Stock Price Effects of Changes in the S&P MidCap 400 and the S&P SmallCap 600 Indices

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November 2002
Preliminary version; not for quoting

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Abstract

We examine stock price movements around the announcement and implementation of changes in the S&P MidCap 400 and S&P SmallCap 600 indices. For both promotions to and demotions from the indices, we find significant movements in the price of stocks facing a status change on both on the trading day following the announcement and the trading day leading up to the implementation. The stock price change is positive for promotions and negative for demotions. Although part of this price movement is retraced in the trading days after the implementation of the change, about half to three-quarters of the movement is permanent.

1. Introduction.

The last thirty years have seen the rise of equity index investing, driven primarily by a wide range of investors embracing the tenets of the efficient markets hypothesis. As more investors index, the ability of changes in the composition of the index to significantly affect prices of the stocks involved around the time of the change appears to be greater. Some of these stock price movements may be predictable. For example, Lynch and Mendenhall (1997) find predictable price movements after the announcement of changes in the S&P 500 index, and Madhavan (2001) finds a mean difference in return of 15% between additions and deletions in the Russell 3000 index in the month leading up to the annual reconstitution (which stocks will be added and deleted are relatively predictable a month in advance). In both cases, the abnormal returns are of sufficient magnitude to draw the attention of risk arbitrageurs. Thus, somewhat paradoxically, the widespread embrace of the efficient markets hypothesis seems to result in pockets of temporary inefficiencies in prices. This paper examines changes in the S&P MidCap 400 and S&P SmallCap 600 indices, finding predictability in stock returns after announcement of index changes.

The Standard and Poor's (S&P) 500 index of large-capitalization stocks has been around in some format since 1923, and moved to the current 500-stock format in 1957. Standard and Poor's indices for middle and small capitalization stocks are of more recent vintage. The S&P MidCap 400 was initiated in June 1991, while the S&P SmallCap 600 started in December 1993. As of the end of October 2002, the market capitalization of the S&P 500 Index was approximately $8.17 trillion, the market capitalization of the S&P MidCap 400 was approximately $700 billion, and the market capitalization of the S&P SmallCap 600 was approximately $320 billion. Sorting the constituents of each index by their associated exchange, the percentage of S&P 500 stocks traded on the NYSE are 86% as measured by the number of stocks (85% as measured by market capitalization), the percentage traded on Nasdaq are 14% (15%), while the percentage traded on Amex are under 1% using either measure. In contrast, the MidCap 400 and SmallCap 600 have relatively more Nasdaq and relatively fewer NYSE components. The MidCap 400 stocks primarily traded on the NYSE are 72% (70%), on Nasdaq are 27% (29%), and on Amex are 1% (1%). The SmallCap 600 stocks primarily traded on the NYSE are 58% (54%), on Nasdaq are 41% (44%), and on Amex are 1% (2%).

Index investing has grown more popular over time. According to Standard and Poor's,[1] as of October 2002, more than $1 trillion was indexed to the S&P 500, more than $25 billion to the MidCap 400, and approximately $8 billion to the SmallCap 600. These translate to fractions of market capitalizations equal to about 12.2%, 3.6%, and 2.5% for the three respective indices. As each of these indices is designed to have precisely its advertised number of constituents at all times, when a stock disappears from an index because of merger, bankruptcy, liquidation, or due to Standard and Poor's deciding that it no longer is representative, it needs to be replaced to keep the number of stocks fixed.

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[1] Information taken from Standard and Poor's website http://www.spglobal.com/indexmain500.html

Often, this will lead to a chain reaction, as a replacement stock often comes from another index. As index funds track the index, composition changes lead to trading of the affected stocks by index funds.

There are at least four hypotheses to explain stock price response to additions and deletions of stocks from S&P indices. The temporary price pressure hypothesis says that heavy index fund trading around the time of the index change moves stock prices temporarily away from their equilibrium. The downward-sloping demand curve hypothesis says that stock prices are observed because the demand curves for stocks slope downward. Securities are imperfect substitutes for each other. A change in index fund demand results in a permanent change in the stock price. The information hypothesis is that the decision by Standard and Poor's to change the index carries value-relevant information about the stock. The liquidity hypothesis is that addition or deletion of a stock from the index changes the liquidity of the stock. Index fund managers trade stocks significantly less frequently than active managers, changing the stock's liquidity, and resulting in a permanent change in the stock's price.

