listing standards of the GSM or NGM, and would drop to a lower tier. With a subsequent move onto a lower tier with less visibility, they could face a negative impact on their stock price.

Tables 5 and 6 explore this effect as firms cross these boundaries. Table 5 focuses on firms moving from the NCM to the NGM, or from the NGM to the GSM. Panel A reports abnormal returns from the date the firm announced its intention to move onto a higher tier, and Panel B reports returns from the effective date (usually only a lag of 1-2 trading days). Most firms announce a rise to a new tier using a formal press release, a NASDAQ announcement, or an SEC filing. Some firms choose not to announce the move, or the announcement could not be located. Thus, the number of observations for the announcement date is slightly smaller than for the effective date. If neither an announcement nor an effective date could be established, the firm was thrown out of the sample.

Table 5. Event study results, stocks moving to higher tier

	Panel A: Announcement Date n=76								Panel B: Effective Date n=84							
	FF3FM				FF4FM				FF3FM				FF4FM			
Day	Mean Abnormal Return	Cumulative Abnormal Return	Generalized Signed Z-statistic		Mean Abnormal Return	Cumulative Abnormal Return	Generalized Signed Z-statistic		Mean Abnormal Return	Cumulative Abnormal Return	Generalized Signed Z-statistic		Mean Abnormal Return	Cumulative Abnormal Return	Generalized Signed Z-statistic	
-30	0.03%	0.03%	0.432		0.12%	0.12%	0.647		0.14%	0.14%	0.695		0.18%	0.18%	0.641	
-15	-0.94%	-0.81%	-2.543**		-0.97%	-1.20%	-2.326**		-0.47%	-0.37%	-1.543		-0.53%	-0.73%	-1.596	
-14	-0.09%	-0.90%	-0.92		-0.03%	-1.23%	-0.434		-0.04%	-0.41%	-0.303		0.00%	-0.73%	-0.353	
-13	-0.32%	-1.22%	0.162		-0.30%	-1.53%	0.107		-0.11%	-0.52%	-0.313		-0.06%	-0.79%	0.144	
-12	0.44%	-0.78%	-0.108		0.51%	-1.02%	0.107		-0.54%	-1.06%	-0.549		-0.54%	-1.33%	-0.602	
-11	0.76%	-0.02%	0.973		0.71%	-0.31%	0.918		0.53%	-0.53%	0.695		0.49%	-0.84%	0.641	
-10	0.64%	0.62%	0.432		0.62%	0.31%	-0.434		0.88%	0.35%	0.695		0.83%	-0.01%	0.641	
-9	-0.09%	0.53%	0.432		-0.10%	0.21%	0.377		-0.11%	0.24%	-1.046		-0.14%	-0.15%	-1.099	
-8	0.37%	0.90%	0.703		0.38%	0.59%	0.377		-0.50%	-0.26%	-1.046		-0.39%	-0.54%	-0.85	
-7	-0.71%	0.19%	-1.731*		-0.60%	-0.01%	-1.786*		-0.24%	-0.50%	-0.797		-0.28%	-0.82%	-0.85	
-6	-0.39%	-0.20%	0.162		-0.40%	-0.41%	-0.434		-0.39%	-0.89%	-0.051		-0.36%	-1.18%	-0.602	
-5	-0.07%	-0.27%	-0.92		-0.13%	-0.54%	-0.975		0.08%	-0.81%	0.446		-0.01%	-1.19%	0.144	
-4	-0.76%	-1.03%	-0.379		-0.88%	-1.42%	-0.434		-0.01%	-0.82%	-0.311		-0.09%	-1.28%	-1.099	
