

Underwriter Reputation, Initial Returns, and the Long-Run Performance of IPO Stocks

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ABSTRACT

We find that the underperformance of IPO stocks relative to the market over a three-year holding period is less severe for IPOs handled by more prestigious underwriters. Consistent with prior studies, we also find that IPOs managed by more reputable underwriters are associated with less short-run underpricing. Among the various existing proxies for underwriter reputation, the Carter–Manaster measure is the most significant in the context of initial returns and also in the context of the three-year performance of IPOs. The study also provides an updated list of the Carter–Manaster measure for various underwriters.

A SUBSTANTIAL BODY of work within the initial public offering (IPO) of common stock literature examines the effects of underwriter reputation on the initial performance of IPOs (see, among others, Logue (1973), Beatty and Ritter (1986), Titman and Trueman (1986), and Maksimovic and Unal (1993)). The financial press provides some evidence of the correlation between IPO performance and underwriter reputation (see *Forbes* June 20, 1994). However, no prior academic work has documented the relation between the long-run performance of IPOs and different proxies for underwriter prestige. This study has two primary objectives. First, it examines the initial returns and the three-year returns following the IPOs and the relationship of those returns with underwriter reputation. Second, the study provides a comparative evaluation of three existing measures of underwriter prestige in the context of initial returns and also in the context of the three-year performance of IPOs.

Several proxies for underwriter reputation have been developed in the IPO literature. Logue (1973) and Beatty and Ritter (1986) are among the first to develop a measure of underwriter reputation. Carter and Manaster (1990) use underwriters' relative placements in stock offering "tombstone" announcements. The Carter–Manaster (CM) system is not unlike the starring order appearing in Hollywood's billboards. The compilation of the CM measure is a fairly tedious process because each tombstone has the potential to impact the ordering of each underwriter's relative position in the data bank. On the other hand, the Johnson and Miller (1988) and Megginson and Weiss (1991) measures require less effort to construct. Johnson and Miller (JM) use a modified form of the Carter and Manaster method. JM classify

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underwriters into one of four categories. Megginson and Weiss (MW) use the relative market share of the underwriters as a proxy for their reputation. MW show a high degree of correlation between their measure and the CM rankings.

Although the CM and MW proxies are correlated, the difference between them may stem from the contrast in their measurement. The MW proxy focuses on the relative market share of the underwriter. On the other hand, the CM measure reflects the *company* an underwriter keeps. Even if an investment bank takes the lead in a large number of offers, it does not secure a high CM rank if its name appears in tombstone advertisements bracketed in the company of lower ranked underwriters.

We find that each of the reputation proxies is significantly related to IPO initial returns; the better the reputation of the underwriter, the less is the short-run underpricing. Among the three alternative reputation proxies examined, the Carter–Manaster measure explains more of the variation in the initial returns compared to the Johnson–Miller or the Megginson–Weiss measures.

Ritter (1991) and Loughran and Ritter (1995) examine the long-run performance of IPOs. Loughran and Ritter report that IPO stocks underperform nonissuing firms of the same size by 7.4 percent per year over a three-year holding period and by 7 percent per year over a five-year holding period. We find similar results for our sample of initial offerings made from 1979 through 1991. We only include IPOs through 1991 because we examine the performance of IPO stocks over a three-year period using the 1994 CRSP database. We find that the long-run underperformance is less severe for stocks of IPOs associated with more prestigious underwriters. Michaely and Shaw (1994) find that IPOs managed by high prestige investment bankers tend to have smaller initial returns and less negative long-run returns than do IPOs handled by lower reputation underwriters. They use the investment bank's capital as a proxy for its prestige. Brav and Gompers (1996) find that venture-capital-backed IPOs outperform nonventure-backed offerings in the five years following the offer, when returns are calculated on an equal weighted basis. Fields (1995) examines the holdings of institutional shareholders at the end of the first quarter following the initial public offerings. She finds that, in the long run, IPOs having larger institutional shareholdings significantly outperform those with smaller institutional shareholdings.