In the case of an addition to an index (more precisely, to a promotion to a higher index, as we show later), the price movements implied by the price pressure hypothesis should involve positive abnormal returns from the announcement through the implementation of the change (whether the positive returns occur at announcement, at the date of change, or in between depends upon how fully the market prices the anticipation of the price pressure), with negative abnormal returns after the implementation of the change. The cumulative abnormal returns before and after the change implementation should have the same magnitude, although different signs. In contrast, the price movements implied by the other three hypotheses (downward-sloping demand, information, and liquidity changes) should result in an immediate, positive, and permanent abnormal return upon announcement of the change, with zero abnormal return thereafter. Predicted price movements for a demotion from an index should have the same timing, but opposite signs. Thus, this paper will examine whether the price response to changes matches the temporary price pressure hypothesis or one of the other three, hypotheses of immediate and permanent price responses.

Previous studies on changes in the composition of S&P indices have focused on the S&P 500 index,[2] which represents a cross-section of large-capitalization U.S. stocks.[3] Prior to October 1989, changes in the S&P 500 were made simultaneously with the announcement of the change. From October 1989, Standard and Poor's policy has been to announce, whenever possible, changes in the S&P 500 one week before the enactment of the change. In constrast, over the period we examine, Standard and Poor's announced

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[2] An exception is Jain (1987), which also examines changes in the composition of supplemental S&P indices in an effort to test the price pressure hypothesis. For a very small sample of stocks, Jain finds positive stock price reaction to inclusion in these supplemental indices although funds are not indexed to these particular indices.

[3] A very small number of non-US stocks, primarily Canadian and Anglo-Dutch, were included in the S&P 500 prior to July 2002, when the index was made exclusively oriented towards American firms.

changes in the MidCap 400 and SmallCap 600 an average of about three trading days before enactment of the change.

Studies examining S&P 500 composition changes in the pre-1989 period find the one-day abnormal stock return associated with an index change (and simultaneous announcement) is about +3% for additions and about -1.5% for deletions. Harris and Gurel (1986) examine the 1978-1983 period (84 additions, 13 deletions); they find that the announcement/change date price effect is slowly but completely reversed in the period after the change. Shleifer (1986) examines the 1976-1983 period (102 additions), and finds the price effect is permanent. Dhillon and Johnson (1991) examine the 1978-1988 period (187 additions), find the price effect is permanent, and argue that the Harris and Gurel reversion finding arises from their method of risk adjustment. Beneish and Whaley (1996) also find a permanent price effect. Lynch and Mendenhall (1997) examine the post-1989 period, specifically 1990-1995 (34 additions, 15 deletions)[4]; they find a one-day abnormal return of about +3.2% at the announcement of an addition, with an additional runup of about +3.8% through the time of the actual change, and a post-addition price reversal of about -2.1%. For deletions, they find a one-day abnormal return of about -6.3% at announcement, additional runup through the actual change of -12.7%, and post-deletion price reversal of about +4.6%. Beneish and Whaley (1997) argue that the post-announcement runup is disappearing gradually over time. Wurgler and Zhuravskaya (2002), examining S&P 500 additions from 1976-1989, find the shock size is partially mitigated by the existence of stocks which are good substitutes for the added stock.

Previous changes of index changes in the United States have primarily examined the S&P 500. Exceptions are Madhavan (2001), examining the recomposition of the Russell stock indices, and Collins, Wansley, and Robinson (1995), examining the price changes associated with the initial creation of the S&P MidCap 400 in 1991. Although less money is indexed to the MidCap 400 and SmallCap 600 than the S&P 500, measured both in absolute terms and as a fraction of market capitalization, lower-capitalization stocks may have less liquidity, and thus changes in these indices may potentially be of similar or even larger magnitude than changes in the S&P 500.[5] Because there are more frequent changes in the MidCap 400 and the SmallCap 600 than in the S&P 500, we have more data available to confirm or reject the presence of phenomena observed in the S&P 500 attributable to index investing activity.

