Do Underwriters Matter?
The Impact of the Near Loss of an Equity Underwriter

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March 2010

The financial crisis provides a natural experiment to understand investment banks' underwriting function. On the day of their equity underwriter's near failure, stock prices of clients of Bear Stearns, Lehman, Merrill and Wachovia fell by almost 5%, on average. This decline was more than 1% lower than the conditional return predicted by a market model, a destruction of equity value of more than $3 billion. The price impact was worse for companies with more opaque operations and fewer monitors, suggesting that underwriters play an important role in monitoring newly public companies. There is no evidence that the abnormal price decrease was related to underwriters' role as market maker or lender.

Keywords: Investment Banking, Financial Crisis, IPOs, Underwriting, Event Study
JEL Codes: G2, G24, G3, G30, G14

http://ssrn.com/abstract=1417469

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I am grateful for excellent research assistance from Ging Cee Ng and Vitaly Bord and helpful comments from Josh Lerner, Daniel Paravisini and seminar participants at the Federal Reserve Bank of New York and the 2009 Early Career Women in Finance Conference. I am also thankful for the insight of several investment bankers and institutional investors who wished to remain anonymous. All errors and omissions are my own. The views expressed in this paper are the author's and should not be attributed to the Federal Reserve Bank of New York or the Federal Reserve System.

1. Introduction

Immediately prior to Lehman Brothers' bankruptcy filing in September of 2008, the *Wall Street Journal*'s Deal Journal proposed that "…Lehman Brothers Doesn't Matter Anymore."[1] In contrast, this study finds that investment banks do matter to their equity underwriting clients. Stock prices of the clients of Bear Stearns, Lehman Brothers, Merrill Lynch and Wachovia fell by almost 5% when it appeared that their initial public offering (IPO) underwriter might collapse, a single day return that was more than 1% lower than the conditional return predicted by a market model. This negative abnormal return represents more than $3 billion in lost equity value, on average, and more than 20% of the total initial underwriting spread.

The amount of clients' underperformance is related to the importance of underwriter monitoring. Companies for which underwriter monitoring is less important, that is, companies with less opaque operations or with other monitors such as institutional investors, outperformed. This evidence is consistent with the theoretical model of Hansen and Torregrosa (1992) in which IPO underwriters monitor post-IPO to preserve their underwriting reputation asset. This post-IPO monitoring is more than just equity analyst coverage, because companies with analyst coverage but not underwritten by these troubled investment banks do not underperform by as much.

The amount of underperformance is not associated with proxies for clients' dependence on equity financing. This finding is different from James (1992) who proposed that underwriters possess relationship-specific information similar to that of

[1] http://blogs.wsj.com/deals/2008/09/10/mean-street-why-lehman-brothers-doesnt-matter-anymore/

commercial banks and auditors. This evidence is surprising, since the financial crisis was accompanied by a fall in the public equity market which might disproportionately affect equity dependent companies. However, the result must be interpreted cautiously, since the lack of a statistically significant relationship may merely reflect the limited number of observations.

The observed negative abnormal returns are not associated with the provision of other services by the underwriter such as loss of a relationship bank (lending) and loss of a market maker. Returns are lower when the underwriter's affiliated funds hold higher percentages of clients' shares. However, companies for which underwriter monitoring is more important have lower abnormal returns even after controlling for underwriter lending, market making and investing.

If negative event day returns reflect investors' reassessment of IPO clients' quality due to underwriters' distress, there should be no positive price impact from the resolution of this distress. While it appeared on the event dates that Bear Stearns, Lehman Brothers, Merrill Lynch and Wachovia might cease operations, each equity underwriter subsequently was acquired. Client firms had positive abnormal returns of more than 2% on average after their troubled underwriters were acquired. This positive post-event return provides support for the assumption that the events were exogenous to the banks' underwriting business. It also suggests that the measured negative event date returns were not the result of investor updating on underwriter quality.

This paper adds to the literature on the role of investment banks as financial intermediaries. It provides an empirical estimate of the importance of equity underwriters and their role as post-IPO monitors. In addition, it sheds light on the

financial crisis, looking at the potential impact of weakness in the investment banking industry on investment banking clients. If investment banks are too weak to commit credibly to monitor post-IPO companies, access to equity finance may be negatively impacted. The analysis also has implications for companies selecting an underwriter – IPO clients should consider the financial strength of their underwriter, not just the underwriter's underwriting capabilities.

The paper proceeds as follows. The literature and empirical predictions are in Section 2. Section 3 describes the data, Section 4 the methodology and Section 5 presents the empirical findings. Section 6 concludes.

2. Literature and Empirical Predictions

2.1 Do underwriters matter?

Does the exogenous near-failure of an equity underwriter affect the equity value of its clients? If the underwriter plays no special role for its post-IPO clients, there should be no impact on its clients' stock prices. The first empirical exercise is to document negative abnormal returns for troubled underwriters' clients.

2.2. Monitoring

Many studies highlight the importance of the equity underwriter in certifying and monitoring, especially for initial public offerings. Easterbrook described the importance of underwriter monitoring of the manager-stockholder conflict, "When it issues new securities, the Company's affairs will be reviewed by an investment banker or some similar intermediary…" (Easterbrook (1984, p. 654)). Beatty and Ritter (1986) argue that the underpricing equilibrium is enforced by investment bankers who have reputation

capital at stake. Carter and Manaster (1990) model the importance of exogenously determined underwriter reputation and show that underwriter prestige is negatively related to the magnitude and variance of post-IPO price run-up. Both suggest a role for investment banks to produce information about companies seeking to go public before they certify them because they want to protect their reputation capital.

Hansen and Torregrosa (1992) extend these papers to a model where the certification role of underwriters mandates post-IPO monitoring. They theorize that banks receive rents from their reputations for monitoring, and that banks continue to monitor since shirking would be unlikely to result in gains that offset the losses to reputational capital. This post-IPO monitoring is mandated by investment banks' reputation concerns and would be discontinued if the value of the rents from that reputation went away (for example if the underwriter went bankrupt or their IPO underwriting business was discontinued).

It is not necessary for the underwriter to possess non-transferable private information for its post-IPO monitoring to be valuable, it is only necessary that the underwriter be motivated to invest in information production to protect its reputation. Kelly and Ljungvist (2009) outline an asymmetric-information asset pricing model in which share prices and uninformed investors' demands fall as information asymmetry increases. In this model, the prospect for reduced information production by troubled underwriters should result in lower client stock prices.

Existing empirical evidence for post-IPO monitoring by underwriters is subject to concerns about endogeneity of company characteristics and underwriter selection, which might produce the observed relationships between underwriter reputation, stock

performance and risk. Empirically testing for underwriter monitoring is also difficult because the exact mechanism is unclear. It may be through clients' continued contact with investment bankers or investment bankers' contacts with investors. The reputation asset may be at the underwriter level, or at the level of the senior investment bankers who worked on the underwriting. Hansen and Torregrosa (1992) present only indirect evidence that underwriting syndicates monitor corporate managers by finding that underwriting spreads are lower when management ownership is higher. Jain and Kini (1999) conclude that there is demand for third party monitoring in the IPO market by documenting a positive relationship between investment bank reputation and post-issue performance. An important contribution of this paper is to estimate the importance of underwriter monitoring using underwriters' exogenous near failures to avoid the problem of endogeneity of underwriter selection.

An additional contribution of the paper is to test the importance of the underwriter affiliated research analyst to monitoring. Researchers have not found affiliated analysts to be the best predictors of stock price performance (Michaely and Womack (1999) and Das, Guo and Zhang (2006)). Fang and Yasuda (2008) find that the severity of conflict of interest has a negative effect on the performance of lower ranked analysts, regardless of bank reputation. These results implicitly question the value of underwriter monitoring, to the extent that underwriter monitoring is produced by affiliated analysts. Direct tests of the analyst's role are limited by the fact that published estimates are a noisy measure of analyst information production. For example, the *Wall Street Journal* notes that equity analysts at Goldman Sachs and Morgan Stanley disseminate daily information to

institutional investors and trading clients, and that these tips may differ from analysts' published research.[2]

One likely mechanism for post-IPO monitoring by underwriters is "non-deal road shows." Similar to the "road show" presentations given by company management to potential investors in the IPO process, the book underwriter continues to arrange presentations by company management to institutional investors after the IPO. Typically, in this process the underwriter-affiliated research analyst organizes visits by company management to institutional investors in the institutional investors' home city[3] or proactively coordinates a visit to the company headquarters. Unfortunately, there is no publicly available information on the extent or value of this type of meeting.

Regardless of the mechanism, a monitoring explanation for the importance of the underwriter results in the following prediction:

Prediction 1*: Companies for which underwriter monitoring is important (more opaque operations or fewer monitors/ information producers) will be the most negatively affected by the failure of their underwriter.*

2.3. Relationship Underwriting

In addition to acting as a post-IPO monitor, underwriters may possess valuable relationship-specific information that cannot be transferred easily. James (1992) posits that equity underwriters have durable relationship-specific information similar to that of

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[2] Craig, Suzanne, "Goldman's Trading Tips Reward its Biggest Clients," *Wall Street Journal*, August 24, 2009, p. A1.

[3] This process, labeled "Local Investor Relations" is considered by Hong, Kubik and Stein (2005) as an explanation for the correlation of the trades of local fund managers.

commercial banks and auditors. He finds lower spreads for firms that make subsequent issues and less underwriter switching when the time between an IPO and subsequent SEO is smaller.[4]

This paper adds to the literature on relationship underwriting by offering a more rigorous empirical test for the presence of underwriter-specific information. This test is similar in spirit to the literature which quantifies the importance of lenders by measuring the impact on clients of exogenous bank failures. For example, Slovin, Sushka and Polonchek (1993) found an average abnormal return of -4.2% on the stock prices of its lending clients during the impending insolvency of the Continental Illinois bank. More recently, Ashcraft (2005) estimated the impact on local activity of the failure of healthy subsidiaries of a multi-bank holding company. While these papers focus on lenders, this is the first paper to consider the impact of exogenous near failures of equity underwriters.

If underwriters possess non-transferrable relationship-specific information and a company is likely to need access to equity capital markets in the near future, this leads to the second prediction:

Prediction 2*: Companies which are the most equity dependent will be the most negatively affected by the failure of their underwriter.*

2.4. Other Bank Functions

The finding of a negative excess return is necessary but not sufficient evidence to prove the existence of a special post-IPO role for underwriters. The underwriter is part of

[4] Krigman, Shaw and Womack (2000) reexamine client loyalty with evidence from the 1990s and find that while client loyalty had declined, 70% of firms completing a secondary equity offering (SEO) within three years of their IPO select the same lead underwriter.

a larger bank which may also be acting as a lender, a market maker, or as an investor in its clients. The prospective loss of these services (or non-transferable information associated with these services), rather than the loss of underwriter monitoring, may be the source of the observed negative returns.