-3	0.40%	-0.63%	0.703		0.38%	-1.04%	0.377		-0.02%	-0.84%	-0.051		-0.03%	-1.31%	-0.105	
-2	-0.59%	-1.22%	-0.108		-0.61%	-1.65%	-0.434		-0.17%	-1.01%	-0.549		-0.09%	-1.40%	-0.105	
-1	-0.25%	-1.47%	-0.92		-0.28%	-1.93%	-0.704		-0.67%	-1.68%	-0.797		-0.72%	-2.12%	-1.099	
0	0.74%	-0.73%	1.244		0.74%	-1.19%	1.188		0.61%	-1.07%	1.192		0.57%	-1.55%	0.89	
1	-0.71%	-1.44%	-0.649		-0.77%	-1.96%	-1.245		-0.59%	-1.66%	0.081		-0.75%	-2.30%	-0.959	
2	-0.67%	-2.11%	0.162		-0.72%	-2.68%	0.377		-0.71%	-2.37%	-0.659		-0.80%	-3.10%	-1.206	
3	-0.10%	-2.21%	0.841		-0.25%	-2.93%	1.053		-0.75%	-3.12%	-0.906		-0.68%	-3.78%	0.274	
4	-0.51%	-2.72%	0.037		-0.54%	-3.47%	-0.555		0.53%	-2.59%	1.068		0.55%	-3.23%	1.014	
5	-0.53%	-3.25%	-1.571		-0.43%	-3.90%	-1.626		-0.29%	-2.88%	-0.906		-0.27%	-3.50%	-0.713	
6	-0.19%	-3.44%	-0.767		-0.24%	-4.14%	-1.626		-0.27%	-3.15%	-1.153		-0.34%	-3.84%	-2.193**	
7	0.02%	-3.42%	0.573		0.09%	-4.05%	1.053		0.19%	-2.96%	2.302**		0.18%	-3.66%	1.508	
8	-0.38%	-3.80%	0.037		-0.47%	-4.52%	-0.287		-0.36%	-3.32%	-0.906		-0.38%	-4.04%	-0.466	
9	0.02%	-3.78%	-0.499		0.00%	-4.52%	-0.287		-0.53%	-3.85%	-0.659		-0.58%	-4.62%	-0.959	
10	0.04%	-3.74%	-0.499		0.08%	-4.44%	-0.555		0.03%	-3.82%	-0.412		0.10%	-4.52%	-0.466	
11	0.48%	-3.26%	-0.231		0.58%	-3.86%	0.249		-0.69%	-4.51%	-0.659		-0.58%	-5.10%	-0.466	
12	-0.15%	-3.41%	1.109		-0.08%	-3.94%	0.785		-0.09%	-4.60%	0.575		-0.20%	-5.30%	-0.219	
13	-0.86%	-4.27%	0.037		-0.99%	-4.93%	0.249		-0.34%	-4.94%	0.575		-0.43%	-5.73%	0.521	
14	-0.43%	-4.70%	-0.767		-0.55%	-5.48%	-0.555		-0.18%	-5.12%	-0.412		-0.28%	-6.01%	-0.713	
15	-0.14%	-4.84%	-0.767		-0.16%	-5.64%	-0.823		-0.31%	-5.43%	-1.401		-0.36%	-6.37%	-1.699*	
30	0.10%	-6.33%	0.037		0.02%	-7.67%	-0.287		0.28%	-6.13%	-0.311		0.28%	-7.50%	-0.85	
	Cumulative Abnormal Return	Generalized Signed Z-statistic	Compound Abnormal Return	Generalized Signed Z-statistic	Cumulative Abnormal Return	Generalized Signed Z-statistic	Compound Abnormal Return	Generalized Signed Z-statistic	Cumulative Abnormal Return	Generalized Signed Z-statistic	Compound Abnormal Return	Generalized Signed Z-statistic	Cumulative Abnormal Return	Generalized Signed Z-statistic	Compound Abnormal Return	Generalized Signed Z-statistic
-30,-2	-1.23%	-0.108	-1.99%	-0.649	-1.68%	-0.434	-2.46%	-0.434	-1.01%	-0.051	-1.54%	-0.549	-1.41%	-0.353	-1.96%	-0.602
-1,0	0.49%	0.432	0.49%	0.432	0.46%	-0.434	0.45%	-0.434	-0.07%	-0.549	-0.08%	-0.549	-0.16%	-0.850	-0.17%	-0.850
+1,+30	-5.57%	-0.499	-6.22%	-1.035	-6.46%	-1.358	-7.20%	-1.358	-5.08%	-1.400	-5.71%	-1.646*	-5.95%	-1.946*	-6.63%	-1.946*

*, **, *** denotes statistical significance at the .1, .05, and .01 levels of significance.