Studies of stock price effects associated with changes in the composition of indexes in countries outside the United States include Brealey (2000) on the UK's FTSE 100 index, Masse, Hanrahan, Kushner, and Martinello (2000) on Canada's TSE 300, Chan and

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[4] Because many index changes are driven by merger and spinoff activity which would not generate index fund trading around the dates, Lynch and Mendenhall "clean" such observations from their sample. They also report results for a larger sample, including such observations; their larger sample has 55 additions and 53 deletions..

[5] On the other hand, if these effects are known to the marketplace, then arbitrageurs such as hedge funds may take positions that effectively moderate the magnitude of changes, effectively competing down excess available trading profits.

Howard (2002) on Australia's AOI, Liu (2001) on Japan's Nikkei 500, Deininger, Kaserer, and Roos (2000) on Germany's DAX and MDAX, Bildik and Gülay (2001) on Turkey's ISE-30 and ISE-100, Elayan, Li, and Pinfold (2000) on New Zealand's NZSE 10 and NZSE 40, Barontini and Rigamonti (2000) on Italy's Mib30, and Bechmann (2002) on Denmark's KFX. Neumann and Voetmann (2001) examine the result of a one-time change in weights of the Dow Jones STOXX index of large European stocks.

Our results find significant abnormal changes in the price of stocks added or removed from the index on the day after the announcement of the change. A positive stock price reaction is associated with a stock moving to an index associated with higher market-capitalization stocks, and a negative reaction is associated with moving to a lower market-capitalization index or being removed completely. The announcement reaction is followed by additional abnormal price reaction, in the same direction, up through the implementation of the announced change. The overall abnormal price movement associated with a change is partially reversed over the ten trading days following implementation. If we expect price reactions in MidCap 400 and SmallCap 600 index changes to be qualitatively similar to S&P 500 index changes, this contrasts with the findings of Dash (2002), who finds full price reversals within six trading days for 53 examined S&P 500 index deletions from January 1998 to June 2002. However, this is consistent with Lynch and Mendenhall, who find partial reversals for both additions to and deletions from the S&P 500 from 1990 to 1995.

2. Data.

The full sample consists of all announced additions to and deletions from the S&P MidCap 400 and the S&P SmallCap 600 indices from Jan 1, 2000 to Dec 31, 2001. The press releases of these are taken from the Standard and Poor's website www.spglobal.com. These press releases include the reason for the change to the index and, importantly, the date on which the change is expected to occur. (Many changes are driven by merger activity, which are typically not certain of approval by regulatory authorities until just before the merger.) The full sample consists of 144 changes to the MidCap 400 and 220 changes to the SmallCap 600. As some changes consist of movements between these two indices, there is some overlap in these numbers. Daily stock returns are obtained from the Center for Research in Security Price (CRSP).

The move to price decimalization took place partway through the sample. Decimalization was phased in beginning with a pilot program in August 2000, and with full implementation by late January 2001 for the NYSE and mid-April 2001 for Nasdaq. Therefore, prices in the early part of the sample are quoted in sixteenths of a dollar, while those in the later part are decimalized. This is likely to be of most interest in the case of low-priced stocks.

From the full sample of index changes, a clean sample is generated in the following way. Observations are removed if the S&P announced date of change is indeterminate,[6] or if the announcement dates are unavailable (this applies to a few observations near the beginning of the time period). Next, observations relating to corporate control activity (mergers, acquisitions, and spinoffs), which result in the stock being unavailable for trade either before or after the change, are eliminated. Next, changes directly involving the S&P 500 index (either the stock being added to or deleted from the S&P 500 index) are eliminated. In a few cases, a stock was removed from the SmallCap 600 index because of bankruptcy or liquidation. As these stocks were not available for normal trade after the change, these are eliminated. Finally, duplications (stocks moving between the MidCap 400 and the SmallCap 600 indices) were eliminated. Table 1 summarizes generation of the clean sample. This results in a total of 368 observations.