The first alternative explanation is the prospective loss of a lending relationship causes negative abnormal returns. The importance of bank relationships is considered extensively in the literature.[5] If underwriters are the primary lenders for their clients, the loss of a lending relationship would result in a negative equity return.

Alternative 1: *Companies whose underwriter is their primary lender (relationship bank) will be the most negatively affected by the failure of their underwriter.*

A second explanation is that the underwriter is a market maker for its clients. As Stoll (2003) notes, "The price investors would pay for the new shares must undoubtedly depend on the ease with which those shares can be sold in the future." Ellis, Michaely and O'Hara (2000) document the existence of underwriter price support through the 20th day post-IPO. If underwriters are the primary market makers for their clients, the loss of a market maker would result in a negative equity return:

Alternative 2*: Companies whose underwriter is a post-IPO market maker will be the most negatively affected by the failure of their underwriter.*

Finally, if underwriters' asset management divisions liquidate shares because of parent company distress, the additional supply of shares may depress prices. While Ritter

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[5] For a detailed survey of the relationship banking literature see Ongena and Smith (2000) and Boot (2000). For empirical evidence, see Slovin, Sushka and Polonchek (1993) and Ashcraft (2005).

and Zhang (2007) do not find much evidence for systematic allocation of worse companies to underwriter-affiliated mutual funds, if the underwriter is an investor, the actual sale of shares by the underwriter-affiliate, or fear by other investors of liquidation would result in a negative equity return:

Alternative 3: *Companies whose underwriters are stockholders will be the most negatively affected by the failure of their underwriter.*

While Alternative 3 is based on the direct impact of the underwriter as an investor, it does not preclude a monitoring explanation. Affiliated divisions may invest because of a lower marginal cost of information production due to banks' ongoing information production about post-IPO clients. [6]

2.5. Ex Post Updating on Underwriter Quality

A final alternative hypothesis to explain negative event day returns is ex post updating by investors. If an underwriter's near failure causes investors to reevaluate the underwriter's pre-IPO information production and certification process, sample companies should have negative event day abnormal returns. Negative returns would be evidence for pre-IPO certification then, but not necessarily for any post-IPO role for the underwriter.

For example, if an investor viewed Bear Stearns' March 2008 financial difficulties to be symptomatic of systematically poor decision making at Bear Stearns, the investor might reevaluate the certification provided by Bear Stearns on its IPO clients, even

[6] Mola and Guildolin (2009) find little evidence for simultaneous effects between analyst recommendations and affiliated fund holdings, but this does not preclude the existence of important information flows within brokerage firms, such as between investment bankers and mutual fund managers.

though Bear Stearns' financial difficulties stemmed primarily from its mortgage-related business. If an underwriter's difficulties led investors to update on its underwriting quality, negative reassessment of underwriters' clients should be permanent. If, instead, the observed negative abnormal return is due to concern about the continuation of the post-IPO functions of the underwriter, the post event abnormal return should be positive when uncertainty about the underwriter is resolved:

Alternative 4: *If underwriters' failures lead investors to update on the quality of underwriters' clients, post-event event returns will be unaffected by the news that the banks' underwriting activities will continue.*

3. Data and Empirical Methodology

3.1. Sample

The sample of initial public offerings is collected from Securities Data Corporation's (SDC) New Issues Database. It includes all companies which listed Bear, Stearns, Lehman Brothers, Merrill Lynch or Wachovia as their book underwriter since January 1, 2004. Only book managers are considered because these managers sell the largest proportion of the offering and receive the highest percentage of the commissions.[7] The sample is restricted to companies taken public within 5 years because beyond that period, the company's performance may no longer reflect on the reputation of its IPO underwriter. It excludes public offerings of financial products (defined as offerings in

[7] The troubled underwriter was the lead manager of more than half of the sample companies. This analysis uses book underwriter rather than lead underwriter or member of the underwriting syndicate in order to maximize sample size without adding too much noise. The finding of negative abnormal returns is robust to using only companies where the troubled underwriter was the lead and to 4 and 6 year sample selection windows.

SIC codes 6726 and 6798 which include Unit Investment Trusts, Face-Amount Certificate Offices, Closed-End Management Investment Offices, and Real Estate Investment Trusts). In addition, it excludes very small offerings (firms with an offer price below $4.00 a share and below $10 million in total offering size). Finally, the sample excludes banks (SIC codes 6000-6299) since the events which led to underwriter distress were also likely to directly affect banks' stock price returns directly. This totals 228 underwriter-client pairs; 92 IPOs for Lehman, 23 for Bear Stearns, 16 for Wachovia and 97 for Merrill Lynch. The total number of companies is 213, because in some cases, the company was an underwriting client of more than one troubled underwriter. NASDAQ is the primary stock exchange for 44% of the companies, NYSE for 55% and the remaining less than 1% trade on the American Stock Exchange.

Data on prices, trading volume and shares outstanding are from the Center for Research in Security Prices (CRSP). Accounting variables are from the COMPUSTAT Industrial Annual or Quarterly data file.

For the robust estimation of abnormal returns, the sample is compared to a different portfolio of newly public companies, the IPO Index, comprised of all companies that had initial public offerings since January 1, 2004, but did not have Bear, Stearns, Lehman Brothers, Merrill Lynch or Wachovia as their book underwriter. By definition this index excludes all of the sample companies. Like the sample, the IPO Index excludes all public offerings of financial products, very small offerings, and banks and is weighted by companies' market values as of December 31, 2007.

Table 1 presents summary statistics for the sample and the IPO Index portfolio. Sample companies have been public for over 2.5 years on average, and the minimum

time between IPO and event date was more than 122 days. Like other newly public companies, companies in the sample are relatively small, with mean (median) sales of $1,014 ($337) million and assets of $1,797 ($685) million. Debt levels are low relative to the average publicly traded company, with median leverage of 30%, although higher than the IPO Index. The most represented industries were Business Services (SIC codes beginning with 73), followed by Transportation Equipment (SIC code 37) and Chemicals and Allied Products (SIC code 28).

[TABLE 1]

Jain and Kini (1999) find that clients of higher ranked underwriters have better post-IPO returns. The four banks studied were relatively highly ranked in equity underwriting, thus the sample may be expected to be of slightly higher quality than a random sample of IPOs.[8] If the sample companies are of higher quality than other newly public companies that would bias against finding any negative abnormal returns if higher quality companies perform better on market crisis days. Regardless, the mean valuation (measured by the price to earnings ratio or book to market) of the sample companies is not significantly different from that of the IPO Index, suggesting that the sample may not necessarily be of higher quality than other newly public companies.

3.2. Event dates

The analysis is based on four separate bank events, collectively referred to as "failures." Of course, each event ultimately resulted in very different outcomes for the

[8] The Carter-Manaster rank in equity underwriting for 1992-2000 as calculated by Loughlin and Ritter (2004) was 8.1 for Bear Stearns and Lehman, 9.1 for Merrill Lynch and 7.1 for Wachovia.

relevant investment banks and their employees. In each case the event date may be understood as a day in which there was substantial market uncertainty about the probability that the bank would be in business the next day. The event dates, $t = 0$, are as follows:

1) Bear Stearns, March 14th, 2008 – Bear Stearns announces $30 billion in funding provided by JP Morgan and the Federal Reserve. March 14th is the last trading day before the JP Morgan announcement on Sunday March 16th that it would acquire Bear Stearns for $2 a share, representing just over 1 percent of the firm's value at its record high close 14 months earlier. (Bear Stearns' stock price closed at $30 on March 14th, 2008)
2) Lehman Brothers, September 15th, 2008 – Lehman Brothers files for bankruptcy after failing to find a merger partner. (Lehman Brothers' stock price closed at $0.21 on September 15th, 2008)
3) Merrill Lynch, September 15th, 2008 – As Lehman Brothers goes bankrupt, Merrill Lynch announced that it would be acquired by Bank of America for approximately $50 billion, approximately half of its all-time peak value of early 2007 (Merrill Lynch's stock price closed at $17.06 on September 15th, 2008)
4) Wachovia, September 29th, 2008 – Citigroup announces an agreement brokered by the FDIC to acquire most of Wachovia for approximately $1 a share. The FDIC describes the transaction as "Not a failure," although the price was less than 14% percent of the high of $51 earlier that year. The following month, Wachovia is acquired by Wells Fargo. (Wachovia's stock price closed at $1.84 on September 29th, 2008)

4. Methodology

4.1. Abnormal Returns

Daily abnormal (excess) returns are estimated for each company using market model methodology. The abnormal returns are the difference between the actual return and conditional expected return obtained from a least squares regression estimated over a 40 day pre-event period t = -45 through -6, with time measured in trading days. Because the relevant events occurred suddenly, but around a period of dislocation in the capital markets, days -1 through -5 are not included in the estimation period. The null hypothesis for the initial statistical test is that the abnormal return is equal to zero. Abnormal returns are calculated only on the day of the underwriter failure (t = 0), although the analysis is robust to a longer event window.[9] The analysis is also robust to longer estimation periods, although the estimation period is necessarily limited by the fact that the companies of interest are newly public. The basic specification is:

$$AR_{i,t} = \alpha + \varepsilon_{i,t}$$

where $AR_{i,t}$ is the abnormal return of company i at the event date t and α measures the extent of the underperformance.

Since performance tests are joint tests of the null hypotheses of no abnormal performance and the pricing model (Fama (1976)), the conditional expected return is

[9] Expanding the event window to include -1 and 0 results in a cumulative abnormal return (CAR) of -1.97% vs. NASDAQ and -2.67% vs. the IPO Index. Expanding the event window to include -1, 0 and +1 results in a CAR of -2.94% vs. NASDAQ and -3.92% vs. the IPO Index. Expanding the event window to include -2, -1 and 0 results in CAR of -3.67% vs. NASDAQ and -3.93% vs. the IPO Index. In each case the difference between the CAR and 0 is statistically significant.

estimated relative to several possible measures of market performance, including broad based market measures as well as measures which better match the daily return characteristics of the sample companies. Careful matching of sample company characteristics to benchmark portfolios ensures that the estimated negative abnormal return is not simply underperformance of smaller companies, growth companies or companies in particular industries.

In addition to the standard market measures (S&P 500, NASDAQ value weighted composite index and NYSE/AMEX value weighted index (all including dividends)), the following comparison portfolios are constructed to match the characteristics of the sample companies: i) 25 size and book to market quintile matched portfolios, ii) 2-digit SIC code matched portfolios, iii) a portfolio of newly public companies (IPO Index), iv) Propensity Score matched portfolio. Because of the disproportionate impact of the events on banking stocks, banks are excluded from all of the comparison portfolios and removed from the NASDAQ value weighted composite index and NYSE/AMEX value weighted index by subtracting the daily return of the bank stocks in those indexes weighted by those stocks' contribution to the index both in the estimation period and in the calculation of abnormal return. Results are similar when banks are not excluded from the market measures, although the t-statistic for the NYSE is reduced.

