

**The Game of the Name:  
Valuation Effects of Name Changes in a Market Downturn**

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# **The Game of the Name: Valuation Effects of Name Changes in a Market Downturn**

## **Abstract**

We investigate stock price reactions to Internet related name changes in a market downturn. In contrast to the Internet boom period, during which there was a surge of dot.com additions, in the bust period, there is a dramatic reduction in the pace of dot.com additions accompanied by a rapid increase in dot.com name *deletions*. Following the Internet “crash” of mid-2000, investors react positively to name changes for firms that *remove* dot.com from their name. This dot.com deletion effect produces cumulative abnormal returns on the order of 70 percent for the sixty days surrounding the announcement day. Thus, our results add support to a growing body of literature that documents that investors are potentially influenced by cosmetic effects.

## Introduction

A growing body of literature argues that markets are inefficient and that investors in financial markets do not always behave rationally. In addition, it argues that managers understand these stock market inefficiencies, and take advantage of them through corporate actions. Examples of such corporate actions include security issuance decisions [Baker and Wurgler (2000), Baker and Wurgler (2002a), Baker, Greenwood, and Wurgler (2002c)], dividend issuance decisions [Baker and Wurgler (2002b)], and mergers [Shleifer and Vishny (2002)].<sup>1</sup>

However, evidence in favor of managerial timing is limited almost entirely to periods of positive investor sentiment. For example, the academic literature has argued that initial public offerings (IPOs) of equity and seasoned equity (SEOs) financing decisions are timed to take advantage of high market valuations<sup>2</sup> or investor optimism about the firm's future.<sup>3</sup> Similarly, Shleifer and Vishny (2002) argue that merger activity is driven by stock market overvaluations and managers' rational responses to these inefficiencies. If investors are irrational when the market rises, we should also expect them to behave irrationally in periods when the market declines. Not finding evidence of similar irrationality during market downturns would cast doubt on current models of investor behavior in the behavioral finance literature, since these models do not predict this type of asymmetry.

However, testing investor irrationality and managerial timing in periods of negative investor sentiment is not straightforward. In periods of positive sentiment, firms can undertake positive actions such as equity issues to take advantage of investor sentiment. In periods of negative sentiment, they can only choose not to initiate an equity issue, while repurchasing shares may be subject to cash constraints. Dittmar (2000) documents that share repurchase activity dropped to lows in the early 1980s and between 1989-1992, both periods coinciding with downturns in the economy. Consequently, tests of managerial timing and investor irrationality during periods of negative investor sentiment are contaminated by cash flow constraints.

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<sup>1</sup> Similarly, Graham and Harvey (2001) provide survey evidence that managers react to mispricing.

<sup>2</sup> See for example, Loughran, Ritter and Rydquist (1994) and Pagano, Panetta and Zingales (1998) for IPOs. Marsh (1982), Asquith and Mullins (1986), Korajczyk, Lucas, and McDonald (1991), Jung, Kim, and Stulz (1996), and Hovakimian, Opler and Titman (2001) among others, present evidence for SEOs.

<sup>3</sup> See Ritter (1991), Loughran and Ritter (1995), Brav and Gompers (1997), Rajan and Servaes (1997) and Teoh, Welch and Wong (1998a) for IPOs. See Speiss and Affleck-Graves (1995) and Teoh, Welch and Wong (1998b),

In this paper, we extend the evidence provided by Cooper, Dimitrov and Rau (2001) [hereafter referred to as CDR] by investigating the valuation effects of cosmetic name changes in the Internet sector before and after the end of the dot.com “bubble” in 2000.<sup>4</sup> Specifically, we purge a sample of Internet name change firms of any firms with confounding events which have cash-flow implications. We then examine the resulting cleansed sample of firms that deleted a dot.com from their names in the dot.com boom period (pre mid-2000) and in the dot.com bust period (post mid-2000).

Using a sample of 183 dot.com additions to, and 67 dot.com deletions from, a firm’s name over the June 1, 1998 to August 31, 2001 period, we find evidence that managers dramatically reduce the number of dot.com additions, and rapidly increase the number of dot.com name deletions, as sentiment in the Internet sector (as measured by an Internet index) swings from very positive to extremely negative after the dramatic decline in internet valuations during 2000. Anecdotal evidence in the popular press is consistent with the notion that managers deliberately time firm name changes to exploit investor sentiment. For example, according to *Associated Press*:

*Now that dot-com fever has turned into a plague, companies left and right are changing their names to disassociate themselves with the stigma of failure. Eden Prairie-based IntraNet Solutions renamed itself Stellent Inc. on Wednesday, and Internet.com became INT Media Group in May. Industry officials say thriving dot-coms are trying to avoid being lumped in with the rotting corpses of failed dot-coms such as pets.com, garden.com, furniture.com and living.com. “Companies are distancing themselves from that smell,” said Bridget Levin of Minneapolis-based Nametag International Inc. IntraNet Solutions said its name change was intended to reflect its expanded business. But Alan Meckler, chairman and CEO of Internet.com, was more pointed: “It’s window dressing for the financial community,” he said. It retains its coveted Internet.com domain name. “For those in the know, our customers, nothing ever changed.” (Associated Press News Wire, August 30, 2001)<sup>5</sup>*

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among others, for SEOs.

<sup>4</sup> Cooper, Dimitrov and Rau (2001) examine stock price reactions to the announcement of dotcom name additions during the run-up of Internet firm stock prices from 1998-1999. The name change produces cumulative abnormal returns on the order of 74 percent for the ten days surrounding the announcement day.

<sup>5</sup> Mr. Meckler, always conscious of his firm’s stock price, as a good CEO should be (he owns 53 percent of the shares), changed his firm’s name twice; first by adding a dot.com (from Mecklermedia to Internet.com Corp in 1998), and then later by deleting the dot.com (from Internet.com to INTMedia Group Inc. in April, 2001). His firm’s stock price jumped by 54 percent, increasing from approximately \$3 per share to \$4.50 on the news of the deletion

We observe two types of name changes. First, we observe instances where a firm merely adds to or drops a dot.com from its name. As an example, Infospace.com changed its name to Infospace. We refer to these name changes as “minor” name changes. Second, we observe instances where a firm not only adds to or drops dot.com from its name but also changes its name altogether. An example of such a “major” name change is USLab.com changing its name to Fly Networks, Inc.

We find that the stock market reacts positively to announcements of dot.com deletions after the dramatic Internet sector collapse of mid-2000. Consistent with CDR, we find (on a new sample of dot.com additions relative to the CDR sample), that the market continues to react positively to additions during the last year of the Internet sector’s dramatic price run up from 1999-2000. We find that the cumulative abnormal returns following a major name change addition in the Internet boom periods are significantly greater than the returns exhibited by firms undertaking minor name change additions over the same period. Similar return differentials are observed for major versus minor name change deletions in the post-2000 period, consistent with the hypothesis that investors react irrationally to name change announcements. Moreover, we find that firms make more “major” name change additions (deletions) than “minor” name change additions (deletions), when the Internet sector is “hot” (“cold”), consistent with the hypothesis that firms exploit investor irrationality. To put this name change effect into perspective, the average addition firm in our sample has a capitalization of \$350 million five days prior to the name change announcement. For the 168 addition firms, this translates into a raw (market adjusted) total increase in shareholder wealth of approximately \$31 billion (\$26 billion). Similarly, for the 67 firms in our deletion sample, the total increase in shareholder wealth on a raw return basis (market adjusted basis) is approximately \$2.2 billion (\$5.5 billion). Clearly, the effect is smaller for the deletions than for the additions, but still appears to us to be economically significant.

We also explicitly classify our sample firms into firms that do and do not change their business model concurrent with the name change. Out of our sample of 67 deletion firms, only six appear to have changed their business model from Internet to non-Internet, suggesting that

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(Cassell, (2001)).

our results are not driven by changes in shifts in the company investment and involvement in the Internet sector in the months surrounding the announcement of the name change. In fact, these six firms earn statistically insignificant abnormal returns around the name change, in contrast to firms that do not change their business model and earn statistically significant 60-day abnormal returns of 98.32% (for non-Internet firms who remain non-Internet firms) and 49.78% (for Internet firms who remain Internet firms).

We examine the stock price reaction to announcements of a dot.com deletion during the post-mid 2000 period by firms that had previously added a dot.com to their names. These firms earn significant positive abnormal returns, both when they add dot.com to their name, and again when they delete dot.com from their name. In addition, we do not find any significant differences in announcement period abnormal returns for this sample of dot.com deletions relative to the sample of deletions by firms which had always been dot.com firms, suggesting that investors are unable to distinguish between firms engaging in single versus multiple instances of name change behavior. Finally, we find no evidence that economic firm-specific fundamentals explain any of the price reactions to these name changes, which is consistent with investor irrationality.