These observations represent six possible stock movements between indices: adding a non-indexed stock to the MidCap 400, adding a non-indexed stock to the SmallCap 600, switching a stock between the MidCap 400 and SmallCap 600 indices (either direction), removing a MidCap 400 stock from the S&P indices, or removing a SmallCap 600 stock from the S&P indices. Of these six, we define the following four classifications. Adding a non-indexed stock to the MidCap 400 index, or switching a stock from the SmallCap 600 to the MidCap 400 index, we define as a promotion to the S&P MidCap 400. Removal of a MidCap 400 stock from the S&P indices, or switching a stock from the MidCap 400 to the SmallCap 600 index, we define as a demotion from the S&P MidCap 400. Adding a non-indexed stock to the SmallCap 600 index is defined as a promotion to the S&P SmallCap 600, while removal of a SmallCap 600 stock from the indices is defined as a demotion from the S&P SmallCap 600. While Standard and Poor's disavow that adding or dropping stocks from any index is a measurement of stock quality[7], we use the terms "promotion" and "demotion" (and the attendant ranking of the indices from the large-capitalization 500, through the MidCap 400 and SmallCap 600) in the spirit that the presence of a stock in a higher-capitalization index recognizes the higher capitalization that investors have placed upon the stock. Furthermore, as more indexing is done at the higher capitalization levels, a "promotion" can be expected to see an increase in index ownership, while a "demotion" sees a decrease in index ownership. The number of clean observations we have is 101 promotions to and 27 demotions from the MidCap 400 index, and 166 promotions to and 74 demotions from the SmallCap 600 index.

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[6] A trading strategy based around announcements of index changes might wish to hold a position until the announced change was effected. This typically occurs over a few trading days. However, some announced changes were not actually effected until months after the announcement. A strategy trading on such a change could then potentially face significant risk over such a (relatively) long holding period. If this hinders the implementability of trading strategies, arbitrage activity may be significantly curtailed. We therefore concentrate on events promising to be effected in a relatively short period (typically no longer than a week.)

[7] In the words of Standard and Poor's, "Company additions to and deletions from an S&P equity index do not in any way reflect an opinion on the investment merits of the company."

3. Results.

We examine daily stock returns around the announcement of the change in the index, and of the actual change in the index. The initial announcement of a forthcoming change in an index is made in the evening, after market close. The implementation of the change is typically scheduled for after the close of trade one to five trading days hence. For any given index change, there are two interesting event dates. We define the announcement date (AD = 0) as the first trading date subsequent to the evening announcement. We define the effective change date (CD = 0) as the trading date, after the close of which the previously announced change becomes effective. Thus the announcement date is the first full trading day on which it is publicly known that the index change is forthcoming, while the effective change date is the last full trading day on which the index change has not taken place. For an announcement in which Standard and Poor's gives only twenty-four hours notice (the minimum notice used), the announcement date and effective change date are the same.

Table 2 reports the abnormal returns to the stocks on the individual trading days leading up to and following both the announcement (Panel A) and the effective change date (Panel B) for promotions to the S&P MidCap 400 and SmallCap 600 indices. Abnormal returns are computed relative to the simultaneous return on the CRSP value-weighted index.[8] Observations are including in computing returns subsequent to a promotion announcement only up through their stock's effective change date; therefore, the number of observations decline in Panel A past AD = 0. Similarly, observations are included in computing returns prior to the effective date of change only after the announcement, so the number of observations increase in Panel B in the days leading up to CD = 0. We find significant abnormal returns both on the announcement date (of about +6.7% for promotions to the S&P 400, and +9.0% for promotions to the S&P 600) and on the effective change date (about +5.0% for promotions to the S&P 400, and +5.3% for promotions to the S&P 600). However, the announcement date abnormal return and the effective change date abnormal return are not completely separate; for roughly 30% of our observations, these dates coincide. Focusing on price movements occurring after the announcement date, but before implementation of the change, there is evidence that the market is not completely efficient, as positive abnormal returns are generally found for post-announcement, but pre-implementation days. Further restricting the sample to index changes made with more than one day's notice, the daily mean abnormal returns from announcement through effective change date is given in Table 4. The mean post-announcement, pre-implementation cumulative abnormal return (AD + 1 through CD = 0) found for the 79 stocks promoted to the S&P MidCap 400 index with more than one day's notice is +3.7%; the corresponding number for the 105 stocks promoted to the S&P SmallCap 600 index with more than one day's notice is +2.4%.