The first comparison portfolio is matched by 25 portfolios of book-to-market and size quintiles, because Brav and Gompers (1997) provide evidence that IPOs are likely to

be smaller and lower book-to-market than the overall market.[10] I also directly estimate a three factor model using the Fama and French (1992) factors (three factor model).[11]

In addition to differences in size and valuation, the industry composition of the sample may be the source of observed negative abnormal returns. These differences in industry concentration may arise from differences in IPO industry composition relative to the market, or differences in industry focus at the four investment banks. For each company a value weighted portfolio based on all of the companies in the CRSP universe that are in the same 2-digit SIC code is created. This allows for a more precise definition of industry than the 49 industry portfolios considered by Fama and French (1997).

Conditional returns are also estimated based on a reference portfolio of recently public companies who were not equity underwriting clients of the troubled underwriters (the IPO Index). Young companies are an important reference point because the banks' failures impacted financial markets and liquidity. Matching the sample firms to an index of newly public firms can thus effectively control for events that affect the returns of all newly public companies. Using a portfolio of newly public companies as a benchmark will minimize spurious findings that reflect the impact of the collapse of market liquidity rather than the underwriters' failure. In aggregate, the resulting portfolio is also more similar to the sample companies as measured by book-to-market ratios and equity market

[10] To construct these 25 matched portfolios, all NYSE stocks are used to create size quintile breakpoints with an equal number of firms in each quintile. Within each size quintile five book-to-market portfolios are formed with an equal number of NYSE firms, excluding banks. Size is measured as the number of shares outstanding times the stock price at the end of the quarter preceding the event date. Accounting measures are from the COMPUSTAT quarterly and annual files and define book value as book common equity plus balance sheet deferred taxes and investment tax credits for the fiscal quarter ending two quarters before the event date similar to Fama and French (1992). If the book value is missing, the most recent annual value is substituted. This adaption of the Fama and French (1992) methodology follows that of Brav and Gompers (1997).

[11] Factors downloaded from http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html

values. This benchmark reduces the likelihood of estimating negative abnormal returns since there may also have been uncertainty at the event dates about some of the underwriters of these other newly public companies.

Finally, a portfolio of similar companies is created using a propensity score methodology to match each company to its five closest neighbors. The propensity score uses the following criteria: size (equity market value), book leverage, book to market ratio, and industry (SIC code). The abnormal return relative to the propensity matched portfolio is the difference between the return of the company and the return of the matched portfolio.

4.2. Difference-in-differences

The remaining analysis exploits differences within the sample to understand why newly public companies' stock prices fall when their underwriter goes away. The equation estimated becomes:

$$AR_{i,t} = \alpha + \beta X_{i,t-1} + \varepsilon_{i,t}$$

where $AR_{i,t}$ is the abnormal return around the underwriter failure, α is the fixed effect of the failure on the sample and $X_{i,t-1}$ is a proxy for the characteristic of interest from the accounting period immediately prior to the event date. The difference-in-difference estimations in the remainder of the paper present abnormal returns calculated relative to the IPO index and the NASDAQ index. The IPO Index is used because it is comprised of companies similarly affected by the market-wide decline in liquidity. The NASDAQ composite is selected because it is the broad market benchmark most likely to have smaller and newly public companies similar to our sample. Results are similar if other benchmark portfolios are used.

5. Empirical Results

5.1. Event date returns

Prices of newly public companies fall on the day that it is revealed that their underwriter may cease operation. Figure 1 shows the mean daily returns of the sample companies with dates in event time (event day equal to 0). The average event day return is a decline of almost 5% and the solid line representing the sample returns falls below the returns of each index beginning three days prior to the event. Table 2 tabulates these statistics for the sample companies and seven benchmark portfolios. Mean daily returns of troubled underwriters' clients were lower those of each of the benchmarks on the event date.

[FIGURE 1]

[TABLE 2]

The negative event date returns are not driven by severe underperformance of a single underwriter's clients. Figure 2 decomposes the mean daily returns of the companies in the sample by underwriter relative to event time. All have negative event date returns. Bear Stearns' clients underperformed the least in absolute terms, although the overall market decline on that date was also the least extreme.

[FIGURE 2]

The remainder of the paper focuses on abnormal returns, the difference between each company's actual return and its conditional expected return calculated relative to various reference portfolios. Table 3 tabulates event date abnormal returns by underwriter. On average and at the median, the sample companies underperformed

relative to the conditional expected return estimated from most of the benchmark portfolios, except for those underwritten by Wachovia. Lehman-underwritten companies had the lowest abnormal returns, perhaps because Lehman's failure was unconditionally the worst.

[TABLE 3]

Table 4 shows the abnormal returns of the sample companies relative to the following reference portfolios: i) S&P 500 Index, ii) NASDAQ, iii) NYSE, iv) CRSP, v) size and book-to-market matched portfolios, vi) IPO Index, vii) Three factor model, viii) SIC-code matched portfolios, and ix) a Propensity Score matched portfolio. In each case, the estimated measure of abnormal return, α, is negative. Abnormal returns are negative and are statistically significant, ranging from -2.3% to -0.9%. Statistical significance is similar when the standard errors are clustered by date or by underwriter. Using the Nasdaq benchmark, this specification implies an excess decline in market value of $15.2 million for a troubled underwriter client of mean size – total value destruction, on average, of more than $3.2 billion in aggregate.

[TABLE 4]

5.2. Post-IPO Monitoring – Opacity and Other Monitors

Underwriter monitoring should be more important when the company's operations are more opaque and when there are fewer other monitors (Prediction 1). The following table describes proxies for the importance of underwriter monitoring and the expected relationship with abnormal returns. In each case the proxies are calculated as of

the fiscal quarter preceding the event date. Summary statistics for the measures are presented in Table 5:

Importance of Monitoring	Expected Sign
Opacity of company operations:	
1. Log days since IPO (*LISSUETIME*)	+
Dispersion of IBES analyst estimates:	
2. SD of FY+1 EPS Estimates$_t$ (*SD_FY1*)	-
3. SD of FY+2 EPS Estimates$_t$ (*SD_FY2*)	-
Importance of underwriter to monitoring:	
4. Number of book underwriters (*BOOK_N*)	+
5. Log number of equity analysts (*LNUMANALYST*)	+
6. Difference between underwriter affiliated analyst estimate and other analyst estimates (*UDIFF)*	-
Institutional block holders:	
7. Percentage held by institutions (*PINSTITUTION*)	+
8. Mean percentage held by blockholders (*PBLOCKS*)	+
9. Presence of other intermediaries (*VCFIRM*)	+
10. Monitoring index (*MONITORING INDEX*)	+

[TABLE 5]

In addition to testing separately each proxy's relationship with abnormal returns, the measures are aggregated into a monitoring index (*MONITORING INDEX*) for parsimony. For each of the nine measures for which the company is in the bottom third of the level of information opacity or in the top third of the level of other monitors the company receives one point. Thus the theoretical maximum monitoring index level is 9, which would be a company with low levels of information opacity and high levels of other monitors. High levels of the index indicate lower importance of underwriter monitoring.

The first measure is the log of days since IPO *(LISSUETIME)*. The longer the time since IPO, the longer the company's public reporting history and the more

information available about a company. Thus there should be a positive relationship between *LISSUETIME* and abnormal returns. The next two variables are the standard deviation of I/B/E/S analysts' one and two year forward earnings estimates measured as of the quarter preceding the event date (*SD_FY1* and *SD_FY2*). The mean standard deviation of I/B/E/S EPS estimates was 0.1319 and 0.1611 for 1 year and 2 year forward estimates, respectively. D'Mello and Ferris (2000) propose that when analysts' estimates diverge, a likely reason is that earnings for that company are difficult to estimate. Higher standard deviations of earnings estimates should be associated with more opaque companies and thus there should be a negative association between abnormal returns and the standard deviation of earnings estimates.

The remaining variables measure the relative importance of underwriter monitoring. If there are other monitoring intermediaries, the underwriter should be relatively less important. The first measure is the number of book underwriters, which is the total number of book underwriters according to SDC (*BOOK_N*). On average, each company has slightly more than two underwriters. Each member of the equity underwriting syndicate represents an additional source of monitoring and external information production. Thus there should be a positive coefficient on *BOOK_N*.

If underwriter-affiliated analyst coverage of the company is the source of monitoring, coverage by other research analysts may serve the same purpose. On average, each company has approximately eight research analysts. Higher returns (a positive coefficient) should be associated with the log of the number of I/B/E/S analysts with estimates for the company *(LNUMANALYST)*.

The uniqueness of the underwriter-affiliated analyst's opinion is measured with the difference between the 1 year forward underwriter-affiliated analyst estimate and the mean of other analyst estimates (*UDIFF)*. On average, the affiliated analyst has a 1 year forward EPS estimate that is 0.5 cents higher than the mean of all other analysts, although the median difference is negative. If the affiliated analyst has the most positive news about a company, than the stock price reaction to the underwriter's failure should be worse (negative coefficient on *UDIFF*).

Investment banks and research analysts are not the only monitors of public companies. Institutional stockholders should invest in information acquisition, since they tend to hold larger blocks of stock and thus can spread their costs over a larger investment. Market microstructure research suggests that institutional holders are indeed informed traders (Seppi (1992), Hessel and Norman (1992), Lang and McNichols (1997)). Second, if there are large blockholders or high percentages of management ownership, agency problems may be lower and the company may require less monitoring. Institutional ownership is the percentage of shares outstanding held by institutions (13F filers). Blockholder ownership is the mean of the percentage of shares outstanding held by each blockholder (13D filers) (*PBLOCKS*). Both ownership measures should be positively associated with abnormal returns and are calculated from the CDA Spectrum Institutional Holdings data as of the quarter ended prior to the event date.

Brav and Gompers (1997) note that another important financial intermediary for newly public companies is venture capital investors. Venture capitalists may have reputation concerns that lead them to continue to monitor the company post-IPO, and may continue to serve on the board of directors. The presence of a venture capital

investor is measured by a dummy variable equal to 1 when SDC's IPO database indicates that a company was venture-backed. The VC-backed dummy (*VCFIRM*) should be positively associated with abnormal returns.