The analysis from Table 5 indicates that upon announcing a move to a higher tier, and upon the beginning of trading on the new tier, firms have an immediate positive, but non-significant announcement effect, followed by a short-term reversal over the next 30 trading days. Both event day windows (-1 to 0, and 0 to +1) are insignificant for both the announcement and effective dates, and using both the three-factor and four-factor models. The longer post-event window (+1 to +30) is significant for the effective date, and approaching significance for the announcement date.

Surprisingly, NASDAQ stocks appear to have a negative pricing impact when they move onto a higher tier. Table 6 displays results for when stocks move to a lower tier. Even more surprisingly, NASDAQ stocks appear to have a strong positive price impact when dropping to a lower tier. While the immediate price impact doesn't appear to happen, NASDAQ stocks that move onto a lower tier appreciate noticeably in the 30 trading days immediately after both the announcement and the switch. This finding is significant in 6 of the 8 specifications (three-factor vs. four-factor models, announcement vs. effective dates, and cumulative vs. compound returns).

Table 6. Event study results, stocks moving to lower tier

	Panel A: Announcement Date (n=68)								Panel B: Effective Date (n=74)							
	FF3FM				FF4FM				FF3FM				FF4FM			
Day	Mean Abnormal Return	Cumulative Abnormal Return	Generalized Signed Z-statistic		Mean Abnormal Return	Cumulative Abnormal Return	Generalized Signed Z-statistic		Mean Abnormal Return	Cumulative Abnormal Return	Generalized Signed Z-statistic		Mean Abnormal Return	Cumulative Abnormal Return	Generalized Signed Z-statistic	
-30	1.32%	1.32%	0.648		1.28%	1.28%	0.177		-0.42%	-0.42%	0.143		-0.47%	-0.47%	0.178	
-15	-0.10%	1.25%	-0.141		-0.02%	1.89%	-0.086		1.22%	3.45%	1.129		1.06%	3.55%	1.657**	
-14	-0.52%	0.73%	-0.667		-0.81%	1.08%	-0.349		-0.66%	2.79%	-0.35		-0.80%	2.75%	-0.808	
-13	-0.66%	0.07%	-0.667		-0.70%	0.38%	-1.138		-1.59%	1.20%	-0.103		-1.71%	1.04%	-0.315	
-12	-1.16%	-1.09%	0.385		-1.44%	-1.06%	-0.086		1.14%	2.34%	1.129		1.12%	2.16%	1.164	
-11	1.18%	0.09%	0.648		1.01%	-0.05%	0.703		0.68%	3.02%	-0.596		0.73%	2.89%	-0.068	
-10	1.40%	1.49%	0.122		1.55%	1.50%	0.44		-0.72%	2.30%	-0.35		-0.52%	2.37%	-0.068	
-9	-1.03%	0.46%	-0.93		-0.91%	0.59%	-0.875		0.63%	2.93%	1.376*		0.66%	3.03%	0.918	
-8	-0.37%	0.09%	2.225**		-0.28%	0.31%	2.282**		-0.68%	2.25%	-0.103		-0.57%	2.46%	0.425	
-7	0.40%	0.49%	1.962**		0.48%	0.79%	2.019**		1.62%	3.87%	0.636		1.39%	3.85%	0.918	
-6	2.18%	2.67%	1.173		2.02%	2.81%	1.23		2.33%	6.20%	0.39		2.10%	5.95%	0.178	