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[8] Although it may seem more appropriate to compute abnormal returns relative to the index the stock is being promoted to or demoted from, this is not without difficulty. Since the number of stocks composing each index is fixed, at least one other stock is simultaneously being moved into or out of that index (and in many cases, multiple simultaneous movements take place). Any price effect associated with that other stock would then be imparted into the index returns.

The abnormal price changes are even more dramatic in the case of demotions from an index. (Lynch and Mendenhall similarly find larger magnitude price changes for deletions from the S&P 500 than for additions to the index.) Table 3 reports abnormal returns around the announcement and effective change dates for demotions from the S&P MidCap 400 and SmallCap 600 indices. Again, very significant abnormal returns are found on both the announcement date (about -9.2% for demotions from the 400, and -15.3% for demotions from the 600) and on the effective change date (about -11.9% for demotions from the 400, and -13.5% for demotions from the 600). The announcement and effective change dates coincide here for roughly 40% of our observations. Examining price behavior from the announcement date through the effective change date offers additional evidence that the market is not completely efficient, as negative abnormal returns are generally found post-announcement, pre-implementation. The mean post-announcement, pre-implementation return found for the 23 stocks demoted from the S&P MidCap 400 index with more than one day's notice is -9.9%; the corresponding number for the 33 stocks demoted from the S&P SmallCap 600 index with more than one day's notice is -7.6%.

It may be that, for stocks with a longer time lag between the announcement date and the change date, the aggregate price movement is the same as for stocks with a shorter time lag, however the aggegate price movement is spread over a longer time period. This is somewhat supported by examining the mean aggregate abnormal return from the announcement through the change. For 21 promotions to the S&P 400 index made with only one day's notice, so the announcement date and effective change date coincide, the mean abnormal return on the date is +11.23%. For 79 promotions with at least two days' notice, the announcement date (AD = 0) mean abnormal return is +5.54%, and the mean cumulative abnormal return for the rest of the time up through the change (AD + 1 through CD = 0) is +3.7%. The 60 promotions to the 600 index made with one day's notice have mean abnormal return +10.73%; the 105 promotions made with at least two days' notice have mean abnormal return of +8.02%, followed by mean cumulative abnormal return +2.4% up through the change date. For demotions from the 400 index, the 4 observations with one day's notice have mean abnormal return -26.77%; the 23 observations with at least two days' notice have mean abnormal return -6.17% followed by mean cumulative abnormal return -9.9%. For demotions from the 600 index, 38 observations with one day's notice have mean abnormal return -18.97%; 33 observations with at least two days' notice, have mean abnormal return -11.08% followed by mean cumulative abnormal return -7.6%.

Table 5 provides evidence about whether the price changes resulting from changes in the composition of the MidCap 400 and SmallCap 600 indices are temporary or permanent. The cumulative price effect of an index change is calculated from the time of announcement to the time of implementation of the index change. This spans from date AD = 0 through date CD = 0, inclusive. The evidence indicates that these price changes are partially reversed over the next five or ten trading days in the case of promotions, and partially (possible fully) reversed over the next five or ten trading days in the case of demotions. In the cases of promotions to the MidCap 400 and promotions to the SmallCap 600, which result in respective cumultive abnormal returns of +9.7% and

+10.5% from the time of announcement to the implementation of the change, less than one-third of the return is reversed even after ten trading days after implementation (-2.7% and -3.1%, resepctively). In the case of demotion from the MidCap 400, which results in a cumulative abnormal return of -17.7% from announcement through implementation, about half of the return appears to be reversed after either five or ten days after implementation (+9.8% or +9.6%). In the case of demotion from the SmallCap 600, which results in a cumulative abnormal return of -18.8% from announcement through implementation, more than the entire return appears to be reversed after either five or ten days after implementation (+22.5% or +27.4%).

In the cases of demotion from an index, the above measure return measure may understate the stock underperformance associated with demotion. The ten trading day period leading up to the announcement also shows negative cumulative abnormal returns, -3.6% for the MidCap 400, and -25.7% for the SmallCap 600. This is consistent with Standard and Poor's stated policy, as many of these stocks are being removed from their index for "lack of representation," and typically therefore have extremely low market values at the time of announcement. Low market value is not the exclusive criterion used by Standard and Poor's to decide upon deletion, but a market value which has declined in size to the point that it no longer contributes meaningfully to the price performance of its industry group. Thus, demotion may occur at least partially because of recent significant stock underperformance. Relative to the stock abnormal return measured from ten days before announcement through implementation of the change, in the five or ten days after implementation, roughly half of the abnormal return is reversed for both demotions from the MidCap 400 and demotions from the SmallCap 600. This is consistent with studies finding short-term reversals in abnormal stock returns, such as Jegadeesh (1990), Lo and MacKinlay (1990), and Lehmann (1990), who finds short-term reversals in stocks that have outperformed in the very recent past.