Table 6 shows the results of specifications testing the relationship between these proxies and event day abnormal returns based on either the IPO Index or the NASDAQ Composite Index. The analysis supports Prediction 1. Event day abnormal returns are more negative when the company's operations are more opaque, for example when analysts' estimates for the company are more dispersed. Event day abnormal returns are higher when there are more monitors such as when: i) more analysts cover the company, ii.) institutions are shareholders, iii.) shares are held in larger blocks, and iv.) the company is venture-backed. The sign of the coefficients were not as predicted for the number of other book underwriters and the days since IPO, although the estimates were not statistically significant. The lack of statistical significance for some of the coefficients may reflect the relative lack of power given the limited number of observations or the imprecision of the monitoring proxies.

Institutional ownership, blockholder ownership and venture capital backing each have a positive and statistically significant relationship with abnormal returns. A one standard deviation increase in institutional ownership mitigates the expected 3 percent event day abnormal stock price decline by almost 0.7 percent. Similarly, a one standard deviation increase in block size mitigates the abnormal decline by more than 0.5 percent (see specifications 7 and 8 relative to the IPO Index). The importance of institutional shareholders, blockholders, and previous venture capital backing has several interpretations. First, institutional shareholders or VCs may actively monitor the

company and reduce agency conflicts. Second, institutional shareholders or VCs may produce information that is directly dispersed to the market, reducing the relative importance of the underwriter as an information provider. Finally, institutional shareholders may be more likely to be long term investors and thus be less likely to sell into a sudden overall market decline, even if they are ultimately planning to exit a stock due to the prospects for reduced underwriter monitoring.

[TABLE 6]

5.3. Post-IPO Monitoring – Analyst Coverage

A critical part of underwriting is the acquisition of analyst coverage by the newly public company. Ljungqvist, Marston and Wilhelm (2006) do not find evidence that analysts tailor their recommendations to attract mandates. Thus, it is possible that underwriter monitoring is merely equity analyst monitoring. Kelly and Ljungvist (2009) find abnormal returns between -45 and -112 basis points on the day of an exogenous coverage termination. If the only important event affecting these companies is the prospective loss of analyst coverage, all companies covered by troubled investment banks' research analysts should have negative event day returns. Underwriting clients should not have lower returns than any other covered company.

I estimate abnormal returns for 1,402 companies with recent analyst research coverage from, but not book underwritten by, the four troubled underwriters (2,076 observations). Abnormal event day returns for companies covered by troubled underwriters' analysts ranged from -1.3% to +0.29% and varied in statistical significance depending on the market benchmark for which the conditional return was estimated. For

each market benchmark, the estimated abnormal return for companies underwritten by troubled investment banks was significantly lower than that of companies that had only analyst coverage from troubled investment banks. This result suggests either that the research analyst does differentially more monitoring of newly public companies that were underwritten by an affiliated investment bank or that the research analyst is not the sole monitoring agent.

Within the sample of all companies covered by research analysts from the four troubled underwriters, the negative abnormal return was mitigated if the analyst was top ranked by *Institutional Investor* magazine (All-star analysts). These top ranked analysts are more likely to get positions at other underwriters even if their own institution fails, and thus any private information might not be lost even if the underwriter failed.[12]

[TABLE 7]

5.4. Relationship Underwriting

Companies that are equity dependent should also be affected by the loss of their underwriter if the underwriter possesses non-transferable information. The proxy used for equity dependence is based on Kaplan and Zingales (1997) as calculated by Lamont, Polk and Saa-Requejo (2001). Baker, Wurgler and Stein (2008) find that firms that rank higher in this index have investment that is more sensitive to stock prices (although they exclude Q from the index given the nature of their tests). The equity dependence measure is:

[12] Analysis available upon request. I am grateful to Alexander Ljungqvist and Felicia Marston for their help in compiling the *Institutional Investor* data.

$$KZ_{it} = 1.002 \times \frac{CF_{it}}{A_{it-1}} - 39.367 \times \frac{DIV_{it}}{A_{it-1}} - 1.315 \times \frac{C_{it}}{A_{it-1}} + 3.139 \times LEV_{it} + 0.283 \times Q_{it}$$

where CF_{it}/A_{it-1} is cash flow (the sum of OIBDPQ for the 12 months trailing the event date) over lagged assets (ATQ); DIV_{it}/A_{it-1} is cash dividends (DV) over assets; C_{it}/A_{it-1} is cash balances (CHEQ) over assets; LEV_{it} is leverage ((DLCQ+DLTTQ)/assets); and Q is the market value of equity (price (PRCCQ) times shares outstanding (CSHOQ)) plus assets minus the book value of equity (SEQQ +TXDITCQ-PSTKQ) all over assets. All items are calculated as of the last fiscal quarter end prior to the event date.

The newly public firms in the sample have a mean (median) KZ index of 0.49 (0.59), which is not significantly higher than the mean (median) KZ index of the IPO Index companies of 0.42 (0.38). As expected, both levels are higher than the mean of –0.15 estimated by Lamont, Polk and Saa-Requejo in a comprehensive market sample from 1968 to 1995.

The specifications presented in Table 8 do not support Prediction 2. There is no consistent statistically significant relationship between equity dependence and abnormal returns. This may either reflect noise in the measure of equity dependence or that underwriters do not possess valuable non-transferrable information. Of course it is difficult to separate monitoring from equity dependence, since some of the measures of asymmetric information may also be associated with higher amounts of non-transferrable information.

[TABLE 8]

In theory, both cash-to-capital and dividends-to-capital should have the same sign, since both would indicate that the company should not need to access the equity capital

market in the near future. Both are statistically significant, but have different signs. Cash-to-capital has a positive sign, while dividends-to-capital has a negative sign. To the extent that both measure equity dependence, dividends seem more likely to be associated with a lack of equity dependence, since paying cash dividends suggests that a company is not conserving cash.

5.5. Alternative Bank Functions

If the underwriter provides other services to its clients such as lending, market making and investing, the negative event day abnormal returns may be from the loss of those services and should be associated with the importance of these functions to its clients. Due to the relatively small sample size, each measure is initially tested separately and tabulated in Table 9. The specifications in Table 10 combine the various measures, to see which function of the bank matters most for abnormal event day returns.

The first alternative tested is lending, measured with a dummy variable, *Underwriter is Lender*, equal to 1 if the underwriter is a lender. Lenders are identified through Capital IQ's database of suppliers to public companies, based on the company's most recent 10-K filing.[13] Of 209 observations matched to Capital IQ, only 4 companies (2%) listed the underwriter as a lender. This is unsurprising, given the relatively low debt levels of the sample and the fact that these underwriters were not large lenders. While

[13] Lenders are included as suppliers to companies, but Capital IQ does not collect this information historically. The database was accessed on May 21, 2008 and identifies lenders based on companies' most recent 10-K filings as of that date. If a company renegotiated its bank loan subsequent to the event date and filed a 10-K between the event date and May 21, 2008, the lender may be incorrectly identified. Expanding the definition of lender to include the ultimate acquirer of the underwriter (i.e. companies underwritten by Bear Stearns where JP Morgan is a lender) results in 14% of the database having the underwriter as lender, but does not change the results.

the coefficient on *Underwriter is Lender* is negative, it is not statistically significant (see specifications (1) and (4) of Table 9). Alternative measures of lending importance such as a dummy variable for companies which had no debt produced similar results. It is unlikely that Alternative 2, companies whose underwriters were their lenders underperform, explains the observed negative returns.

Underwriters may also make markets in their clients' stocks post-IPO. Ellis, Michaely and O'Hara (2000) document underwriter price support for 20 days post-IPO, although the time elapsed between IPO and event date for this sample is much longer (minimum of 122 days). Unfortunately, the detailed trading information used in Ellis, Michaely and O'Hara (2000) is not widely available. Separate measures from the Nasdaq and NYSE/AMEX markets are combined to construct a proxy for the underwriter's importance as a market maker. For stocks traded on the Nasdaq market, *Underwriter was Market Maker*, is a dummy variable equal to 1 if the underwriter had an inside quote (the highest bid or the lowest ask at any one hour interval in the day).[14] The underwriter had an inside quote for 10% of the Nasdaq sample. For companies traded on the NYSE and AMEX, *Underwriter was Market Maker*, is equal to 1 if the underwriter was a specialist in the company's stock.[15] The underwriter was a specialist for 43 of the sample firms

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[14] The quote data is from a random sample of one day of NASTRAQ quote data from December 31, 2007. The results are robust to selecting a different day to estimate these measures. I follow Huang (2002) in eliminating quotes with an ask price or bid price less than or equal to zero; quotes with an ask size or bid size less than or equal to zero; quotes with bid-ask spreads greater than $5 or less than zero; quotes associated with trading halts or designated order imbalances; before-the-open and after the-close trades and quotes; trades and quotes involving errors or corrections; trades with price or volume less than or equal to zero; ask quote, at, if $|(a_t - a_{t-1}) / a_{t-1}| > 0.50$; and bid quote, b_t, if $|(b_t - b_{t-1})/b_{t-1}| > 0.50$. When there are multiple quotes at the same second according to the time stamp the prevailing quote for each dealer is formed by taking the highest bid and the lowest offer.

[15] Of the four underwriters in the sample, only Bear Stearns and Lehman Brothers were NYSE specialists. I use the Internet Archive to access the client list of Bear Wagner (Bear Stearns' NYSE specialist

traded on the NYSE or AMEX. In summary, *Underwriter was Market Maker*, a market maker dummy variable is equal to 1 for Nasdaq companies when the underwriter had an inside quote and for NYSE/AMEX companies when the underwriter was a specialist. By this definition, the underwriter was a market maker for 24% of the sample observations.

Specifications (2) and (5) of Table 9 do not show a statistically significant relationship between market making and abnormal returns. While coefficient signs are negative, there is no compelling support for Alternative 3 that companies whose underwriter was a market maker underperform. Other measures of the underwriter's importance as a market maker such as the aggregate dollar volume of the underwriter's quotes in a day (the sum of all the ask quotes plus the sum of all the bid quotes), and the market share of the underwriter on TradeWeb's advertised quotes were actually positively associated with returns, although were also not statistically significant.[16]

A final way in which an underwriter's failure may impact its clients' prices is through its role as an investor. The measure of underwriter importance as an investor is *UPER,* the percentage of shares held by the underwriter. This data is collected from

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subsidiary) as of June 2007. Bear Wagner information accessed at: http://web.archive.org/web/20070608213639/www.bearwagner.com/companies.html
Lehman Brothers has blocked access to its historical website, so a similar historical list of its specialist clients is not available. In addition to operating Lehman's specialist subsidiary after 2009, Barclay's purchased Bear Wagner in March 2009 from JP Morgan. I accessed Barclay's website as of June 2009 to find its client list. If Barclay's is a specialist for a company as of June 2009, and Bear Wagner was not a specialist for the company, the dummy variable will be equal to 1 for Lehman's underwriting clients. This effectively assumes that no companies had both Lehman and Bear Wagner as specialists. The analysis is robust to relaxing this assumption.