By examining the valuation effects of a name change, a corporate event with no cash flow implications, our paper contributes to the literature by identifying a natural experiment to test investor rationality in a period of negative investor sentiment. Our results provide evidence of investor irrationality in periods of negative sentiment, in a manner consistent with results from periods of positive investor sentiment in the Internet sector (i.e., additions occurring in increasing market return regimes earn positive returns, and deletions occurring in decreasing market return periods earn positive returns).

Our results also appear to be consistent with some of the recent behavioral theories advanced in the literature to explain return momentum. For example, in the context of Daniel, Hirshleifer, and Subrahmanyam's (DHS) (1998) model of dynamic overconfidence, we can interpret dot.com name-change additions in the Internet boom period as a confirming public news signal that generates continued investor overconfidence (arising from investor self-attribution bias). The dot.com deletion from the firm's name serves as a "disconfirming public signal," reducing investor overconfidence that the firm is a really bad firm, and effectively disassociating the firm from the downward trend in stock prices affecting the Internet firms.

The remainder of the paper is organized as follows. In section I, we discuss the data sources and the methodology employed. Section II discusses our empirical results and Section III presents our conclusions.

## I. Data and Methodology

### A. *Data*

Our sample consists of all publicly traded companies on the NYSE, Amex, Nasdaq, and the OTC Bulletin Board (OTCBB) that changed their names between January 1, 1998 and August 31, 2001. For additions (deletions), the new (old) name has to be either a dot.com name (e.g., Wareforce.com), a dot.net name (e.g., Docplus.net Corporation), or has to include the word “Internet” (e.g., Internet Solutions for Business Inc.), “web” (e.g., Home.web Inc.) or “online” (e.g., Online Hearing Dot Com Inc). We refer to all these changes as dot.com name changes. The Appendix reports the sources we use to search for news announcements of dot.com additions and deletions. These sources include Bloomberg, Dow Jones, SEC filings, and various web sites.

In Table I, we report the initial number of firms in the sample and the number remaining after screening our sample for possible confounding events (such as mergers, acquisitions, spinoffs, or divestitures) in a –10 to +10 day window around the event date, uncertain event dates, and a lack of data. To control for potential problems due to microstructure issues, we also use a price filter to exclude firms that have a mean daily price per share of under \$0.50 in the 61 day event window surrounding the name change announcement.<sup>6</sup> These screens result in a relatively clean initial sample of 67 deletions and 183 additions. Because of the difficulty in obtaining exact announcement dates, the announcement day (day zero) is defined based on the first available information of the name change, which is either an announcement date or an effective trading date. We use the Amex Inter@ctive Index<sup>7</sup> as the relevant benchmark for price comparison and

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<sup>6</sup> After the price filter, the average (median) price per share for the deletion sample over the 61 day event window is \$7.53 (\$2.05).

<sup>7</sup> The Amex Inter@ctive Week Internet index (also known as the @Net Index) is a value-weighted index, created in August 1995, as a free service by the magazine Inter@ctive Week as a benchmark measure of the performance of Internet-related companies. The index, which originally comprised 37 companies in 1995, represents a broad range of companies involved in providing Internet infrastructure and access, developing and marketing Internet content and software tools, and conducting business over the Internet. Among the better known of the 51 current Index components are Cisco Systems (CSCO), America Online (AOL), Yahoo! (YHOO), Amazon.com (AMZN), and

for ascertaining the final peak in the level of the Internet sector.

Since August 2000 was the final peak in this index (see Figure 1), we choose that date as the cutoff to separate our sample into periods of “hot” versus “cold” markets (and presumably, positive and negative investor sentiment).<sup>8</sup> We also compare this index with a number of other Internet indices such as the Bloomberg US Internet Index, the Street.com Net Index, and the DJ Internet Commerce Index. All these indices are highly correlated and experience their final peaks around August 2000. We also report name change additions and deletions broken down across the pre and post-August 2000 period, and by major versus minor name change categories. Stock prices (adjusted for stock splits), firm capitalization, and other data for individual firms are collected from Bloomberg.

## B. Methodology

The abnormal returns, using the Amex Inter@ctive Index, earned by each firm are computed as follows:

$$AR_{it} = R_{it} - R_{mt}, t = -30, \dots, +30$$

where  $R_{it}$  is the return for firm  $i$  on day  $t$  and  $R_{mt}$  is the index return for that day. We then compute the cumulative abnormal return (CAR) for various event windows. For example, the event window from  $t = -15$  to  $t = -2$  is,

$$CAR = \sum_{t=-15}^{-2} \sum_{i=1}^N \frac{AR_{it}}{N}$$

where  $N$  is the number of firms. This method implicitly assumes that the portfolio of stocks is rebalanced every period to give equal weighting to each security. The corresponding  $t$ -statistics that measure whether the CAR is significantly different from zero over the  $t = l$  to  $t = k$  window are calculated using the dependence adjustment method as described by Brown and Warner (1985) with a holdout period  $t = -30$  to  $t = -16$ :

$$T = \sum_{t=l}^k AR_t / \sqrt{\sigma_{holdout}^2 \times M}$$

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eBay (EBAY).

<sup>8</sup> We also examine March 2000 as the collapse date of the Internet sector. Our results are robust to this change.

where  $\sigma^2_{\text{holdout}}$  is the variance of the abnormal return computed over the holdout period and  $M$  is the number of days from  $t = l$  to  $k$ .

## II. Results

### A. *The Pattern in Internet Name Changes*

If investors are irrational and managers are timing corporate name changes to take advantage of this irrationality, there should be a correlation between the frequency of renaming activity and investor sentiment towards the Internet sector. Specifically, as investor appetite for the Internet sector increases, we should expect to see an increase in the number of firms adding a dot.com to their names to suggest an increased association with a hot sector. During this period, we should also expect to see very few firms deleting the dot.com from their names. Moreover, as investor appetite for the Internet sector turns cold, we would expect to see a reduction in the number of firms adding, and a corresponding increase in the number of firms deleting, the dot.com from their names. In other words, we hypothesize a positive (negative) relation between the stock price performance of the Internet sector and the number of firms adding (deleting) dot.com to their name.

The findings in Figure 1 and Table II are consistent with this hypothesis. Table II shows that additions occur when returns to the Internet sector are increasing (Q1 1998 to Q2 2000) and deletions occur when returns to the sector are decreasing (Q3 2000 to Q3 2001). One question that our figure raises is why the volume of dot.com additions peaked in May 1999, while the index itself peaked for the final time in August 2000? One possible explanation is that managers believed (and, as it turns out, correctly) that the sector was overvalued and thus they consequently scaled back on dot.com additions to their names. Though we leave this an open question, it is interesting that our cycle of dot.com additions during the June 1998 to August 2000 period corresponds closely with the volume of Internet IPOs during the same period, as documented by Schultz and Zaman (2001).

Table II also indicates that there are no dot.com deletions prior to Q2 1999 (the peak in dot.com addition activity in our sample). Consistent with our hypothesis, the volume of dot.com deletions increases as the volume of dot.com additions declines. Dot.com deletions peak in April

2001. Table II also indicates that dot.com additions and deletions are primarily major name changes. Interestingly, 163 of the 178 additions (92%) in the pre-August 2000 period are major name changes while 30 of the 48 deletions (63%) in the post-August 2000 period are major name changes, again suggesting that firms are engaging in rational behavior to capitalize on investor irrationality. There are no minor name change additions following the final peak in the Internet index in August 2000.

In Panel B of Table 2, we test whether the timing and type of name changes can be predicted by investor sentiment, as proxied by the Internet index and prior name change activity. Specifically, for each type of name change (all additions and deletions, and combinations of major and minor name changes), we regress the monthly number of name changes on the six month holding period return to the Inter@ctive week index (lagged one month), and the six month moving average of the number of name changes (also lagged one month) in the same category as the dependent variable. Using the entire data sample (between January 1, 1998 and August 31, 2001), we find that the coefficient on the lagged index return is positive and significant for the additions and negative and significant for the deletions, suggesting that managers time their name change activity depending on the perceived positive (negative) sentiment levels of the market. At least for the additions sample, the timing decision is also related to the prior level of name changes, as we see a positive and significant loading on the lagged number of name changes. For both additions and deletions, the timing decision is more strongly linked to the two lagged sentiment variables for major name changes (recall that major name changes were defined as a firm not only adding or dropping a dot.com from its name but also changing its name altogether) than for minor name changes. To formally test whether the coefficients on the lagged market and the lagged number of name changes respectively, are statistically different across major and minor name change categories, we estimate a seemingly unrelated regression (SUR) model for both additions and deletions (not reported in the tables). Each SUR model estimates jointly two equations, where each equation is the same form as the OLS regressions in Panel B for the major and minor name changes. For both deletions and additions, the results from the SUR models strongly reject the equality of the coefficients on the lagged market and the lagged number of previous name changes across major and minor name

changes; Wald tests (similar results are obtained with Likelihood ratio tests and Lagrange multiplier tests) reject the null of equal coefficients at a less than 1% significance level for both additions and deletions.