-5	0.64%	3.31%	-0.93		0.44%	3.25%	-1.138		0.45%	6.65%	0.39		0.51%	6.46%	0.178	
-4	-0.03%	3.28%	0.648		-0.02%	3.23%	0.703		0.08%	6.73%	0.39		0.02%	6.48%	0.178	
-3	1.49%	4.77%	0.91		1.50%	4.73%	1.23		-0.82%	5.91%	0.636		-0.79%	5.69%	0.918	
-2	-0.60%	4.17%	-0.667		-0.55%	4.18%	-0.086		0.33%	6.24%	1.376*		0.30%	5.99%	1.411*	
-1	0.74%	4.91%	0.385		0.63%	4.81%	0.703		0.41%	6.65%	0.636		0.52%	6.51%	0.178	
0	1.12%	4.91%	1.436*		1.30%	4.91%	1.493*		0.04%	4.91%	-0.103		0.12%	4.91%	-0.068	
1	0.11%	5.02%	-0.141		0.12%	5.03%	-0.086		0.30%	5.21%	0.39		0.34%	5.25%	0.918	
2	-0.11%	4.91%	-0.93		-0.20%	4.83%	-0.612		0.58%	5.79%	0.636		0.45%	5.70%	0.671	
3	0.63%	5.54%	1.699**		0.54%	5.37%	2.019**		0.91%	6.70%	-0.103		0.97%	6.67%	0.178	
4	0.47%	6.01%	0.385		0.72%	6.09%	0.967		0.91%	7.61%	0.636		1.01%	7.68%	0.918	
5	1.94%	7.95%	2.225**		1.99%	8.08%	1.756**		2.34%	9.95%	3.594***		2.51%	10.19%	3.383***	
6	0.75%	8.70%	0.91		0.90%	8.98%	1.23		0.24%	10.19%	0.636		0.11%	10.30%	0.425	
7	-0.68%	8.02%	0.385		-0.78%	8.20%	0.703		2.22%	12.41%	1.869**		2.24%	12.54%	1.904**	
8	2.92%	10.94%	1.699**		2.98%	11.18%	2.019**		1.04%	13.45%	1.622*		1.21%	13.75%	2.150**	
9	0.13%	11.07%	0.385		0.17%	11.35%	1.23		0.13%	13.58%	-0.35		0.13%	13.88%	-1.054	
10	-1.28%	9.79%	-0.141		-1.25%	10.10%	-0.612		-0.20%	13.38%	-0.103		-0.27%	13.61%	0.178	
11	-0.48%	9.31%	0.385		-0.63%	9.47%	0.177		-2.16%	11.22%	-0.103		-2.28%	11.33%	-0.068	
12	2.29%	11.60%	0.648		2.15%	11.62%	0.967		0.80%	12.02%	-0.103		0.93%	12.26%	-0.315	
13	-1.13%	10.47%	-0.93		-1.22%	10.40%	-0.612		-0.83%	11.19%	-0.234		-0.86%	11.40%	0.297	
14	0.54%	11.01%	1.044		0.63%	11.03%	0.835		0.66%	11.85%	0.014		0.59%	11.99%	0.297	
15	0.08%	11.09%	1.044		0.01%	11.04%	0.835		-1.06%	10.79%	0.759		-1.04%	10.95%	1.042	
30	-0.06%	18.42%	0.78		0.03%	19.15%	0.834		-0.65%	16.67%	0.889		-0.57%	17.33%	1.181	
	Cumulative Abnormal Return	Generalized Signed Z-statistic	Compound Abnormal Return	Generalized Signed Z-statistic	Cumulative Abnormal Return	Generalized Signed Z-statistic	Compound Abnormal Return	Generalized Signed Z-statistic	Cumulative Abnormal Return	Generalized Signed Z-statistic	Compound Abnormal Return	Generalized Signed Z-statistic	Cumulative Abnormal Return	Generalized Signed Z-statistic	Compound Abnormal Return	Generalized Signed Z-statistic
-30,-2	4.17%	1.436*	0.55%	0.648	4.17%	1.493*	0.57%	0.967	6.23%	2.362***	2.98%	0.883	6.01%	1.532*	2.72%	0.918
-1,0	1.86%	1.173	1.98%	1.173	1.93%	1.23	2.05%	1.23	0.45%	1.376*	0.45%	0.883	0.64%	0.622	0.64%	0.918
+1,+30	13.26%	2.488***	11.58%	1.699**	13.94%	2.808***	12.36%	1.756**	11.75%	2.854***	9.54%	0.636	12.34%	3.095***	10.20%	0.425

*, **, *** denotes statistical significance at the .1, .05, and .01 levels of significance.