[16] In addition, abnormal returns were estimated for an additional 543 companies for which Lehman and Bear Stearns served as NYSE specialists but not as an IPO underwriter. The average abnormal return calculated relative to the NYSE benchmark was not statistically different from zero. This is significantly higher than the -1% abnormal return for the 43 NYSE/AMEX companies for which Lehman and Bear Stearns served as NYSE specialists and underwriters. This difference is complementary evidence that the underwriters' market making functions were not the primary drivers of the negative event date returns. This may be either because specialists are not important or because market participants assumed that the underwriters' specialist functions would continue regardless of the outcome for the investment bank.

CDA Spectrum data from the quarter preceding the event dates.[17] In 95% of the issues, underwriters held less than 3% of the companies' stock. The percentage of client stock held by the underwriter is negatively associated with abnormal returns. However, this result is not robust to alternative specifications. For example, using only a dummy indicating if the underwriter holds any shares (*UDUMMY*), there is no relationship between investing and abnormal returns. This suggests weak support for Alternative 4, that companies whose underwriters are stockholders are the most negatively affected by the failure of their underwriter.

Underperformance of companies with underwriter-affiliated investors may still indicate the presence of post-IPO information production by the underwriter. For example, Irvine, Simko and Nathan (2004) find that analysts affiliated with mutual fund investors have earnings estimates that are more accurate than forecasts of other analysts. If entities affiliated with the underwriter invest in companies underwritten by the bank, they may do so because they have a lower marginal cost of information production because of their underwriting affiliation.

[TABLE 9]

5.6. Combined analysis

To confirm the robustness of the relationship between underwriter monitoring and negative event returns, proxies for other investment bank functions are included in the same specification with the monitoring index (high values indicate less opaque operations

[17] If a company is not in the Spectrum database, the underwriter holding is assumed to be 0.

or more monitors). Specifications (5) and (10) of Table 10 include the monitoring index, the KZ index which proxies for equity dependence and measures of the underwriters' other functions. The monitoring index is positive and statistically significant in each specification, indicating that companies with high information opacity and few other monitors have the worst abnormal event date returns, even after controlling for their underwriter's role as a lender, investor or market maker.

[TABLE 10]

5.9. Ex Post Updating

Each of the preceding empirical tests assumes a post-IPO role for the underwriter, be it information-based or not. Alternative 4 proposes that underwriter's distress caused investors to update their beliefs negatively about the quality of the underwriters' clients. If this is the cause of the negative event date returns, there should be no price impact when it is revealed that the underwriters will continue. This proposition can be tested by examining the post-event cumulative abnormal returns (*POSTCAR)* for 3 days following the event, t = +3 through +5.

The test of the proposition that post-event cumulative abnormal returns are equal to zero is estimated as:

$$POSTCAR_{i,t+3tot+5} = \alpha + \varepsilon_{i,t}$$

where $POSTCAR_{i,t+3\ to\ t+5}$ is the sum of daily abnormal returns of company i from $t+3$ through t+5 and α measures the extent of the underperformance.

Table 11 shows the results of this test of cumulative post-event abnormal returns. Once it is revealed that the investment banks will continue operations in some format,

companies have positive abnormal returns and appear to earn back the negative event day returns.

[TABLE 11]

6. Conclusion

For at least one day in 2008, the market believed that Bear Stearns, Lehman Brothers, Merrill Lynch and Wachovia might no longer be in business the following day. These "failures" were exogenous to the banks' equity underwriting operations, and thus offer a natural experiment to estimate the impact of the loss of a primary investment banking relationship. On average, companies recently taken public by these banks suffered an abnormal decline in equity value of more than 1%, a total loss of more than $3 billion or 20% of the gross spread earned on the initial public offerings. This negative abnormal return implies that investment banks are important to their clients even after the IPO.

This paper presents evidence that investment banks are important because they monitor their post-IPO clients. The lowest abnormal returns were experienced by companies with fewer alternative monitors. The source of these negative abnormal returns was not the underwriters' function as a lender or market maker. Despite initial uncertainty, the operations of all four underwriters were acquired by other banks and their underwriting function continued. Once it was known that the banks' monitoring and information production function would be continued, their clients' abnormal price decline was reversed. This suggests that the source of these abnormal returns was not negative updating after the underwriters' failures.

While none of these investment banks have ceased underwriting, these findings have important implications for future investment banking clients and investors in initial public offerings. These stakeholders should carefully evaluate the financial health of the underwriter's entire business, not just its underwriting skills. This implication is consistent with Suzuki (1999) who finds that Japanese companies issue secondary offerings at lower prices when their underwriter has loan problems. Uncertainty about the overall health of underwriters may reduce access to equity capital markets if underwriters can no longer credibly execute their certification and monitoring role because investors fear that the underwriter may not be around to monitor the newly public company.

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FIGURE 1: MEAN DAILY RETURNS (0 = EVENT DATE)

The sample with troubled underwriter consists of the mean daily returns of 228 underwriter-company pairs with an IPO from 2004 to 2007 for which the failed underwriter was a book underwriter. IPO Index includes all companies with an IPO from 2004 to 2007 for which none of the failed underwriters were a lead or co-manager. Size and Book to Market is the mean return of a value weighted portfolio matched to each company in the sample by 25 size and book-to market quintiles. Nasdaq is the value weighted NASDAQ Composite Index. Dates are in event time with event date =0.

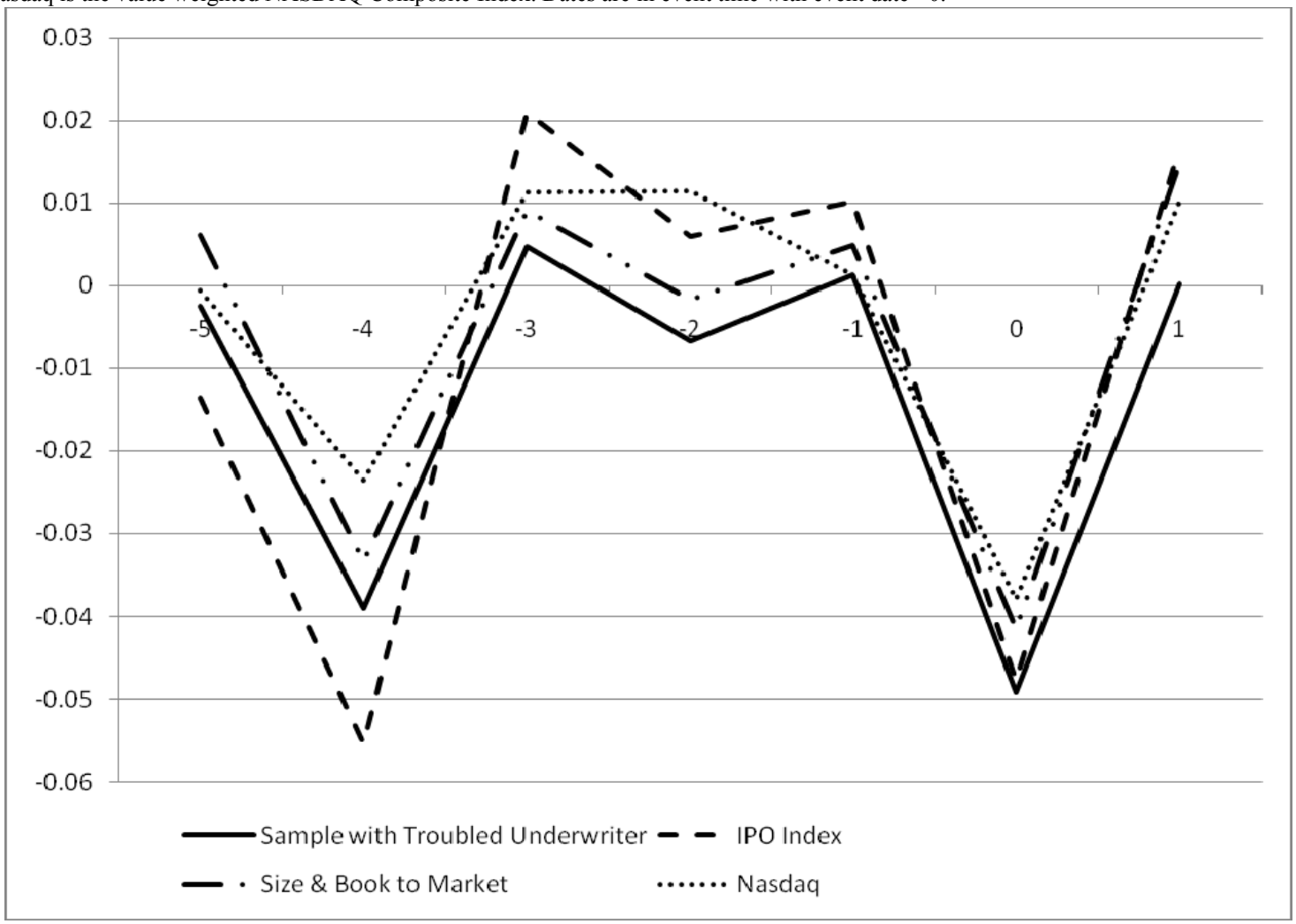

FIGURE 2: MEAN DAILY RETURNS OF COMPANIES (BY FAILED UNDERWRITER) (0 = EVENT DATE)

Merrill, Lehman, Bear Stearns and Wachovia IPOs are the mean daily returns of 228 underwriter-company pairs with an IPO from 2004 to 2007 underwritten by Merrill, Lehman, Bear Stearns and Wachovia, respectively. Dates are in event time with event date = 0.