In addition to market wide sentiment, another factor motivating the name change decision appears to be a decline in the firm's own market capitalization and stock price. Figure 2 reports raw returns over the -120 to +30 day period for firms deleting a dot.com from their names. Name change deletions after August 2000 appear to have been motivated by negative raw returns to the firm; prior to the name changes, the firms suffered, on average, negative returns of between -20% and -30% in the three months leading up to the name change. Around the name change, we observe a large run up in average raw returns for the name change firms; consistent with firms disassociating themselves from the Internet sector through a name change to slow down the decline in firm value.

This initial evidence is consistent with rational behavior on the part of managers in associating (disassociating) themselves with (from) a hot (cold) sector. As mentioned before, earlier studies of managers timing corporate events can really only study managerial behavior in periods of positive market sentiment. In periods of negative market sentiment, all we observe is a lack of activity. However in our study, we can observe a specific managerial action - a name change - to disassociate the firm from a sector experiencing negative market sentiment.

#### *B. Value Changes Surrounding Dot.Com Deletions*

If investors are driven by sentiment, dot.com deletions should be received more positively when the Internet sector is cold, as opposed to when it is hot. Table III reports cumulative abnormal returns (CARs) relative to the AMEX Inter@ctive Week Internet Index across various event windows for firms deleting a dot.com from their name. We report the average CAR across firms for the respective event windows along with the associated t-statistics. Panel A reports CARs across different event windows for the nineteen firms deleting a dot.com from their names over the pre-August 2000 period. Not surprisingly, we find no evidence of a significant market reaction to this event during the "hot" Internet period. In contrast, after the August 2000

“meltdown,” the market reacts very positively to dot.com deletions. For example, in Panel B of Table III, the CAR over the  $-2$  to  $+2$  window is about 17 percent and statistically significant. We see similar results over longer windows; for the  $-30$  to  $+30$  period, the CAR is 70.2% (t-statistic = 3.47) for dot.com deletions. While it is true that the Internet index that we use declined over the post-August 2000 period, the abnormal returns we report are not an artifact of the decline in the index. Specifically, the cumulative raw returns to post-August 2000 deletions is 44.58% (t-statistic=4.53) over the  $-30$  to  $+30$  period.

In summary, Table III indicates that the market reacts favorably to dot.com deletions during the post-August 2000 period. However, the market is indifferent to dot.com deletions in the pre-August 2000 period. This finding is consistent with our hypothesis, and provides evidence of market irrationality for two reasons. First, a name change by itself is not a material event and should not affect firm value. Second, the market’s reaction to a name change announcement should not depend on whether a sector is hot or cold. These findings lend support to the hypothesis that managers act rationally to take advantage of investor irrationality.

We also compute abnormal returns using a control group of firms. We calculate CARs relative to a price-matched control group of firms selected from Internet firms that did not change their name over the sample period. Specifically, we identify, using the Nasdaq, OTCBB, and AMEX websites, Bloomberg company profiles, and firm websites, all Internet firms that did not change their names over this period. For each of the 67 firms in our dot.com deletion sample, we then match the closest firm in the Internet non-name change sample on price over a two-week window around the event date for the dot.com sample firm. We refer to this control group as the “Internet control group”. The abnormal return for each firm in our dot.com sample is then calculated as the difference between the returns it earns and the returns earned by its price-matched control firm. We present these results in Table IV. Consistent with the CARs estimated using the AMEX Inter@ctive Week Internet Index, we find no significant run up in prices for dot.com deletions prior to August 2000 (Panel A), but large, statistically significant CARs associated with name change deletions after August 2000 (Panel B).

### *C. Does the Type of Deletion Matter?*

We dichotomize our sample of additions and deletions into major and minor name changes. As discussed previously, the decline (increase) in the AMEX Inter@ctive Week Internet Index in the post-August (pre-August) 2000 period is larger when firms make major name changes through dot.com deletions (additions) relative to when they engage in minor name changes. Since these major name changes result in dramatically different ticker symbols in most instances, it is possible that investors view the firm with a major name change as a potentially “new firm” that is not associated with the Internet sector. In contrast, the ticker symbol does not change, or changes only marginally, for minor name changes<sup>9</sup>. If investors are less likely to be deceived into believing that this is a new firm, we expect the cumulative abnormal return for this firm to be less positive than that for a major name change.

The results in Table III and IV and in Figure 2 are consistent with our conjecture. Nearly all the dot.com deletions in the pre-August period in Panel A of both tables are major name changes. For major name change deletions in the post-August 2000 period, the -2 to +2 event window CAR in Panel B of Table III is a significantly positive 22.5 percent and the corresponding CAR for minor name changes is an insignificant 9.7 percent. Across all event windows in Panel B, major name change firms consistently earn greater CARs than do minor name change firms. There is a statistical difference in the CARs between major and minor categories for the -30 to +30 window, and for the 0 to +1 window. The remaining windows, although having point estimates in the correct direction, are not significantly different across the two types of name changes. We find qualitatively similar returns based on control-group adjusted returns reported in Table IV (Panel B).

#### *D. Out-of-sample Abnormal Returns for Name Change Additions*

In this section, we specifically test whether the results for dot.com additions obtained by CDR persist in an out-of-sample period. We indeed find that the market reacts favorably to name change additions using a hold-out period from the CDR paper. Specifically, we analyze a sample of 70 firms that add a dot.com to their names in the period from August 1999 to August 2000.

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<sup>9</sup> For example, *perfumania.com* (ticker PF) changed its name to Envision Development Corporation (ticker EDV). This major name change deletion results in a dramatically different ticker symbol. In contrast, *click2learn.com* (ticker CLKS) changing to click2learn Inc leaves the ticker symbol unchanged.

Table V reports cumulative abnormal returns for these firms. Panel A duplicates the CDR results in the pre-August 2000 period. Our sample is larger than theirs though our results are qualitatively similar. Panel B reports results for the post CDR period from August 1999 to August 2000. Similar to our results in panel A and to CDR, firms adding a dot.com to their names in this period earn significant positive cumulative abnormal returns over all event windows.

Panel C of Table V reports CARs for dot.com additions during the post-August 2000 period. We can identify only five firms of this type and all these firms undertook major name changes. Unlike the results for the pre-August 2000 period, we find no statistically significant price reaction to the announcement of a dot.com addition over any of the event windows. The market apparently views dot.com additions during the “cold” period much less positively than when the sector is “hot.” This provides evidence of hot and cold cycles in the volume of, and market reaction to, dot.com additions.

We repeat our classification of dot.com additions into major vs. minor name changes and report the results in Table V. In the August 1999-August 2000 period for example, Panel B reports the CAR following a major name change addition is a significantly positive 34.1 percent over the  $-2$  to  $+2$  event window. The corresponding CAR for a minor name change is an insignificant 10.5 percent. Similarly, the CAR over the  $+1$  to  $+30$  event window is a significant 35 percent for major name changes, but an insignificant 15.4 percent for minor name change additions. The differences across major and minor additions are not significant over any of the pre-event windows, but are significant over the window surrounding the name change, and the  $+2$  to  $+15$  day window. For the entire 61-day window, the point estimates are consistent (major name changes earn approximately 28% more than minor), but the difference is not statistically significant.

*E. How Do Investors React to Multiple Name Changes by the Same Firm?*

An intuitive way to test for managerial timing in the context of our study is to examine those firms that engage in multiple instances of name changes. Knowing that an association with a hot sector resulted in a positive stock price reaction, it would not be surprising if firms take

advantage of this by again changing their names to disassociate themselves from a cold sector. If investors are unable to differentiate between firms changing their names once and those changing their names twice, the stock price reaction to name change deletions should be similar for the two types of firms.

Hence, we investigate whether managers attempt to game investors multiple times by first adding dot.com to their name during the hot Internet pre-August 2000 period, and then deleting dot.com from their name, subsequent to the August 2000 Internet meltdown. If managers become aware of the opportunity to increase firm value by associating themselves with the current hot glamour industry and then later act by disassociating themselves from the industry once it has gone “bust”, then we expect to see a significant portion of our sample engaging in multiple name changes.

Panel A of Table VI presents cumulative abnormal returns for firms announcing a deletion of dot.com from their names in the post-August 2000 period, after having added a dot.com to their names previously. When we examine the sample of post-August deletion firms and check through their entire history to see whether they previously had ever added dot.com to their names, we identify a sample of 30 such firms – 63% of our post August 2000 deletions sample of 48 firms. The CARs for these 30 “double dipper” firms over the various event windows are similar in magnitude to that in Table III for the full sample of dot.com deletions. Panel B reports differences between the abnormal returns earned by firms that delete the dot.com from their names after previously having added a dot.com (double name change firms) and those earned by firms that simply drop a dot.com (single name change firms). There is no significant difference in CARs across these two groups.