4. Conclusion.

Our results indicate that there is both temporary price pressure and a permanent price response to stocks being promoted to or being demoted from the S&P MidCap 400 and SmallCap 600 indices. In all cases, there is a price response (positive in the case of promotion, negative in the case of demotion) occurring on the first trading day following the evening announcement from Standard and Poor's about the planned change. Addionally, in stocks for which the change is given more than a single day's notice, there is additional price movement in the same direction up through implementation of the change. After implementation, the price movement of the stock reverses. However, even ten trading days after implementation of the change, there remains a permanent price change. Thus, the evidence supports both the temporary price pressure and the permanent price pressure hypotheses occurring; a significant part of the price. Including the typical price change leading up to the announcement of an index change, from about half to three-quarters of the price movement that occurs up through the implementation date is permanent.

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TABLE 1
Sample Selection

Data is collected from Standard and Poor's (S&P) on all additions and deletions from the S&P MidCap 400 Index and the S&P SmallCap 600 Index from January 1, 2000 to December 31, 2001. Firms are removed from the sample for the reasons stated in Panel A. In Panel B, firms are then further classified as being "promoted to" or "demoted from" the MidCap 400 or SmallCap 600 Index. Promotions to the MidCap 400 Index can occur to firms within the SmallCap 600 Index or from non-indexed firms that meet S&P qualification requirements. Likewise, demotions from the MidCap 400 Index can result in a firm being moved to the SmallCap 600 Index or removal from any S&P Index.

Panel A: Development of Full Sample	S&P 400 Index		S&P 600 Index	
	Additions	Deletions	Additions	Deletions
Total Number of Additions/Deletions from January 1, 2000 to December 31, 2001	144	144	220	220
No available date of announcement, or S&P announced date of change is indeterminate	(21)	(14)	(18)	(12)
Changes resulting from merger, acquisition, or spin-off activity	(19)	(62)	(16)	(99)
'Promotions' to or 'Demotions' from S&P 500 Index (not corporate control related)	(3)	(34)	(10)	(1)
Bankruptcy or Liquidation				(4)
Duplicate Observations	(29)	(6)	(5)	(7)
No Usable Returns				
Final Sample	72	28	171	97

Panel B: Classifications	S&P 400 Index	S&P 600 Index
Promotions to	101	166
Demotions from	27	74
Total Sample	128	240

TABLE 2

Abnormal Returns for Promotions to the S&P 400 and 600 Indices

The announcement day (AD) is defined as the first trading day following Standard and Poor's notification of a pending index change. The change day (CD) is the day the firm is included in the index. *N* is the number of firms included in the calculation. *MAR* is the mean abnormal return of the sample firms calculated as the market adjusted return relative to the CRSP value-weighted index.

Panel A: Day Relative to Announcement Date (AD)

	S&P MidCap 400 Index				S&P SmallCap 600 Index			
Relative Day	N	MAR(%)	t_C(MAR)	%AR > 0	N	MAR(%)	t_C(MAR)	%AR > 0
-10	100	-0.1032	-0.2621		166	0.0704	0.2148	
-9	100	-0.1511	-0.3263		166	0.6659	1.6927	
-8	100	0.2763	0.7147		166	0.3303	0.9295	
-7	100	-0.1067	-0.2583		166	-0.1425	-0.3806	
-6	100	0.1949	0.5053		166	-0.2364	-0.5844	
-5	100	0.0211	0.0478		166	0.0086	0.0218	
-4	100	0.3908	0.9431		166	-0.2385	-0.7305	
-3	100	0.9905	2.2126		166	0.6469	1.6772	
-2	100	0.1300	0.2733		166	-0.0844	-0.2712	
-1	100	-0.2035	-0.4848		166	0.1911	0.5635	
AD = 0	100	6.7352	9.1064		165	9.0064	18.5869	
1	79	0.0022	0.0043		105	-0.2721	-0.6072	
2	69	1.3977	2.5355		89	0.7649	1.4627	
3	48	2.3820	2.6803		66	2.2758	2.6581	
4	21	3.0903	1.9986		29	1.1598	1.5823	
5	4	0.5950	0.2886		10	3.0343	2.6065	
6	2	7.3378	1.9225					