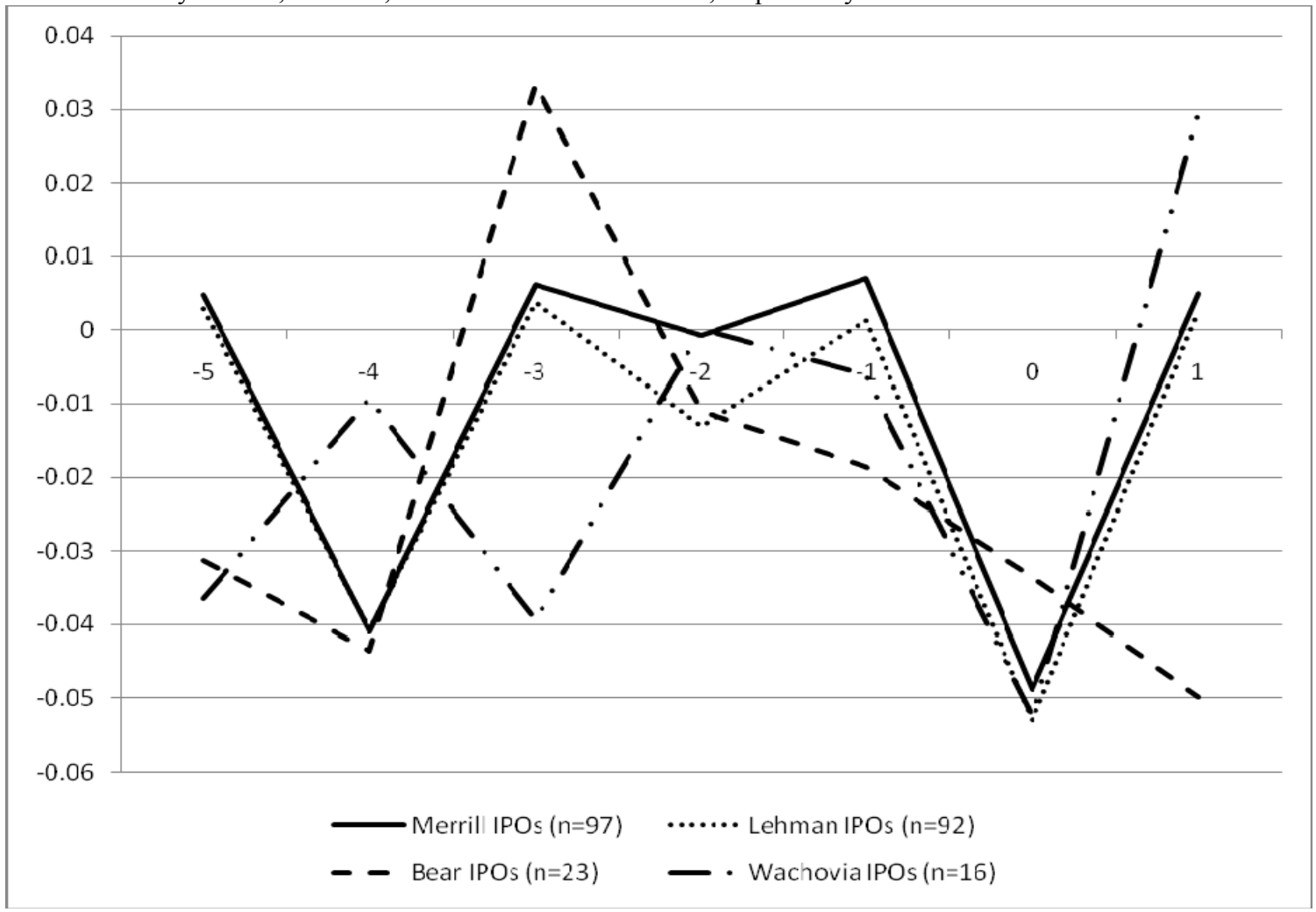

TABLE 1: SUMMARY STATISTICS FOR SAMPLE AND IPO INDEX, BY EVENT DATE

The sample consists of 213 newly public companies with an IPO from 2004 to 2007 for which the failed underwriter was a book underwriter, for a total of 228 underwriter-company event day observations. IPO Index includes all companies with an IPO from 2004 to 2007 for which none of the failed underwriters were a lead or co-manager. Accounting variables are measured as of the fiscal quarter preceding the event date, price variables are measured as of 5 days prior to the event date. T-tests for difference were conducted between the IPO sample of companies underwritten by a troubled underwriter and the IPO Index, comprised of all other recent IPOs. Diff. = Mean(IPO Index) - Mean(Underwriter IPO sample). The null hypothesis is no difference in the means. ***, ** and * indicate difference is significant at the 1%, 5%, and 10% levels, respectively.

Underwriter		Lehman Brothers			Merrill Lynch			Wachovia			Bear Stearns			Total Sample		
Event Date		15-Sep-08			15-Sep-08			29-Sep-08			14-Mar-08			Event Date		
Variable		*Means*	*Diff.*		*Means*	*Diff.*		*Means*	*Diff.*		*Means*	*Diff.*		*Means*	*Diff.*	
Days since IPO	IPO Index	1,030.6	57.1		1,030.6	147.5	***	1,045.4	54.8		870.2	-38.0		1,021.4	91.7	***
	Sample	973.6			883.2			990.6			908.2			929.7		
Sales LTM	IPO Index	371.8	-926.7	***	371.8	-467.9	***	371.8	-700.0	***	312.6	-277.9	**	365.5	-648.9	***
	Sample	1,298.5			839.7			1,071.8			590.4			1,014.4		
Total Assets	IPO Index	533.3	-1,506.0	***	533.3	-1,258.4	***	534.9	-858.5	***	473.4	-682.0	***	531.5	-1,265.6	***
	Sample	2,039.3			1,791.7			1,393.3			1,155.3			1,797.1		
Total Debt	IPO Index	139.0	-738.6	***	139.0	-541.5	***	139.0	-678.4	***	114.0	-464.3	***	137.6	-621.0	***
	Sample	877.6			680.5			817.4			578.3			758.6		
Leverage	IPO Index	0.2	-0.1436	***	0.2	-0.1165	***	0.2	-0.1990	***	0.1	-0.2	***	0.2	-0.1346	***
	Sample	0.3			0.3			0.4			0.4			0.3		
Net Income	IPO Index	4.5	5.9		4.5	-12.8	*	4.5	-11.0		2.1	1.2		4.2	-3.7	
	Sample	-1.4			17.3			15.6			0.9			8.0		
Market Value	IPO Index	490.6	-386.4	***	490.6	-285.7	**	445.8	-180.3		502.6	-332.5		485.0	-327.4	***
	Sample	877.0			776.4			626.1			835.1			812.4		
Book to Market Value	IPO Index	0.72	-1.04	*	0.72	-0.41		0.97	0.41		0.63	0.14		0.75	-0.54	
	Sample	1.76			1.14			0.56			0.50			1.28		
Price to Earnings Ratio	IPO Index	46.4	11.8		46.4	11.9		45.3	42.9		-23.4	-1.3		39.2	11.9	
	Sample	34.6			34.6			2.5			-22.1			27.3		
KZ Index	IPO Index	0.37	0.11		0.37	-0.31		0.37	-0.36		0.85	0.36		0.42	-0.07	
	Sample	0.26			0.68			0.72			0.48			0.49		
Venture Backed	IPO Index	0.48	0.16	***	0.48	0.09		0.48	0.29	**	0.49	0.19	*	0.48	0.14	***
	Sample	0.32			0.39			0.19			0.30			0.34		

TABLE 2: MEAN EVENT DAY RETURN

The sample consists of 213 newly public companies, with an IPO from 2004 to 2007, for which the failed underwriter was a book underwriter, for a total of 228 underwriter-company event day observations. Returns for each market benchmark reflect a weighted average of event day returns, weighted by the proportion of newly public companies underwritten by a troubled underwriter for the appropriate event date. The Size and Book to Market benchmark is composed of 25 size and book to market quintile matched portfolios. The SIC benchmark portfolio is generated by value weighting all public companies in the same two-digit SIC code as each sample company. IPO Index is a value weighted portfolio composed of all companies with an IPO from 2004 to 2007 for which none of the failed underwriters were a lead or co-manager.

	Sample Return		Benchmark Return	
		SD		difference:
S&P 500 Index	-0.0492	0.0428	-0.0473	-0.0019
NASDAQ	-0.0492	0.0428	-0.0379	-0.0113
NYSE Composite	-0.0492	0.0428	-0.0454	-0.0037
CRSP	-0.0492	0.0428	-0.0398	-0.0094
Size and Book to Market	-0.0492	0.0428	-0.0414	-0.0078
SIC matched	-0.0492	0.0428	-0.0396	-0.0096
IPO Index	-0.0492	0.0428	-0.0478	-0.0014
Propensity Score matched	-0.0492	0.0428	-0.0396	-0.0096

TABLE 3: ABNORMAL RETURN BY UNDERWRITER

Abnormal returns are the difference between the actual event day return and the conditional expected return calculated based on the listed benchmarks. The Size and Book to Market benchmark is composed of 25 size and book to market quintile matched portfolios. The SIC benchmark portfolio is generated by value weighting all public companies in the same two-digit SIC code as each sample company. IPO Index is a value weighted portfolio composed of all companies, excluding all banks, with an IPO from 2004 to 2007 for which none of the failed underwriters were a lead or co-manager.

		Three Factors	IPO Index	SIC matched	NASDAQ Composite	NYSE	S&P 500	Size and B/M matched	Propensity Score - 5 Nearest Neighbors
	p25	-0.0756	-0.0475	-0.0438	-0.0520	-0.0420	-0.0501	-0.0448	-0.0477
Lehman	mean	-0.0320	-0.0240	-0.0225	-0.0285	-0.0156	-0.0223	-0.0171	-0.0158
	median	-0.0223	-0.0206	-0.0188	-0.0218	-0.0047	-0.0138	-0.0086	-0.0135
	p75	0.0153	0.0031	0.0067	0.0066	0.0166	0.0123	0.0151	0.0186
	N	92	92	92	92	92	92	92	92
	sd	0.0786	0.0392	0.0392	0.0446	0.0503	0.0513	0.0419	0.0464
	p25	-0.0288	-0.0301	-0.0309	-0.0291	-0.0281	-0.0284	-0.0240	-0.0258
Bear	mean	-0.0121	-0.0203	-0.0171	-0.0142	-0.0158	-0.0138	-0.0125	-0.0077
	median	-0.0057	-0.0093	-0.0136	-0.0039	-0.0016	-0.0014	0.0000	-0.0037
	p75	0.0138	0.0086	0.0103	0.0130	0.0124	0.0143	0.0102	0.0283
	N	23	23	23	23	23	23	23	23
	sd	0.0645	0.0665	0.0645	0.0669	0.0669	0.0672	0.0652	0.0683
	p25	-0.0346	-0.0341	-0.0241	-0.0188	-0.0147	-0.0221	-0.0394	-0.0301
Wachovia	mean	0.0165	0.0038	0.0168	0.0400	0.0281	0.0296	0.0031	0.0047
	median	0.0120	0.0016	0.0054	0.0387	0.0173	0.0255	-0.0090	0.0013
	p75	0.0774	0.0373	0.0532	0.0853	0.0716	0.0842	0.0518	0.0525
	N	16	16	16	16	16	16	16	16
	sd	0.0660	0.0681	0.0675	0.0804	0.0767	0.0770	0.0678	0.0678
	p25	-0.0734	-0.0391	-0.0439	-0.0453	-0.0292	-0.0432	-0.0315	-0.0323
Merrill	mean	-0.0240	-0.0185	-0.0203	-0.0202	-0.0078	-0.0117	-0.0126	-0.0065
	median	-0.0250	-0.0168	-0.0143	-0.0133	-0.0073	-0.0053	-0.0058	-0.0062
	p75	0.0229	-0.0004	0.0037	0.0031	0.0133	0.0118	0.0081	0.0200
	N	97	97	97	97	97	97	97	97
	sd	0.0892	0.0340	0.0365	0.0423	0.0412	0.0469	0.0421	0.0414
Total	p25	-0.0672	-0.0424	-0.0424	-0.0464	-0.0346	-0.0440	-0.0365	-0.0357
	mean	-0.0232	-0.0194	-0.0183	-0.0187	-0.0093	-0.0133	-0.0133	-0.0096
	median	-0.0175	-0.0167	-0.0140	-0.0131	-0.0048	-0.0054	-0.0054	-0.0061
	p75	0.0232	0.0028	0.0067	0.0072	0.0146	0.0141	0.0138	0.0208
	N	228	228	228	228	228	228	228	228
	sd	0.0818	0.0435	0.0445	0.0519	0.0518	0.0545	0.0468	0.0488