*F. An alternative hypothesis: Changing growth opportunities?*

An alternative explanation for the dramatic abnormal returns that we document to dot.com additions and deletions is a growth opportunity story. As investor perception of growth opportunities in the Internet sector increased in the 1997-1999 period, more firms entered the sector, and changed their names accordingly. As growth opportunities faded (post 2000), firms exited the industry and again changed their names accordingly. If the name change suggests a change in the business model of the firm, this might be a signal for investors of potential cash

flow changes in the firm. Our elimination of confounding events in the -10 to +10 day period may not capture this effect<sup>10</sup>.

One way to test the growth opportunity hypothesis is to regress firm returns on the Internet index, both before and after the name change, to see if the betas or  $R^2$ s change after the name change. Consider, however, the situation for a non-Internet firm adding a dot.com to its name without any change in its business model. If investors incorrectly perceive the firm as an Internet firm, all industry information that affects Internet firms will affect this firm as well. Hence, the beta for the firm will increase after the name change, even without a change in the underlying business model.

We therefore explicitly examine the extent to which the sample firms are indeed Internet firms (before and after the name change) and how much of the firm's business is derived from the Internet. In the two-month period around the name change, we use company news releases, company home pages, published company profiles, SEC filings, and other contemporaneous news releases, to select any firms in our sample that identify a change in strategic focus as one of the reasons for the name change. We classify our firms into two major categories of "Internet" or "non-internet" firms. We then subdivide the abnormal returns into four groups based on a firm's pre and post business category. Thus we examine returns across "Internet to Internet", "Internet to non-Internet", "non-Internet to Internet", and "non-Internet to non-Internet" classifications. For example, on April 25, 2001, ZapWorld.com announced a name change to Zap. Before and after the name change the firm's underlying business model does not appear to change; the firm is primarily engaged in making electric bicycle power kits, electric bicycles and tricycles, as well as electric scooters and motorcycles. Thus, we classify this firm as "non-Internet to non-Internet." The *Dow Jones News Service* had this to say about Zap's name change:

*The board (of Zap) noted that because of recent developments with Internet companies, and the need to have a corporate name that's more closely associated with the products it sells, its in the best interest of shareholders to disassociate from "dot.com" companies in view of the negative image that people may have*

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<sup>10</sup> Note however that the name change is essentially cheap talk. Hence it would be costless for any firm that did not wish to change its business model to change its name and imitate a firm that did wish to change its business model.

*for these companies.*

(Dow Jones News Service April 25, 2001)

This type of statement appears to be typical for the “non-Internet to non-Internet” name changes; the firms were apparently all too eager to be perceived as an Internet company while dot.com market valuations were rapidly increasing, but not willing to be associated with the Internet sector once it became perceived as “toxic”. In our sample of dot.com deletions, we have 33 “Internet to Internet”, 24 “non-Internet to non-Internet”, and 6 “Internet to non-Internet” firms (we were not able to classify four of the firms). In addition, there were no occurrences of “non-Internet to Internet” dot.com deletions.

Recalling that all of these firms started out with a dot.com suffix on their name before the deletion, it is interesting to speculate on how the market should react to different categories of name change firms and whether or not the reaction is “rational.” We might expect that if investors are informationally constrained on the actual operating practices of some of these firms (which may be the case since these are relatively small firms with little analyst coverage), then we would expect to see a positive abnormal return to firms whose core business was and is still not Internet related after the name change. For these “non-internet to non-internet” firms, the cosmetic name change may serve as a piece of salient news, simply bringing these firms back to investors’ attention. This would be consistent with Klibanoff, Lamont and Wizman (1998), who find that the stock price reaction to closed-end country mutual funds is higher when salient news on the country is reported on the front page of the *New York Times*. Thus, positive abnormal returns to “non-Internet to non-Internet” firms would be consistent with a rational investor response if investors are informationally constrained. However, note that a positive abnormal return after the dot.com deletion may imply that the market wrongly believed that the firm was an Internet company *prior* to the name change.

Next, consider “Internet to Internet” name changes. If these cosmetic name changes bring previously obscured valid information about the firm to the attention of investors (if investors are informationally constrained on these firms before the name changes), we might expect zero abnormal returns or even negative returns, as the market learns that these firms are truly Internet firms. However, if the dot.com deletion succeeds in deceiving investors into believing that the

firm is no longer a dot.com firm, resulting in positive abnormal returns, this would not appear to be consistent with rational investor behavior. Finally, for “Internet to non-Internet” name changes, (which may be the only name changes that are non-cosmetic in the sense that they may signal a potential change in the cash flows), it is not clear whether a positive or negative abnormal return can be attributed to any degree of investor irrationality; it may simply be the case that if investors are informationally constrained, and the name change serves to illuminate a company’s underlying change in cash flows, that positive (negative) abnormal returns would be associated with investors’ evaluating the net present values of future cash flows to the new business model as positive (negative).

When we separate the deletions into the above categories, we see no evidence of significant abnormal returns prior to August 2000. Post August 2000, the 17 “non-Internet to non-Internet” firms earn 98.32% (t-statistic = 4.41), the 6 “Internet to non-Internet” firms earn statistically insignificant returns, and the 24 “Internet to Internet” firms earn 49.78% (t-statistic = 2.49) over the 60-day window surrounding the event. Thus, as discussed above, the positive return results for the “non-Internet to non-Internet” firms may be consistent with investor rationality if investors are informationally constrained (although it is still a gross violation of semi-strong market efficiency), and the results to the “Internet to non-internet” do not provide us with a clean test of rationality. However, the “Internet to Internet” results show that investors are deceived by Internet firms attempting to look like non-internet firms, thus suggesting some degree of investor irrationality.

Our results appear to be consistent with some of the recent behavioral theories advanced in the literature to explain return momentum. Consider for example the Daniel, Hirshleifer, and Subrahmanyam (DHS) (1998) model of continued overreaction. DHS assume that investors are overconfident about their private information and overreact to it. If investors also have a self-attribution bias, then when subsequent (public) information arrives, investors will react asymmetrically to confirming versus disconfirming pieces of news. In other words, investors attribute successes to their own skill more than they should and attribute failures to external noise more than they should. The consequence of this behavior is that investors’ overconfidence increases following the arrival of confirming news. The increase in overconfidence furthers the initial overreaction and generates return momentum. The overreaction in prices will eventually

be corrected in the long-run as investors observe future news and realize their errors.

In the context of DHS's model of dynamic overconfidence (section III of their paper), we can interpret the dot.com additions in the Internet boom period as confirming public news signals that generate continued investor overconfidence (arising from investor self-attribution bias). This increase in overconfidence generates a continued overreaction, resulting in abnormally high returns to the dot.com additions. Later, after the crash in the Internet market, investors are again overconfident in their interpretation of the *bad* news associated with the dot.com sector, resulting again in industry momentum (but this time, positively autocorrelated negative returns). The dot.com deletion from the firm's name may serve as a disconfirming public signal, reducing investor overconfidence that the firm is a really bad firm, and effectively removing the firm from being associated with the downward trend in stock prices affecting the Internet firms. The fact that we observe greater returns to major name change additions (deletions) in "hot" ("cold") markets reinforces the linkage between our results and DHS; it would appear that the major name change firms contribute to greater self-attribution bias in the positive sentiment periods and to a larger disconfirming public signal in the negative sentiment periods, thus generating larger abnormal returns. It is interesting to note that the "Internet to Internet" category deletions discussed above, in the context of serving as a "disconfirming public signal," suggest that this signal need not necessarily be a truthful signal – indeed, it appears as though investors are deceived into thinking the firm is no longer an Internet firm simply as the result of a relatively costless name change.

## *G. Robustness Checks*

### *G.1. Are the Results Robust to Outliers?*

We also calculate the abnormal returns and t-statistics for the name change deletion firms for samples that exclude outliers; on the basis of the abnormal returns earned, and on the basis of an "extra-clean" sample constructed so as to screen out other confounding events in addition to our basic screens (which are summarized in Table I).