Figure 8 shows the stock pricing impact. Note that in contrast to the NASDAQ press release, announcement, and effective dates for starting the new tiered structure, firms crossing tiers show some momentum in their return patterns in the before two weeks prior to switching, and continued momentum immediately afterwards. Firms that drop to a lower tier see a slight price increase, and firms that rise to a higher tier see their prices fall slightly. However, this analysis does not provide strong evidence of a pricing impact given the small sample size and the influence of many small price stocks (i.e. penny stocks) within the sample.

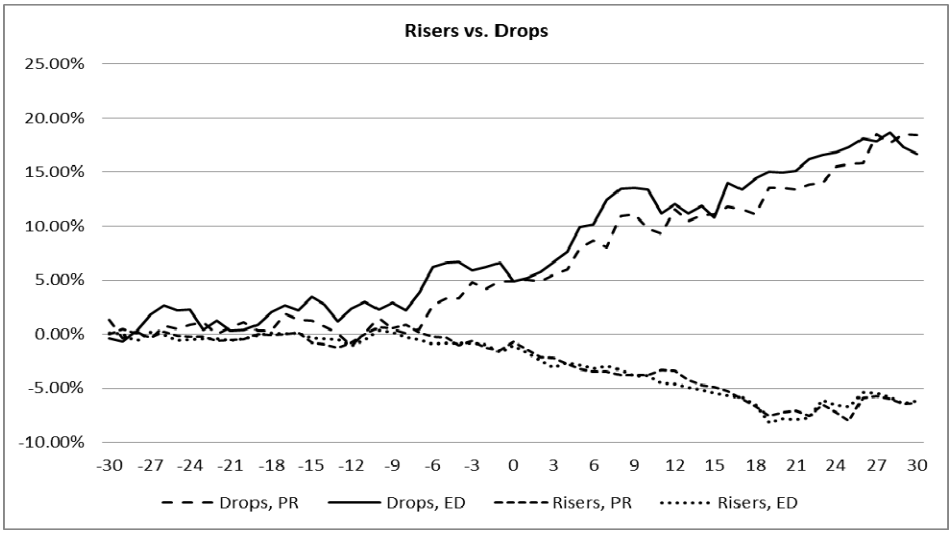

Figure 8. Risers vs. drops, full 61-day event window

Thus far, the analysis doesn't indicate any positive reputation effect for NASDAQ firms resulting from the new tiered structure. The announcement effects around the restructuring are more consistent with a momentum effect within tiers, rather than an immediate impact resulting from being associated with the NASDAQ listing environment. Further, NASDAQ stocks moving down to lower tiers seem to benefit, while firms moving up towards (or onto) the highest tier seem to incur a cost.

Another method of testing for any benefits to NASDAQ's reputation resulting from having the "highest listing standards in the world" is to test for an enhanced competitiveness in the marketplace for listings. If Bob Greifeld's promotion of the new tier as "a blue chip market for blue chip companies" truly signaled to the marketplace that NASDAQ is the best listing environment for new publicly traded firms, NASDAQ should be better able to compete for IPOs.

Tables 7 through 9 present the findings of an analysis of NASDAQ's ability to compete for IPOs after the reorganization. Using the same approach as Corwin & Harris (2001), I analyze the probability of NASDAQ attracting a listing around the restructuring timeframe. Table 7 provides descriptive statistics on market for IPOs from 2004-2008.

Table 7. Descriptive statistics, 2004-2008 IPO market

Pre-Reorg			Post-Reorg	
29.2%	135	NYSE	111	32.6%
2.8%	13	AMEX	17	5.0%
67.7%	313	NASDAQ	205	60.1%
0.2%	1	NYSE Arca	8	2.3%
	462		341	

NASDAQ has the vast majority of IPO listings over the sample period, but the IPO market has slowed down since the July 2006 restructuring. The total number of IPOs in the 30 months immediately after NASDAQ's restructuring dropped by over 26% from the preceding 30 months. Additionally, their rate of attracting IPOs has dropped from 67.7% to 60.1%.