TABLE 4: EVENT DATE ABNORMAL RETURNS

The sample consists of 213 newly public companies, with an IPO from 2004 to 2007 for which the failed underwriter was a book underwriter, for a total of 228 underwriter-company event day observations. The dependent variable is *Abnormal return*, the difference on the event day ($t = 0$) between the actual event day return and the conditional expected return calculated based on the listed benchmarks. The Size and Book to Market benchmark is composed of 25 size and book to market quintile matched portfolios. The SIC benchmark portfolio is generated by value weighting all public companies in the same two-digit SIC code as each sample company. IPO Index is a value weighted portfolio composed of all companies, excluding banks, with an IPO from 2004 to 2007 for which none of the failed underwriters were a lead or co-manager. Three Factor model includes the three Fama French (1992) factors, and Propensity score is a propensity score matched portfolio. Statistics calculated with standard errors robust to heteroskedasticity. ***, ** and * indicate t-statistic is significant at the 1%, 5%, and 10% levels, respectively.

	Estimate	*[t-stat]*		N
S&P 500	-0.0133	*[3.67]*	***	228
NASDAQ Composite	-0.0187	*[5.44]*	***	228
NYSE	-0.0093	*[2.70]*	***	228
CRSP	-0.0116	*[3.42]*	***	228
Size and Book to Market matched	-0.0133	*[4.28]*	***	228
SIC matched	-0.0183	*[6.20]*	***	228
IPO Index	-0.0194	*[6.72]*	***	228
Three Factor model	-0.0232	*[4.28]*	***	228
Propensity Score - 5 Nearest Neighbors	-0.0096	*[2.97]*	***	228

TABLE 5: SUMMARY STATISTICS FOR IPO SAMPLE

The sample consists of 213 newly public companies with an IPO from 2004 to 2007 for which the failed underwriter was a book underwriter, for a total of 228 underwriter-company event day observations. IPO Index includes all companies, excluding banks, with an IPO from 2004 to 2007 for which none of the failed underwriters were a lead or co-manager. Accounting and ownership variables are measured as of the fiscal quarter preceding the event date, price variables are measured as of 5 days prior to the event date, and market making variables are measured as of December 31, 2007.

				Distribution		
	N	Mean	*SD*	25th	50th	75th
Company Descriptors						
Sales LTM - $M	217	$1,014.4	2,535.6	$124.8	$337.0	$968.6
Total Assets - $M	219	1,797.1	3,351.2	248.5	685.4	1,706.0
Equity Market Value - $M	228	812.4	1,017.4	215.0	455.9	982.5
Total Debt - $M	205	758.6	1,715.3	3.0	230.0	614.2
Monitoring						
Days Since IPO	228	929.7	428.7	580.0	851.0	1,267.5
Number of Equity Analysts	223	8.1	4.7	5.0	8.0	10.0
SD IBES EPS Estimates (1 yr)	220	0.1319	0.3209	0.0125	0.0336	0.0809
SD IBES EPS Estimates (2 yr)	220	0.1611	0.4502	0.0138	0.0328	0.0864
Underwriter est. less mean est.	137	0.0049	1.9093	-0.0920	-0.0084	0.0762
% of shares held by institutions	228	0.5298	0.3408	0.2479	0.5045	0.8115
Percentage block size	228	0.0076	0.0053	0.0039	0.0069	0.0103
Venture Backed Dummy	228	0.3377	0.4740	0	0	1
Number of Book Underwriters	228	2.0702	0.8574	2	2	2
Information Index	228	3.6272	1.7702	2	4	5
Equity Dependence						
KZ Index	205	0.4912	2.3690	-0.1037	0.5930	1.5450
Debt to Capital	193	0.4047	0.3919	0.0250	0.3475	0.6457
Cashflow to Capital	205	0.0777	0.2612	0.0121	0.1149	0.1876
Cash to Capital	204	0.3984	0.7157	0.0284	0.1091	0.4741
Tobin's Q	199	2.9901	4.6778	1.1499	1.6581	2.6558
Dividends to Capital	205	0.0235	0.0564	0.0000	0.0000	0.0159
Lending						
No Debt Dummy	205	0.1756	0.3814	0	0	0
Lender - Dummy	209	0.0191	0.1373	0	0	0
Market Making						
Market Maker - Dummy	228	0.2412	0.4288	0	0	0
Inside Quote - Dummy	111	0.0991	0.3002	0	0	0
Investing						
Shares held by underwriter	228	0.4157	2.5042	0	0	0.0289
Dummy if underwriter holds shares	228	0.3333	0.4724	0	0	1
% shares held by underwriter	228	0.0074	0.0378	0	0	0.0007

TABLE 6: MONITORING

The sample consists of 213 newly public companies, with an IPO from 2004 to 2007, for which the failed underwriter was a book underwriter, for a total of 228 underwriter-company event day observations. The dependent variable is *Abnormal return*, the difference on the event day ($t = 0$) between the actual event day return and the conditional expected return calculated based on the IPO Index or the NASDAQ Composite Index. Expected sign indicates the expected relationship between the monitoring proxy and *Abnormal* returns. The monitoring proxies are: Log *Days Since IPO* is the logarithm of the number of days between the IPO file date and the event date. *Log Number of Equity Analysts* is the logarithm of the number of equity analysts for the company. *SD IBES EPS Estimates (1 yr)* is the standard deviation of the one year forward earnings per share estimates in IBES as of the event date. *SD IBES EPS Estimates (2 yr)* is the standard deviation of the two year forward earnings per share estimates in IBES as of the event date. *Underwriter estimate less mean estimate* is the difference between the one year forward underwriter estimate and mean estimate of equity analysts in IBES as of the event date. *% of shares held by institutions* is the percentage of total shares outstanding held by institutions as of the quarter preceding the event date. *% block size* is the average block size divided by shares outstanding as of the quarter preceding the event date. *Venture Backed Dummy* is a dummy variable equal to one if the company was venture backed at its IPO filing. *Log Number of Book Underwriters* is the logarithm of the number of book underwriters for the company at its IPO filing. Statistics calculated with standard errors robust to heteroskedasticity. Absolute value of t-statistics is in brackets. ***, ** and * indicate *p*-values of 1%, 5%, and 10%, respectively.

	Reference Portfolio		IPO Index				Nasdaq				
		Expected Sign	Monitoring Proxy		Constant		Adjusted R-squared	Monitoring Proxy		Constant		Adjusted R-squared	N
(1)	Log Days Since IPO	+	-0.0006		-0.0153		0.0001	0.0047		-0.0506		0.0022	228
			[0.12]		*[0.46]*			*[0.76]*		*[1.20]*			
(2)	SD IBES EPS	-	-0.0063		-0.0186	***	0.0021	-0.0061		-0.0172	***	0.0014	220
	Estimates (1 yr)		*[0.56]*		*[6.20]*			*[0.47]*		*[4.82]*			
(3)	SD IBES EPS	-	-0.0024		-0.0190	***	0.0006	-0.0025		-0.0176	***	0.0005	220
	Estimates (2 yr)		*[0.41]*		*[6.38]*			*[0.36]*		*[4.92]*			
(4)	Log Number of Book	+	-0.0018		-0.0182	***	0.0003	-0.0048		-0.0157	***	0.0015	228
	Underwriters		*[0.33]*		*[4.51]*			*[0.68]*		*[2.91]*			
(5)	Log Number of Equity	+	0.0056		-0.0314	**	0.0042	0.0068		-0.0327	**	0.0043	223
	Analysts		*[0.89]*		*[2.15]*			*[0.93]*		*[2.04]*			
(6)	Underwriter estimate less	-	-0.006		-0.0147	***	0.0006	-0.0018		-0.0114	***	0.0104	137
	mean estimate		*[0.47]*		*[3.81]*			*[1.52]*		*[2.41]*			
(7)	% of shares held by	+	0.0195	**	-0.0297	***	0.0234	0.0324	***	-0.0359	***	0.0452	228
	institutions		*[2.51]*		*[6.29]*			*[3.52]*		*[6.69]*			
(8)	% block size	+	0.9552	*	-0.0266	***	0.0134	1.6101	**	-0.031	***	0.0267	228
			[1.94]		*[5.98]*			*[2.43]*		*[5.35]*			
(9)	Venture Backed Dummy	+	0.0074		-0.0218	***	0.0065	0.0136	**	-0.0233	***	0.0153	228
			[1.39]		*[5.55]*			*[2.20]*		*[4.89]*			
(10)	Monitoring Index	+	0.0030	*	-0.0269	***	0.0105	0.0051	***	-0.0316	***	0.0214	228
			[1.86]		*[4.76]*			*[2.66]*		*[4.79]*			

TABLE 7: EQUITY ANALYSTS

The *Covered but not underwritten* sample consists of 1,402 companies for which the failed underwriter had analyst coverage within two years of the event date, but was not a book underwriter within five years of the event date, for a total of 2,076 underwriter-company event day observations. The *Underwritten* sample is the sample from Table 4 of 213 newly public companies, with an IPO from 2004 to 2007 for which the failed underwriter was a book underwriter, for a total of 228 underwriter-company event day observations. The dependent variable is *Abnormal return*, the difference on the event day ($t = 0$) between the actual event day return and the conditional expected return calculated based on the listed benchmarks. The Size and Book to Market benchmark is composed of 25 size and book to market quintile matched portfolios. The SIC matched portfolio is generated by value weighting all public companies in the same two-digit SIC code as each sample company. IPO Index is a value weighted portfolio composed of all companies, excluding banks, with an IPO from 2004 to 2007 for which none of the failed underwriters were a lead or co-manager. Three Factor model includes the three Fama French (1992) factors. Difference is the difference between the abnormal return of the *Covered but not underwritten* sample and the *Underwritten* sample. Statistics calculated with standard errors robust to heteroskedasticity. ***, ** and * indicate t-statistic is significant at the 1%, 5%, and 10% levels, respectively.