To exclude outliers on the basis of the abnormal returns earned, we compute the overall CAR for each firm from the -30 to the +30 period using two screens. First, we exclude all firms above

the 95<sup>th</sup> percentile and below the 5<sup>th</sup> percentile. Second, we exclude all firms above the 75<sup>th</sup> percentile and below the 25<sup>th</sup> percentile. Our results are robust to this trimming methodology. Obviously, since we are trimming on CARs there is a decrease in name change announcement stock price reactions. However, for the post-August deletions, we still see significant abnormal returns over 4 and 3 of the 5 post-event windows for the first and second screens respectively. For example, after discarding 10% of our sample, the post-August deletion firms earn CARs of 59.4% (t-statistic of 3.29) for the -30 to +30 day event window, while the CARs for the pre-August deletion firms remain insignificant over the same window. The difference between major and minor name changes is even more significant; in all but one event window, the difference in CARs is statistically different for major and minor name changes. We see similar patterns for the 50% sample screen. For example, the post-August deletions are still significant, with a CAR of 47.10% (t-statistic = 2.67).

To exclude outliers on the basis of other confounding events, in addition to screening out firms with mergers and acquisitions, financing news, or divestures, we also screen out firms with 1) new private investment news; 2) ticker changes; 3) changes in exchange listings; 4) earnings announcements; or 5) changes in analyst ratings. We apply these five new screens, in addition to the basic screens, over the entire -30 to +30 window. After deleting firms associated with any of these events, we now have 20 post-August, and 8 pre-August deletion firms. The results are robust to these screens; the post-August dot.com deletion firms earn average cumulative abnormal returns of 49.3% (t-statistic of 4.52) in the -2 to + 2 window, and a significant 87.7% in the 61 days surrounding the event. Similarly, for pre-August deletions, we have eight firms remaining in the sample after all the screens. Consistent with the full sample results, the market does not reward pre-August dot.com deletion firms; the CARs over all event windows are statistically insignificant.

### *G.2. Do the Stocks have High Betas?*

From Table III, in the pre-event period of day -15 to day -2, firms exhibit a pre-event run up in returns, earning a statistically significant CAR of 21.6 percent. This has several implications for the interpretation of our results. One explanation is that there may be some information leakage before the actual name change. Another explanation is that the actual announcement date is

before the event date we identify for the firm<sup>11</sup>. Both these explanations bias us towards accepting the null hypothesis that the sample firms do not earn excess returns in the event windows.

A third explanation is that these companies may have high betas. Using the market model instead of the control group adjustment or a simple market adjustment to compute abnormal returns might be a better adjustment for risk in this case; perhaps this would have a negative impact on both the average excess returns and the statistical significance of the results.

We use the AMEX Inter@ctive Week Internet index to compute betas for the dot.com deletion sample from days -90 to -31. Using the pre-event period to estimate betas, and applying a requirement that each firm have no more than 50 percent missing returns, we are able to compute betas for 54 of the 67 dot.com deletion firms. For these 54 firms, the average (median) beta is 0.306 (0.338). For the post-August dot.com deletion firms, the Amex Inter@ctive market-model adjusted CAR for the -2 to +2 window is 14.2 percent (t-statistic = 2.91) and 43.9 percent (t-statistic=2.58) for the -30 to +30 window. For the pre-August deletions, there is effectively no reaction to name changes; the CARs are insignificant across all event windows.

### *G.3. Is the Name Change Effect Robust to Controls for Small Firms?*

Since most of our firms trade on the Nasdaq and OTCBB, it is a fair assumption that these are relatively small firms. To address microstructure biases related to small firms, and to see how much of the dot.com deletion effect survives when we give greater weight to larger firms in the calculation of the CARs, in this section we re-estimate abnormal returns using various safeguards.

First, we calculate capitalization-weighted CARs for the firms in our dot.com sample using each firms' capitalization five days prior to the name change announcement. We were able to obtain capitalization for 63 firms out of the 67 in the deletion sample. The average (median) market size for the 63 firms (5 days prior to the name change) is \$802.6 (\$28.12) million, with a lowest (highest) quartile breakpoint of \$10.57 (\$100.41) million. For these 63 firms, we estimated day -30 to +30 capitalization weighted CARs by weighting each firm's daily returns by

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<sup>11</sup> The event date is the earliest day we can find published information about the name change. It is unlikely that the market receives this information after this date, though since these are small stocks, it is possible that the market receives the information before the earliest published date we can find. The abnormal returns we find before the event date may simply reflect this.

the firm's relative capitalization, thus placing greater weight on the returns of the larger firms. The day -30 to +30 Amex Inter@active adjusted CARs for the post-August deletion firms is 55.1 percent (t-statistic = 3.44). As before, the pre-August deletions are insignificant across all event windows.

Second, we estimate dollar volume-weighted CARs for the same sample of 63 dot.com deletion firms, essentially giving greater weight to higher price-weighted volume firms in the calculation of the abnormal returns. We weight each firm by its relative total dollar volume of trades over the -30 to +30 window, capping at 15% the maximum weight that any one firm may contribute. Using this method, the day -30 to +30 Amex Inter@active adjusted CAR for the post-August deletion firms is 54.8 percent (t-statistic = 1.97). Again, the pre-August deletions are insignificant across all event windows.

Third, we calculate CARs weighted by the inverse of the bid-ask spreads. We collect, when available, event date, day -30, and day +30 closing bid-ask spread data for the 67 deletion firms in our sample. For the event date, day -30, and day +30, Bloomberg has bid-ask data for 56, 59, and 59 firms in our sample, respectively. We then estimate AMEX Inter@ctive Week adjusted CARs by inversely weighting each firm by its relative event day bid-ask spread (where the relative spread for each firm is calculated as  $(ask_t - bid_t) / ((ask_t + bid_t)/2)$ ). The event-day average (median) relative bid-ask spread is 11.8 percent (8.2 percent). The inverse-weighted bid-ask spread CARs are still quite large for the post-August deletion firms, at 49.8 percent (t-statistic = 2.28) for the day -30 to +30 window. Again, the pre-August dot.com deletion firms do not earn significant CARs when weighted by the relative inverse bid-ask spreads.

Finally, we estimate an average holding period abnormal return (HPAR) by calculating each firm's -30 to +30 day bid-to-bid holding period return, subtracting the HPR of the Inter@ctive Week index, and then averaging across firms. Our results with holding period returns are similar to our results from using inverse bid-ask spreads. The 61-day window average HPAR for post-August deletions is 28.58 percent (t-statistic = 1.88). The HPAR for pre-August deletions is insignificant (HPAR=13.9%, t-statistic = 0.42). Overall, these results suggest that the dot.com deletion effect is robust to a microstructure-induced upward bias in returns.

#### *H. Determinants of the Cross-section of Abnormal Returns*

In this section, we examine the determinants of the cross-section of abnormal returns to see if the cross-sectional dispersion is related to various proxies for the level of trading activity and various firm fundamental variables. Several studies (see for example, Demers and Lev (2000), Hand, (2000a, 2000b), or Core, Guay and van Buskirk, (2001)) have focused on whether investors were using rational valuation models to value Internet firms during the pre-Internet crash period. These authors regress internet-specific variables (usually related to web traffic) on a market value measure, after controlling for economic fundamental variables. While they find that web traffic measures have explanatory power beyond traditional measures of firm growth, typical accounting fundamentals are also important in valuing these firms and moreover, the relationship does not appear to disappear after the Internet market crash in 2000.

For our sample of deletion firms, we are able to obtain accounting data such as earnings, book-value, and sales for approximately 25 firms in our sample. For these firms, we regress -30 to +30 day CARs on the firms' price-to-earnings, price-to-book, and price-to-sales ratios. We also regress the CARs on other measures, including market capitalization, total dollar volume, raw and effective spreads, and ratios of pre-to-post short interest and volume. To control for heteroscedasticity in the variances of the models' errors, we use the White (1980) method to calculate a consistent covariance matrix. Since we have relatively few firms with data and not much overlap when firms have populated data across different right-hand-side variables, we mainly concentrate on univariate regressions in Table VII.

Across the eleven variables examined in Table VII, only price-book (P/B) and percent spread (%Spread) are important in explaining the cross-section of day -30 to +30 CARs. There is a positive and significant coefficient on P/B, suggesting that dot.com deletion firms that look more like "growth" firms tend to earn the highest abnormal returns. At least for the 25 firms with non-missing P/B, this regression explains almost 29% of the cross-sectional variation in CARs. One possible story consistent with these results could be that traders screening on growth characteristics might buy these firms as they appear to be growth stocks but without the "toxic" dot.com name. We also find that %spread is significant; firms with higher relative spreads earn greater CARs. In the last row of Table VII, we find that P/B subsumes the %spread variable. Given the evidence in Demers and Lev (2000), Hand (2000a, 2000b), and Core, Guay and van Buskirk (2001), it is interesting that the other accounting variables, P/E and P/S, are not even

marginally significant. In addition, market capitalization, and various measures of percent change in volume and short sales are not significant.