While this initial analysis indicates the restructuring hasn't helped NASDAQ to better attract new IPOs, the Corwin & Harris (2001) approach provides a better framework. They found that smaller, riskier firms tend to list on NASDAQ, and firms tend to list on the exchange where their industry piers are listed. Table 8 provides correlations on these variables for all IPOs from 2004-2008. Consistent with their findings, the analysis shows a negative correlation between firm size and a firm listing on NASDAQ. The analysis also shows positive correlations between the concentration of industry peers being listed on NASDAQ and the risk of a firm's stock.

Table 8. Correlations

	NASDAQ IPO	Ln(MktCap)	NASDAQ Industry Share	$\sigma_{Returns}$
NASDAQ IPO	1			
Ln(MktCap)	-0.35363	1		
	<.0001***			
NASDAQ Industry Share	0.42247	-0.18078	1	
	<.0001***	<.0001***		
$\sigma_{Returns}$	0.2321	-0.1199	0.32516	1
	<.0001***	0.0007***	<.0001***	
Post Reorg	-0.07884	0.06932	0.11691	0.16855
	0.0255**	0.0496**	0.0011***	<.0001***

*, **, *** denotes statistical significance at the .1, .05, and .01 levels of significance.

Table 9 shows both Probit and Logit estimations for the probability of NASDAQ attracting an IPO. Model 1 shows a significant relationship between the same variables previously identified in the literature by Corwin & Harris (2001). All variable coefficients are in the expected directions. Larger firms are associated with a lower probability of NASDAQ attracting the IPO, and greater risk and greater industry concentration on NASDAQ are associated with a higher probability of NASDAQ attracting the IPO. The model is significant with a Log Likelihood value of 409.77.

Table 9. Probit and logit estimations, IPO market

Dependent variable: *NASDAQ* is a dummy variable equal to 1 if the IPO listed on NASDAQ, and equal to 0 otherwise.

Independent variables: *Ln(MktCap)* is the natural logarithm of the firm's market capitalization, defined as the number of publicly traded shares times share price. NASDAQ Industry Share is the proportion of industry peers listed on NASDAQ. Standard Deviation of Returns ($s_{returns}$) is the standard deviation of the market closing price for the first 100 days of trading immediately after the firm's IPO. *Post Reorg* is a dummy variable equaling 1 if the IPO listed on NYSE, NASDAQ, or AMEX between July 3, 2006 and 31 December, 2008.

Independent Variables		Probit			Logit		
		1	2	3	4	5	6
α		-0.8072	-0.7958	11.9264	-14.2994	-14.0626	21.143
	Wald c^2	54.57***	52.02***	58.25***	53.5363***	50.7312***	51.3072***
	p-value	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
Ln(MktCap)		-0.4366	-0.4267	-0.6275	-0.7771	-0.7584	-1.1136
	Wald c2	64.1202***	60.13***	63.83***	62.4956***	58.3535***	56.4259***
	p-value	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
NASDAQ Industry Share		1.7067	1.8200	1.8177	2.8699	3.0458	3.0216
	Wald c^2	84.4871***	91.64***	89.98***	77.2396***	83.061***	80.6329***
	p-value	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
$s_{Returns}$		3.3866	4.5624	4.6886	7.9698	9.7142	9.3679
	Wald c^2	5.1942**	8.81***	9.11***	8.1631***	11.6969***	10.923***
	p-value	0.0227	0.0030	0.0025	0.0043	0.0006	0.0009
Ln(MktCap)*Post Reorg				0.4269			0.7429
	Wald c^2			14.79***			13.5003***
	p-value			0.0001			0.0002
Post Reorg			-0.4522	-8.9051		-0.7219	-15.4656
	Wald c^2		17.97***	16.36***		15.4855***	14.7996***
	p-value		<.0001	<.0001		<.0001	0.0001
n		803	803	803	803	803	803
Log Likelihood		409.765***	400.646***	393.199***			
Likelihood Ratio					231.678***	247.585***	261.309***
Score					207.586***	218.909***	227.098***
Wald					162.035***	167.377***	171.417***
Psuedo r^2		0.258	0.272	0.281	0.258	0.272	0.281

*, **, *** denotes statistical significance at the .1, .05, and .01 level.