Panel B: Day Relative to Effective Change Date (CD)

	S&P MidCap 400 Index				S&P SmallCap 600 Index			
Relative Day	N	MAR(%)	t_C(MAR)	%AR > 0	N	MAR(%)	t_C(MAR)	%AR > 0
-6	2	2.8864	0.8013					
-5	4	0.8218	0.3857		10	7.78761	5.4044	
-4	21	6.0155	2.9930		29	5.1276	4.2050	
-3	48	3.3134	5.1707		66	3.1897	4.1068	
-2	69	0.0567	0.0771		89	2.4338	3.3622	
-1	79	2.1530	4.3561		105	2.0449	3.3473	
CD = 0	100	4.9800	6.5710		165	5.2754	9.3965	
1	99	-1.0739	-2.1176		166	-1.3034	-3.8168	
2	99	0.1171	0.4278		166	-0.3684	-1.2893	
3	99	-0.1339	-0.3043		166	-0.0192	-0.0613	
4	99	0.5939	1.4465		166	-0.6764	-1.9384	
5	99	0.0248	0.0559		166	0.1239	0.3864	
6	99	-0.2846	-0.5915		166	-0.4895	-1.5305	
7	99	-1.2883	-2.9684		166	-0.1134	-0.3646	
8	99	-0.4194	-1.0540		166	-0.0652	-0.1510	
9	99	-0.2766	-0.5998		166	-0.2781	-0.8239	
10	99	0.0100	0.0250		166	0.1216	0.2971	

TABLE 3
Abnormal Returns for Demotions from the S&P 400 and 600 Indices

The announcement day (AD) is defined as the first trading day following Standard and Poor's notification of a pending index change. The change day (CD) is the day the firm is included in the index. *N* is the number of firms included in the calculation. *MAR* is the mean abnormal return of the sample firms calculated as the market adjusted return relative to the CRSP value-weighted index.

Panel A: Day Relative to Announcement Date (AD)

Relative Day	S&P MidCap 400 Index				S&P SmallCap 600 Index			
	N	MAR(%)	t_C(MAR)	%AR > 0	N	MAR(%)	t_C(MAR)	%AR > 0
-10	27	-0.1184	-0.1710		72	-1.5558	-2.2719	
-9	27	-0.7491	-0.8225		72	-1.5487	-1.8062	
-8	27	-1.6550	-2.0890		72	-1.8082	-1.4369	
-7	27	-0.3066	-0.3172		72	-0.8293	-1.2781	
-6	27	1.6434	1.3744		72	-3.2487	-4.9890	
-5	27	-2.3105	-2.5000		72	-3.7476	-3.7149	
-4	27	-1.0905	-0.5033		72	-2.2896	-1.8428	
-3	27	-1.3987	-1.3086		72	-2.8585	-2.7391	
-2	27	0.6110	0.5090		72	-1.9715	-1.4923	
-1	27	1.8184	1.1384		72	-5.8551	-3.3729	
AD = 0	27	-9.2221	-4.8334		71	-15.3000	-9.9092	
1	23	0.1643	0.2071		33	-2.2064	-1.5782	
2	21	-3.3617	-2.3841		24	-0.9874	-0.5459	
3	14	-8.0282	-5.5754		19	-6.6173	-2.3168	
4	4	-11.3878	-1.7745		5	-1.6798	-0.6989	
5	2	-2.4789	-1.7362		4	-0.3291	-0.1693	
6	1	1.3958			2	-9.6407	-1.5555	

Panel B: Day Relative to Effective Change Date (CD)