### III. Conclusions

In this paper, we examine the valuation effects of a dot.com name change, a corporate event with no cash flow implications, allowing us to identify a natural experiment to test investor rationality in a period of negative market sentiment. For firms that change their name to a dot.com name during the pre-August 2000 Internet boom period and for firms that remove the dot.com from their name during the post-August 2000 Internet bust period, there appear to be large gains in shareholder wealth associated with the name change. These gains are greater for major name changes than for minor changes, suggesting that the investors are easily deceived by companies seeking to be disassociated from their past in order to appear to be more (less) like the current glamour (out-of-favor) industry. In addition, evidence of investor irrationality seems especially true when we consider the finding that firms classified as an Internet company, both before and after the name change announcement, experience large increases in shareholder wealth simply by removing dot.com from their names, apparently deceiving investors into believing that they are no longer an Internet firm. Reports of this kind of name change behavior on the glamour side are not new. For example, Gordon (2001) reports evidence of name changes during the incredible growth in stock prices for firms in the railroad and mining industries in the 1850s; the automobile industry in the 1910s, airplane firms in the late 1920s; the high-tech industry in the 1960s; bio-genetic firms in the 1980s. In all these growth periods, investors appeared extremely interested in “getting a piece of the action,” often times at the expense of due diligence. For example, during the airplane “craze”, investors rushed to purchase shares of Seaboard Airlines, which turned out to be a renamed railroad stock.

However, evidence of firms systematically changing their names away from the out-of-favor industry, and the associated effects on shareholder wealth that we document, is to the best of our knowledge, a new and previously undocumented effect. Thus, our results may provide further evidence of irrational overpricing on the formation side of a market bubble and new evidence of

irrational underpricing on the bursting side of a bubble.

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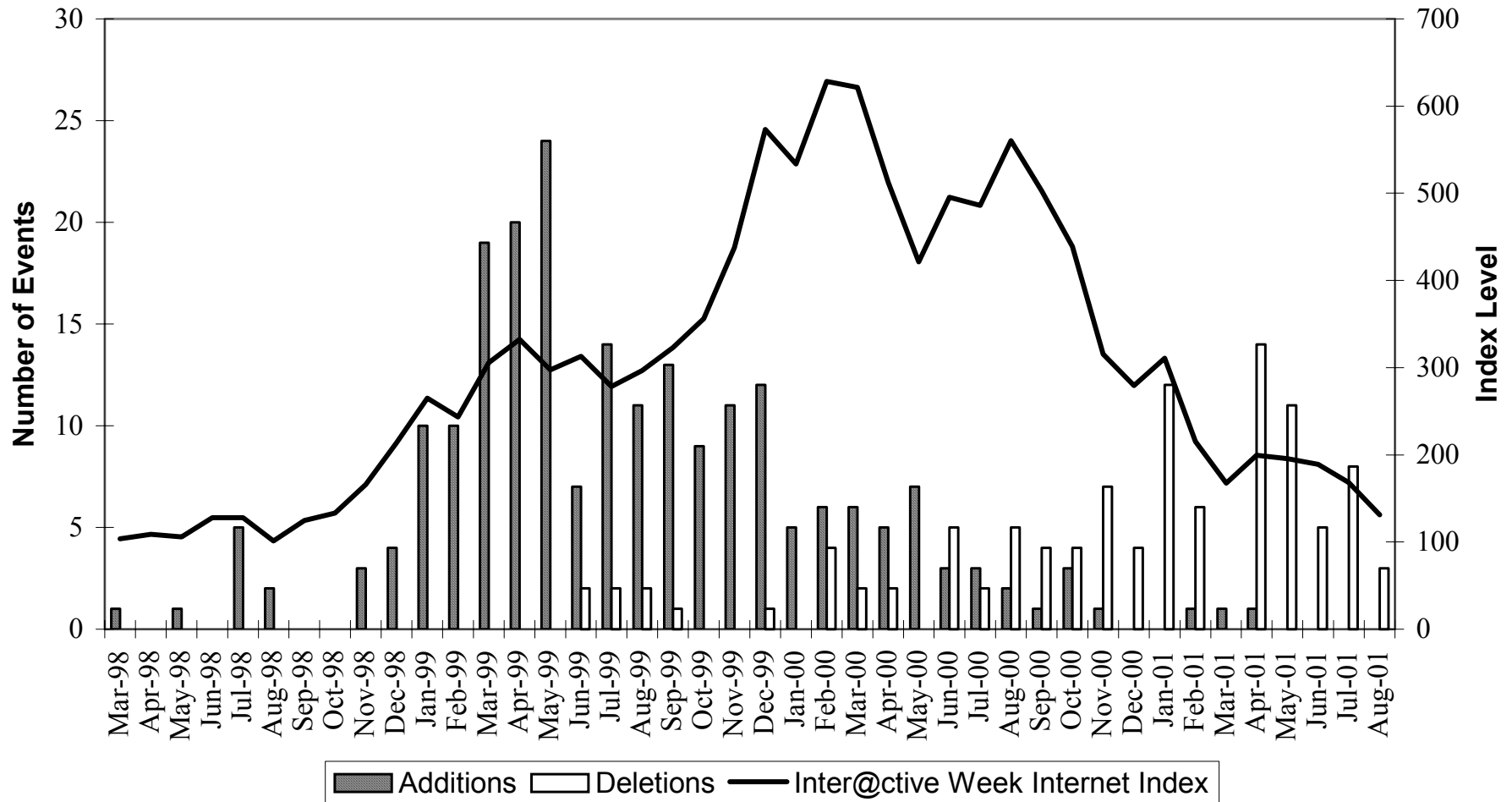
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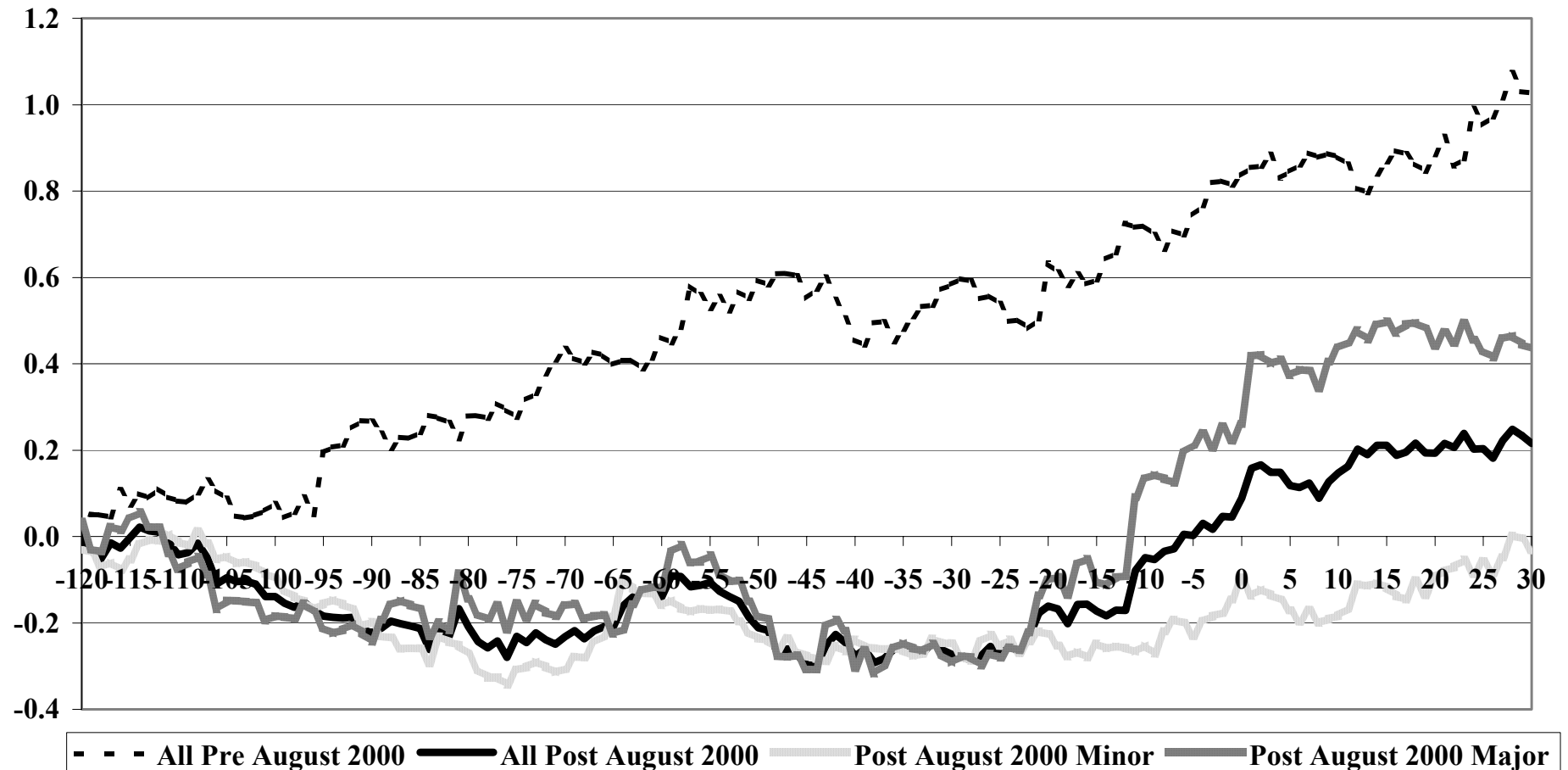
**Figure 1**  
**Additions and Deletions over Time**

This figure plots the Inter@ctive week Index level against the number of firms that added or deleted a dot.com from their names over the 1998-2001 period.