	Covered but not underwritten				Underwritten (Table 4)						
	Estimate	*[t-stat]*		N	Estimate	*[t-stat]*		N	Difference	*[t-stat]*	
S&P 500	0.0015	*[1.38]*		2,076	-0.0133	*[3.67]*	***	228	0.0148	*[4.22]*	***
NASDAQ composite	-0.0037	*[3.33]*	***	2,076	-0.0187	*[5.44]*	***	228	0.0150	*[4.27]*	***
NYSE	0.0029	*[2.89]*	***	2,076	-0.0093	*[2.70]*	***	228	0.0121	*[3.79]*	***
CRSP	0.0005	*[0.45]*		2,076	-0.0116	*[3.42]*	***	228	0.0121	*[3.73]*	***
Size and Book to Market matched	-0.0046	*[4.58]*	***	2,076	-0.0133	*[4.28]*	***	228	0.0087	*[2.72]*	***
SIC matched	-0.0020	*[2.21]*	**	2,076	-0.0183	*[6.20]*	***	228	0.0162	*[5.56]*	***
IPO Index	-0.0134	*[14.50]*	***	2,076	-0.0194	*[6.72]*	***	228	0.0060	*[2.04]*	**
Three Factor model	-0.0088	*[6.06]*	***	2,076	-0.0232	*[4.28]*	***	228	0.0144	*[3.04]*	***

TABLE 8: RELATIONSHIP UNDERWRITING (EQUITY DEPENDENCE)

The sample consists of 213 newly public companies, with an IPO from 2004 to 2007 for which the failed underwriter was a book underwriter, for a total of 228 underwriter-company event day observations. The dependent variable is *Abnormal return*, the difference on the event day ($t = 0$) between the actual event day return and the conditional expected return calculated based on the IPO Index or the NASDAQ Composite Index. *KZ Index* is an index of equity dependence based on Kaplan and Zingales (1997) as calculated by Lamont, Polk, and Saa-Requejo (2001). *Debt to Capital* is total debt divided by total assets. *Cashflow to Capital* is operating income before depreciation divided by total assets. *Cash to Capital* is cash and equivalents divided by total assets. *Tobin's Q* is the ratio of total equity market value plus total assets minus book value all over total assets. *Dividends to Capital* is yearly cash dividends divided by total assets. Statistics calculated with standard errors robust to heteroskedasticity. Absolute value of t-statistics is in brackets. ***, ** and * indicate *p*-values of 1%, 5%, and 10%, respectively.

	Reference Portfolio	IPO Index				Nasdaq				
		Equity Dependence Proxy		Constant	Adjusted R-squared	Equity Dependence Proxy		Constant	Adjusted R-squared	N
(1)	KZ Index	0.0010		-0.0214 ***	0.0032	0.0014		-0.0216 ***	0.0045	205
		[0.80]		*[7.74]*		*[1.09]*		*[6.59]*		
(2)	Debt to Capital	-0.0105		-0.0161 ***	0.0101	-0.0140		-0.0155 ***	0.0128	193
		[1.44]		*[4.34]*		*[1.62]*		*[3.38]*		
(3)	Cashflow to Capital	0.0094		-0.0216 ***	0.0037	-0.0060		-0.0205 ***	0.0011	205
		[0.90]		*[7.56]*		*[0.47]*		*[6.33]*		
(4)	Cash to Capital	0.0069	**	-0.0237 ***	0.0149	0.0096	***	-0.0247 ***	0.0204	204
		[2.05]		*[7.14]*		*[3.27]*		*[6.33]*		
(5)	Tobin's Q	0.0015	***	-0.0255 ***	0.0286	0.0006		-0.0222 ***	0.0032	199
		[3.03]		*[7.62]*		*[0.78]*		*[5.54]*		
(6)	Dividends to Capital	-0.0477		-0.0198 ***	0.0045	-0.1300	***	-0.0179 ***	0.0235	205
		[1.17]		*[6.44]*		*[2.64]*		*[5.01]*		

TABLE 9: ALTERNATIVE UNDERWRITER FUNCTIONS

The sample consists of 213 newly public companies, with an IPO from 2004 to 2007 for which the failed underwriter was a book underwriter, for a total of 228 underwriter-company event day observations. The dependent variable is *Abnormal return*, the difference on the event day ($t = 0$) between the actual event day return and the conditional expected return calculated based on the IPO Index for specifications 1-3 and the Nasdaq Index for specifications 4-6. *Underwriter is Lender* is a dummy variable that is equal to one if the underwriter is identified as a lender to the company as of the most recent 10-K filing. *Underwriter was Market Maker* is a dummy variable that is equal to one if the underwriter had an inside quote on NASTRAQ or was the NYSE or AMEX specialist for the company. *% shares Held by Underwriter* is the number of shares held by the underwriter divided by total shares outstanding for the company as of the quarter preceding the event date. Statistics calculated with standard errors robust to heteroskedasticity. Absolute value of t-statistics is in brackets. ***, ** and * indicate *p*-values of 1%, 5%, and 10%, respectively.

Reference Portfolio	IPO Index						Nasdaq					
	(1)		(2)		(3)		(4)		(5)		(6)	
Constant	-0.0198	***	-0.0180	***	-0.0189	***	-0.0191	***	-0.0170	***	-0.0177	***
	[6.94]		*[5.42]*		*[6.40]*		*[5.56]*		*[4.46]*		*[5.05]*	
Underwriter is lender	-0.0121						-0.0057					
	[1.03]						*[0.38]*					
Underwriter was market maker			-0.0057						-0.0071			
			[0.85]						*[0.82]*			
% shares held by underwriter					-0.0638	*					-0.1325	**
					[1.65]						*[2.33]*	
Adjusted R-squared	0.0017		0.0000		0.0031		0.0003		0.0000		0.0093	
Number of Observations	209		228		228		209		228		228	

TABLE 10: COMBINED ANALYSIS

The sample consists of 213 newly public companies, with an IPO from 2004 to 2007 for which the failed underwriter was a book underwriter, for a total of 228 underwriter-company event day observations. The dependent variable is *Abnormal return*, the difference on the event day ($t = 0$) between the actual event day return and the conditional expected return calculated based on the IPO Index for specifications 1 through 5 or the NASDAQ Index for specifications 5 through 10. Monitoring Index is the sum of 9 measures for which a maximum value of 9 for a company with all information opacity measures in the bottom quartile and all measures of other monitors in the top quartile. *KZ Index* is an index of equity dependence based on Kaplan and Zingales (1997) as calculated by Lamont, Polk, and Saa-Requejo (2001). *Underwriter is Lender* is a dummy variable that is equal to one if the underwriter is identified as a lender to the company as of the most recent 10-K filing. *Underwriter was Market Maker* is a dummy variable that is equal to one if the underwriter had an inside quote on NASTRAQ or was the NYSE or AMEX specialist for the company. *% shares Held by Underwriter* is the number of shares held by the underwriter divided by total shares outstanding for the company as of the quarter preceding the event date. Statistics calculated with standard errors robust to heteroskedasticity. Absolute value of t-statistics is in brackets. ***, ** and * indicate *p*-values of 1%, 5%, and 10%, respectively.

	IPO Index										Nasdaq									
	(1)		(2)		(3)		(4)		(5)		(6)		(7)		(8)		(9)		(10)	
Constant	-0.0269	***	-0.0300	***	-0.0305	***	-0.0301	***	-0.0289	***	-0.0316	***	-0.0353	***	-0.0352	***	-0.0343	***	-0.0319	***
	[4.76]		*[5.48]*		*[5.31]*		*[5.20]*		*[4.48]*		*[4.79]*		*[5.60]*		*[5.35]*		*[5.23]*		*[4.46]*	
Information	0.0030	*	0.0035	**	0.0035	**	0.0035	**	0.0034	**	0.0051	***	0.0055	***	0.0054	***	0.0054	***	0.0052	***
Index	*[1.86]*		*[2.18]*		*[2.12]*		*[2.13]*		*[2.00]*		*[2.66]*		*[2.99]*		*[2.84]*		*[2.89]*		*[2.70]*	
KZ Index			0.0006		0.0007		0.0006		0.0006				0.0008		0.0009		0.0008		0.0007	
			[0.50]		*[0.51]*		*[0.47]*		*[0.44]*				*[0.63]*		*[0.69]*		*[0.60]*		*[0.54]*	
Underwriter is					-0.0102		-0.0106		-0.0106						-0.003		-0.0039		-0.0038	
Lender					*[0.79]*		*[0.82]*		*[0.83]*						*[0.18]*		*[0.22]*		*[0.22]*	
% Shares Held							-0.0485		-0.0506								-0.1126	**	-0.1168	**
by Underwriter							*[1.48]*		*[1.54]*								*[2.30]*		*[2.40]*	
Underwriter									-0.0035										-0.0071	
Market Maker									*[0.50]*										*[0.77]*	
Adj. R-Squared	0.0105		0.0200		0.0214		0.0237		0.0250		0.0214		0.0344		0.0333		0.0422		0.0459	
Number of Obs.	228		205		195		195		195		228		205		195		195		195	

TABLE 11: POST EVENT DATE ABNORMAL RETURNS

The sample consists of 213 newly public companies, with an IPO from 2004 to 2007 for which the failed underwriter was a book underwriter, for a total of 228 underwriter-company event day observations. The dependent variable is *Abnormal return*, the cumulative difference on days $t = +3$ to $+5$ between the actual event day return and the conditional expected return calculated based on the listed benchmarks. The Size and Book to Market benchmark is composed of 25 size and book to market quintile matched portfolios. The SIC benchmark portfolio is generated by value weighting all public companies in the same two-digit SIC code as each sample company. IPO Index is a value weighted portfolio composed of all companies, excluding banks, with an IPO from 2004 to 2007 for which none of the failed underwriters were a lead or co-manager. Three Factor model includes the three Fama French (1992) factors, and Propensity score is a propensity score matched portfolio. Statistics calculated with standard errors robust to heteroskedasticity. ***, ** and * indicate t-statistic is significant at the 1%, 5%, and 10% levels, respectively.

	Estimate	*[t-stat]*		N
S&P 500	0.0394	5.2200	***	228
NASDAQ Composite	0.0504	7.3600	***	228
NYSE	0.0354	5.1300	***	228
CRSP	0.0300	4.0600	***	228
Size and Book to Market Matched	0.0214	2.8600	***	228
SIC matched	0.0416	5.9800	***	228
IPO Index	0.0277	3.9300	***	228
Three Factor Model	0.0384	4.7900	***	228
Propensity Score - 5 Nearest Neighbors	0.0204	2.5300	**	228