Model 2 includes the dummy variable (Post Reorg) for whether or not the IPO listed after NASDAQ's restructuring. The variable loads as significant and negative, indicating that post-reorganization, NASDAQ may have a lower probability of attracting the IPO. Models 4 and 5 repeat the analysis using a logistic regression approach as a sensitivity analysis. As with the Probit model, all coefficients are significant, in the same direction, and the overall model is highly significant. All four specifications have similar Psuedo r^2, and the models with the Post Reorg variable improve slightly on the Psuedo r^2.

A supplemental test of the control variables (not reported) indicates that IPO firm sizes increased over the later half of the sample period. Since larger companies have been shown to have a higher probability of listing on the NYSE (Corwin & Harris, 2001), larger firm sizes in the second half of the sample period could also help explain the lower probability of NASDAQ attracting an IPO, independent of any restructuring. Since IPO firm sizes increased over time, Model 3 provides an interaction variable that helps account for this growth over the later portion of the sample period. I create the interaction variable by multiplying the firm size (Ln(MktCap)) by the dummy variable for the time frame after the restructuring (PostReorg).

Given a significantly larger average firm size in the later half of the sample period, the interaction variable should control for this effect. The analysis from Model 3 indicates that the interaction variable is significantly different than zero, and that the variable of interest (PostReorg) is still significant, and negative. This finding is consistent with the notion that the restructuring may not have helped NASDAQ attract new IPO listings. This analysis does not clearly demonstrate causality, but it does indicate that NASDAQ appears to have a diminished competitiveness in the IPO market during the same time frame after the restructuring.

5. Conclusion

NASDAQ intended for their restructuring to signal to the marketplace that it was a world-class marketplace with the highest listing standards in the world. As a result, NASDAQ hoped to better compete for newly listed firms, and existing NASDAQ firms could potentially benefit from the reputation effect as NASDAQ moved to better compete with NYSE. The empirical data is not consistent with a reputation effect resulting from the restructuring. NASDAQ

firms received no apparent asset pricing impact from a) the initial restructuring announcement, b) when the firms were identified for each tier, or c) when trading commenced under the new listing structure.

In fact, whatever momentum the NASDAQ-listed stocks had (before the announcements) appeared relatively uninterrupted as a result of NASDAQ's press releases over the Spring and Summer of 2006. Additionally, NASDAQ firms appear to benefit when moving down the scale towards the bottom tier, and to suffer when moving towards the upper tier. This finding is inconsistent with either a reputation effect or a visibility effect that one would expect when moving up towards the top of the listing environment or down towards the bottom.

As a marketplace, the evidence from this study is consistent with the notion that the restructuring appears to have had no positive impact on NASDAQ's ability to attract new IPO listings. NASDAQ does not appear to be more competitive for new listings than it was before that restructuring. Chuck Jaffe may be right; the restructuring may very well have been about marketing. Unfortunately, the marketing doesn't appear to have helped.

Future studies to build upon this research could focus on a number of issues. First, regarding the momentum effect, why did the tiers appear to move in different directions? When the NGM stocks were moving up, the GSM stocks were moving down, and vice versa. Was this an anomaly restricted to this sample period, or do these patterns occur more often? If so, what is the source of the tiers exhibiting movements in opposite directions?

A related study could look at NASDAQ's ability to keep firms from moving to the NYSE. If the IPO market is indicative of an offensive approach towards seeking greater market share, an alternative outcome would be a defensive approach towards protecting the market share you currently have. Plus, NASDAQ's desire from the restructuring may be to compete at the top of the market for large (blue chip) firms, while accepting risk against NYSE Arca regarding market share in smaller firms. A future study could isolate the largest firms and examine NASDAQ's ability to retain their listings from NYSE, or isolate the smallest firms and examine NASDAQ's ability to retain their listings from NYSE Arca.

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