**Figure 2**  
**Dot.Com Deletions**

This figure reports raw returns for firms deleting a dot.com from their names between -120 and +30 days relative to the event date. A “minor” name change is one for which a firm merely adds or drops a dot.com from its name. A “major” name change is one for which the firm not only adds or drops dot.com from its name but also changes its name completely.



## Appendix

This appendix reports the data sources used in the paper

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Nasdaq OTC Board	<a href="http://www.otcbb.com">www.otcbb.com</a>
Nasdaq listings	<a href="http://www.nasdaqtrader.com">www.nasdaqtrader.com</a>
AMEX listings	<a href="http://www.amextrader.com">www.amextrader.com</a>
Company Profiles	Bloomberg Dow Jones Publications Library
Company News	Dow Jones Publications Library Bloomberg
Stock Splits	Bloomberg
SEC Filings	<a href="http://www.freeedgar.com">www.freeedgar.com</a> <a href="http://www.sec.gov/edgarhp.htm">www.sec.gov/edgarhp.htm</a>
Historical Prices	Bloomberg
Market Capitalization	Bloomberg DataStream
Volume, bid ask spreads	Bloomberg

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**Table I**  
**Sample of Name Change Additions and Deletions**

This table describes the sample of companies that add or delete a dot.com from their names between June 1998 and August 2001. We report the initial number of firms in the sample and the number remaining after all exclusions of firms. Firms are deleted due to confounding events (including mergers, acquisitions, spinoffs, or divestitures), uncertain event dates, lack of data, and after using a price filter (firms that have a mean daily price-per-share of under \$0.50 in the 61 day event window surrounding the name change announcement). Because of the difficulty in obtaining exact announcement dates, the announcement day (day zero) is defined as the first available information on the name change, whether from an announcement or effective trading day. We also report name change additions and deletions broken down into pre- and post-August 2000 periods, and by major or minor categories. A “minor” name change is one for which a firm merely adds or drops a dot.com from its name. A “major” name change is one for which the firm not only adds or drops dot.com from its name but also changes its name completely.

	Additions	Deletions
Initial number of firms in sample	432	164
Excluded due to mergers and acquisitions, spinoffs, or divestitures in the -10 to +10 period	157	38
Excluded due to uncertain event date	25	14
Excluded due to data not available or to insufficiently frequent trading	45	15
Excluded due to price filter	22	30
<b>Total number of remaining firms</b>	<b>183</b>	<b>67</b>
	First of either effective or announcement dates	First of either effective or announcement dates
Total remaining firms after all exclusions	183	67
Pre-August 2000	178	19
Post-August 2000	5	48
Major name change	163	30
Minor name change	15	18

**Table II**  
**Occurrences and Characteristics of Name Changes**

Panel A contains the distribution of announcement dates over time and across firm category types for dotcom additions and deletions. A “minor” name change is one for which a firm merely adds or drops a dot.com from its name. A “major” name change is one for which the firm not only adds or drops a dot.com from its name but also changes its name completely. Panel B reports an OLS time-series regression of the monthly number of name change firms on the six-month average of the Inter@ctive week Index, lagged one month, and the six-month average of the number of name change firms, lagged one month. T-statistics are reported in parentheses. T-statistics significant at the 5% level are bolded.

Panel A: Occurrences of Announcement Dates

Date	Additions			Deletions		
	All Firms	Major name change	Minor Name Change	All Firms	Major name change	Minor Name Change
Q1 1998	1	1	0	0	0	0
Q2 1998	2	2	0	0	0	0
Q3 1998	4	4	0	0	0	0
Q4 1998	6	6	0	0	0	0
Q1 1999	32	29	3	0	0	0
Q2 1999	44	40	4	0	0	0
Q3 1999	31	29	2	4	4	0
Q4 1999	24	20	4	1	1	0
Q1 2000	17	15	2	5	4	1
Q2 2000	12	12	0	6	5	1
Q3 2000	6	6	0	6	4	2
Q4 2000	1	1	0	11	8	3
Q1 2001	2	2	0	9	5	4
Q2 2001	1	1	0	17	10	7
Q3 2001	0	0	0	8	4	4

Panel B: Time-Series Regression of the Monthly Number of Name Changes on Lagged Index Returns and Lagged Number of Name Changes

		Lagged Inter@ctive week Index 6 month average return	Lagged number of name changes	Adjusted R <sup>2</sup>
Additions	All Firms	35.84 <b>(3.81)</b>	0.48 <b>(2.76)</b>	50.57%
	Major name change	33.37 <b>(3.99)</b>	0.48 <b>(2.83)</b>	51.50%
	Minor name change	4.34 <b>(2.31)</b>	-0.42 <b>(-0.85)</b>	16.80%
Deletions	All Firms	-16.89 <b>(-2.22)</b>	-0.08 <b>(-0.20)</b>	27.78%
	Major name change	-10.91 <b>(-2.31)</b>	-0.73 <b>(-1.28)</b>	17.80%
	Minor name change	-11.74 <b>(-1.37)</b>	-0.06 <b>(-0.06)</b>	5.53%

**Table III**  
**Abnormal Returns to Name Change Deletions**

This table reports market-adjusted cumulative abnormal returns, expressed in percent, relative to the AMEX Inter@ctive Week Internet index. In Panels A and B, we report CARs for dot.com name change deletions for pre-August 2000 and Post-August 2000, respectively. Each cell reports the average CAR across all firms for the respective event windows. T-statistics are reported in parentheses. T-statistics significant at the 5% level are bolded. We report p-values for tests of the null hypothesis of equality of means across major and minor name changes. A “minor” name change is one for which a firm merely adds or drops a dot.com from its name. A “major” name change is one for which the firm not only adds or drops dot.com from its name but also changes its name completely.

Panel A: Deletions, Pre-August 2000						
	-15 to -2	0 to 1	-2 to +2	+2 to +15	+1 to +30	-30 to +30
All (N=19)	17.8 (1.24)	3.3 (0.61)	3.4 (0.40)	-1.5 (-0.11)	16.5 (0.79)	37.5 (1.25)
Panel B: Deletions, Post-August 2000						
	-15 to -2	0 to 1	-2 to +2	+2 to +15	+1 to +30	-30 to +30
All (N=48)	21.6 <b>(2.23)</b>	10.2 <b>(2.79)</b>	17.0 <b>(2.93)</b>	9.5 (0.98)	28.5 <b>(2.01)</b>	70.2 <b>(3.47)</b>
Major (N=30)	32.7 <b>(2.45)</b>	19.4 <b>(3.85)</b>	22.5 <b>(2.82)</b>	12.6 (0.95)	33.0 (1.69)	91.9 <b>(3.30)</b>
Minor (N=18)	10.6 (0.98)	-1.1 (-0.27)	9.7 (1.50)	5.6 (0.52)	23.0 (1.46)	45.6 <b>(2.03)</b>
Test of differences (one-sided)	0.081	0.024	0.166	0.237	0.269	0.023

**Table IV**  
**Control-Group Adjusted Abnormal Returns to Name Change Deletions**

This table reports cumulative abnormal returns, expressed in percent, relative to a price-matched control sample consisting of Internet firms. In Panels A and B, we report various event window CARs for pre-August 2000 and Post-August 2000 dotcom deletions, respectively. Each cell reports the average CAR across all firms for the respective event windows. T-statistics are reported in parentheses. T-statistics significant at the 5% level are bolded. We report p-values for tests of the null hypothesis of equality of means across major and minor name changes. A “minor” name change is one for which a firm merely adds or drops a dot.com from its name. A “major” name change is one for which the firm not only adds or drops a dot.com from its name but also changes its name completely