Relative Day	S&P MidCap 400 Index				S&P SmallCap 600 Index			
	N	MAR(%)	t_C(MAR)	%AR > 0	N	MAR(%)	t_C(MAR)	%AR > 0
-6	1	-4.8352			2	-9.2367	-1.0130	
-5	2	-1.4193	-0.4757		4	-1.1236	-0.2640	
-4	4	0.1384	0.0397		5	-2.4161	-0.7838	
-3	14	-5.4508	-2.9636		19	-8.8534	-5.3980	
-2	21	-1.0174	-0.8321		24	-2.0652	-1.5852	
-1	23	-2.2363	-2.1429		33	-3.8889	-2.7400	
CD = 0	27	-11.8922	-6.7219		71	-13.4700	-7.3161	
1	26	4.8218	3.2542		71	11.9861	4.2458	
2	26	0.7068	0.5917		71	5.1535	3.8731	
3	26	0.9712	1.1252		71	2.89509	2.3361	
4	26	2.2585	1.0933		71	2.1413	1.7994	
5	26	0.9978	0.7727		71	0.3193	0.2171	
6	26	0.2282	0.1688		71	2.4382	1.6950	
7	26	-0.6487	-1.0948		71	0.1066	0.1026	
8	26	1.6411	1.18663		71	-0.6049	-0.7534	
9	26	-1.3722	-1.6903		71	1.7948	1.6536	
10	26	0.0348	0.0580		71	1.1648	1.0910	

TABLE 4
Abnormal Returns Between Announcement Date and Effective Change Date for S&P 400 and 600 Index Changes

The announcement day (AD) is defined as the first trading day following Standard and Poor's notification of a pending index change. The change day (CD) is the day the firm is included in the index. N is the number of firms included in the calculation. MAR is the mean abnormal return of the sample firms calculated as the market adjusted return relative to the CRSP value-weighted index.

Panel A: Promotion Announcements

Relative	S&P MidCap 400 Index				S&P SmallCap 600 Index			
Day	N	MAR(%)	t_C(MAR)	%AR > 0	N	MAR(%)	t_C(MAR)	%AR > 0
AD = 0	79	5.5399	7.4873		105	8.0220	14.7900	
1	69	-0.4430	-1.0374		89	-0.5150	-1.1588	
2	48	0.5741	0.8332		66	0.2954	0.5039	
3	21	1.6124	1.5097		29	1.7989	1.1455	
4	4	0.6684	0.2408		10	0.1169	0.1328	
5	2	-1.3768	-0.3490					

Panel B: Demotion Announcements

Relative	S&P MidCap 400 Index				S&P SmallCap 600 Index			
Day	N	MAR(%)	t_C(MAR)	%AR > 0	N	MAR(%)	t_C(MAR)	%AR > 0
AD = 0	23	-6.1709	-4.6347		33	-11.0776	-8.5186	
1	21	0.5633	0.6991		24	0.2744	0.3099	
2	14	-0.7003	-0.4633		19	-1.4356	-1.2325	
3	4	-3.6264	-4.2319		5	-0.1321	-0.1190	
4	2	-0.3855	-0.7062		4	0.4099	0.2674	
5	1	-1.0511			2	2.0552	0.6825	

TABLE 5

Cumulative Abnormal Returns for Changes to the S&P 400 and 600 Indices

The announcement day (AD) is defined as the first trading day following Standard and Poor's notification of a pending index change. The change day (CD) is the day the firm is included in the index. N is the number of firms included in the calculation. Mean percentage cumulative abnormal returns of the sample firms are calculated using market adjusted returns relative to the CRSP value-weighted index.

Panel A: Promotions to Index

Time period	CAR (%)	
	MidCap 400	SmallCap 600
AD-10 to AD-1	1.44	1.21
AD=0 to CD=0	9.66	10.54
CD+1 to CD+5	-.47	-2.24
CD+6 to CD+10	-2.26	-.82
CD+1 to CD+10	-2.73	-3.07
AD-10 to CD+10	8.37	8.68

Panel B: Demotions from Index

Time period	CAR (%)	
	MidCap 400	SmallCap 600
AD-10 to AD-1	-3.56	-25.71
AD=0 to CD=0	-17.68	-18.84
CD+1 to CD+5	9.76	22.50
CD+6 to CD+10	-.12	4.90
CD+1 to CD+10	9.64	27.39
AD-10 to CD+10	-11.60	-17.16