Panel A. Deletions, Pre-August 2000						
	-15 to -2	0 to 1	-2 to +2	+2 to +15	+1 to +30	-30 to +30
All (N=19)	6.3 (0.33)	7.9 (1.10)	9.6 (0.85)	7.5 (0.39)	17.1 (0.62)	50.1 (1.27)
Panel B. Deletions, Post-August 2000						
	-15 to -2	0 to 1	-2 to +2	+2 to +15	+1 to +30	-30 to +30
All (N=48)	15.0 (1.39)	11.1 <b>(2.73)</b>	13.3 <b>(2.06)</b>	11.5 (1.07)	27.8 (1.77)	50.8 <b>(2.26)</b>
Major (N=30)	29.1 <b>(2.65)</b>	17.6 <b>(4.24)</b>	18.7 <b>(2.85)</b>	3.7 (0.34)	21.2 (1.32)	68.4 <b>(2.99)</b>
Minor (N=18)	-3.3 (-0.18)	2.0 (0.28)	5.4 (0.48)	21.9 (1.16)	35.0 (1.27)	25.0 (0.64)
Test of differences (one-sided)	0.040	0.071	0.163	0.089	0.241	0.044

**Table V**  
**Out-of-Sample Abnormal Returns For Name Change Additions**

This table reports market-adjusted cumulative abnormal returns, expressed in percent, relative to the AMEX Inter@ctive Week Internet index. Panel A reproduces the results for the time period analyzed by Cooper, Dimitrov and Rau (2001). In Panels B and C, we report various event window CARs for dot.com additions from the subsequent time periods from August 1999 to August 2000, and post-August 2000, respectively. Each cell reports the average CAR across all firms for the respective event windows. T-statistics are reported in parentheses. T-statistics significant at the 5% level are bolded. We report p-values for tests of the null hypothesis of equality of means across major and minor name changes. A “minor” name change is one for which a firm merely adds or drops a dot.com from its name. A “major” name change is one for which the firm not only adds or drops dot.com from its name but also changes its name completely.

Panel A: Additions, January 1998-August 1999

	-15 to -2	0 to 1	-2 to +2	+2 to +15	+1 to +30	-30 to +30
All (N=108)	58.0 <b>(9.12)</b>	6.5 <b>(2.73)</b>	14.4 <b>(3.78)</b>	19.5 <b>(3.07)</b>	32.1 <b>(3.45)</b>	118.6 <b>(8.94)</b>
Major (N=100)	63.2 <b>(9.24)</b>	7.1 <b>(2.72)</b>	15.9 <b>(3.89)</b>	19.2 <b>(2.81)</b>	32.8 <b>(3.28)</b>	125.7 <b>(8.80)</b>
Minor (N=8)	18.5 (1.43)	2.1 (0.43)	2.3 (0.29)	23.5 (1.81)	26.5 (1.39)	63.0 <b>(2.33)</b>
Test of differences	0.011	0.016	0.027	0.370	0.386	0.011

Panel B: Additions, August 1999-August 2000

	-15 to -2	0 to 1	-2 to +2	+2 to +15	+1 to +30	-30 to +30
All (N=70)	36.2 <b>(4.20)</b>	14.9 <b>(4.57)</b>	31.2 <b>(6.07)</b>	25.4 <b>(2.94)</b>	32.6 <b>(2.59)</b>	93.7 <b>(5.21)</b>
Major (N=63)	36.5 <b>(3.56)</b>	16.0 <b>(4.13)</b>	34.1 <b>(5.56)</b>	28.7 <b>(2.81)</b>	35.0 <b>(2.33)</b>	96.9 <b>(4.53)</b>
Minor (N=7)	32.8 <b>(2.15)</b>	5.4 (0.94)	10.5 (1.14)	1.8 (0.12)	15.4 (0.69)	68.7 <b>(2.15)</b>
Test of differences	0.440	0.239	0.036	0.037	0.219	0.257

Panel C: Additions, Post-August 2000

	-15 to -2	0 to 1	-2 to +2	+2 to +15	+1 to +30	-30 to +30
All (N=5)	12.8 (0.32)	7.7 (0.51)	10.5 (0.44)	22.5 (0.56)	10.9 (0.19)	40.7 (0.49)

**Table VI**  
**Abnormal Returns to Firms with Multiple Name Changes**

This table reports market-adjusted cumulative abnormal returns for firms with consecutive name changes. The CARs are expressed in percent, relative to the AMEX Inter@ctive Week Internet index. The CARs are calculated for various event windows for companies that delete a dot.com from their names in the post-August 2000 period after having previously added a dot.com to their names. Each cell reports the average CAR across all firms for the respective event windows. T-statistics are reported in parentheses. T-statistics significant at the 5% level are bolded. In Panel A, we report p-values for tests of the null hypothesis of equality of means across major and minor name changes. In Panel B, we report t-statistics and p-values for tests of the null hypothesis of equality of means across firms which announce a single deletion versus firms that announce a deletion preceded by an addition, for both major and minor deletions.

Panel A: Deletions, Post-August 2000, each preceded by an addition						
	-15 to -2	0 to 1	-2 to +2	+2 to +15	+1 to +30	-30 to +30
All (N=30)	13.6 (1.07)	9.6 <b>(2.02)</b>	17.8 <b>(2.35)</b>	11.1 (0.88)	38.5 <b>(2.08)</b>	66.2 <b>(2.51)</b>
Major (N=17)	14.0 (0.82)	23.0 <b>(3.56)</b>	24.1 <b>(2.36)</b>	14.3 (0.84)	45.0 (1.78)	75.2 <b>(2.11)</b>
Minor (N=13)	14.2 (0.94)	-3.9 (-0.69)	8.8 (0.97)	7.6 (0.50)	32.1 (1.45)	56.1 (1.78)
Test of differences (one-sided)	0.493	0.069	0.238	0.309	0.294	0.231
Panel B: Two-sided tests of differences between single versus double name change Firms, Post-August deletion returns						
	-15 to -2	0 to 1	-2 to +2	+2 to +15	+1 to +30	-30 to +30
Major	0.10 (0.918)	-0.64 (0.524)	0.53 (0.600)	0.31 (0.755)	1.19 (0.234)	0.40 (0.693)
Minor	0.94 (0.349)	-1.58 (0.115)	-0.40 (0.689)	0.72 (0.470)	1.47 (0.140)	1.56 (0.120)

**Table VII**  
**Regression of Event Window CARs on Firm Fundamentals**

This table reports regression results of firm CARs on various variables for post-August 2000 deletions. The first column indicates in what window relative to the event date the CARs in the particular regression specification are measured. N is the number of observations used in the particular regression. P/E, P/B, P/S and MCAP are price-earnings ratio, price-to-book ratio, price-to-sales ratio and market cap respectively, measured on Day -5 relative to the event date. Cum Volume is the total dollar trading volume from Day -30 to Day -1. Spread is the bid-ask spread at the event date. % Spread is the bid-ask spread divided by the close price at the event date. SIR is the ratio of the earliest available total number of shares short after the deletion and the latest available total number of shares short prior to the deletion. SVR is the ratio of average daily volume of shares shorted in the month after the deletion and the corresponding figure for the month prior to the deletion. SIOUT- is the number of shares sold short at the beginning of the pre-deletion month divided by the number of shares outstanding. SIOUT+ is the number of shares sold short at the end of the post-deletion month divided by the number of shares outstanding. T-statistics are reported in parentheses. T-statistics significant at the 5% level are bolded.

CAR window	N	R <sup>2</sup>	Intercept	P/E	P/B	P/S	MCAP	Cum Volume	Spread	%Spread	SIR	SVR	SIOUT-	SIOUT+
-30/+30	26	0.020	0.2892 <b>(2.37)</b>	-0.0009 <b>(-0.72)</b>										
-30/+30	25	0.286	0.1017 <b>(0.99)</b>		0.0364 <b>(3.10)</b>									
-30/+30	27	0.004	0.3285 <b>(2.31)</b>			-0.0012 <b>(-0.31)</b>								
-30/+30	48	0.011	0.6655 <b>(3.86)</b>				-0.0001 <b>(-0.71)</b>							
-30/+30	48	0.012	0.6918 <b>(3.82)</b>					-5.6E-9 <b>(-0.75)</b>						
-30/+30	44	0.069	0.3442 <b>(1.94)</b>						1.0665 <b>(1.79)</b>					
-30/+30	41	0.173	0.2221 <b>(1.21)</b>										3.4677 <b>(2.89)</b>	

**Table VII (Continued)**  
**Regression of Event Window CARs on Firm Fundamentals**

CAR window	N	R <sup>2</sup>	Intercept	P/E	P/B	P/S	MCAP	Cum Volume	Spread	%Spread	SIR	SVR	SIOUT-	SIOUT+
-30/+30	13	0.048	0.2193 (1.40)								0.0385 (0.78)			
-30/+30	14	0.105	0.4869 <b>(2.17)</b>									-0.2416 (-1.24)		
-30/-1	21	0.130	0.0140 (0.18)										7.2E-6 (1.73)	
0/+30	14	0.007	0.1304 (0.83)											-1.1E-6 (-0.18)
-30/+30	25	0.286	0.1035 (0.85)		0.0365 <b>(2.95)</b>					-0.0323 (-0.03)				