Although no widely accepted theory for the long-run evidence has been developed, it is reasonable to presume that higher quality underwriters attempt to market IPOs that will experience the least negative long-run market-adjusted returns. Chemmanur and Fulghieri (1994) argue that investors use the investment banks' past performance, as measured by the quality of firms in which they have previously sold equity, to assess their credibility. By marketing IPOs that have relatively better long-term performance, investment banks protect their reputation. Hence, we expect the coefficients for underwriter prestige measures to be positive when we use the long-run market-adjusted return as the dependent variable. We find that when the reputation

Table I
Sample Selection Criteria

Total number of firm commitment domestic IPOs in the raw sample.	2,956
Less: Observations deleted because they are unit IPOs or their initial listing on CRSP is more than three months from the offer date.	266
Less: Observations deleted because of an insufficient number of days' data to compute the standard deviation of returns.	37
Subtotal (1)	2,653
Less: Observations where the age of the firm and/or underwriter reputation measures is missing.	316
Subtotal (2)	2,337
Less: IPOs that are listed on CRSP more than three trading days (but less than three months) after the offer date.	45
Final Sample	2,292

proxies are evaluated simultaneously, only the Carter–Manaster measure is significantly related to the IPO stocks’ three-year returns.

The data description and a discussion of underwriter reputation measures are contained in Section I. Section II outlines the methodology employed, and the results are discussed in Section III. Our conclusions are contained in Section IV. A list of investment banks with updated Carter–Manaster ranks compiled from tombstones (1985–1991) and the corresponding Megginson–Weiss ranks are provided in the Appendix for convenient reference.

I. IPO Data and Underwriter Reputation Measures

A. Data

In this study, we conduct tests of underwriter reputation measures using a sample of IPOs issued from January 1, 1979 through December 31, 1991. For the earlier period (1979–1984), we use the Carter and Manaster (1990) sample and data obtained from Jay Ritter as used in Ritter (1991). The data for this period were supplemented from prospectuses available at the Arthur Andersen Library in Chicago. For the latter period (1985–1991), identification of each IPO is made from the *Investment Dealers’ Digest* and *Barron’s*. Only firm commitment, domestic offerings of at least \$2,000,000 have been selected. The sample screening process is summarized in Table I. Our final sample of 2,292 IPOs also includes those delisted before their three-year anniversary but for which all other data are complete.

Information concerning the particulars of each offering, including the number of shares offered by the firm, the number of shares offered by selling shareholders, the underwriters involved, and the offering price have been obtained from Moody’s manuals and *Investment Dealers’ Digest*. From these

data, we compute the gross proceeds for each offering (SIZE), and the ratio of the shares offered by current shareholders to the total shares offered (SECOND). Gross proceeds do not include overallotment options that are exercised. The mean gross proceeds from all 2,292 IPOs is \$41,370,000. We use the Ibbotson Associates (1992) annual consumer price index numbers to express SIZE in 1979 dollars. The mean gross proceeds, stated in 1979 dollars, are \$27,460,000. Of the shares offered in the IPO, 16.59 percent were provided by current shareholders of the firm at the time of the IPO. The age of the issuing firm at the time of the offering (AGE) also has been determined from Moody's manuals and the offering prospectus. The interval between the offer date and the date the firm was founded was used to determine the age of the issuing firm. In instances where the founding date was unavailable, the date of incorporation was used. The average age of the firms in the sample is 12.84 years.

Initial trading prices, initial returns and returns over three-years, and related statistics are determined using the CRSP NYSE/AMEX and Nasdaq files. We compute the raw initial return as the percentage difference between the first CRSP reported closing price and the offer price. For results presented in this study, the raw initial return is adjusted for the contemporaneous return on the market index. The market-adjusted initial return (MAR0) is computed using the value-weighted CRSP (NYSE/AMEX/Nasdaq) Index.¹ The mean MAR0 is 8.08 percent and the median is 2.38 percent. The IPO stocks' market-adjusted long-run return (MAR3) from a buy-and-hold strategy, where the holding period extends from offer date +6 through offer date +765 (760 trading days or about three years), is -19.92 percent on average (the median is -50.72 percent).² Positive initial returns and the subsequent long-run negative market-adjusted returns are consistent with the findings in previous IPO studies.

¹ The percentage initial return (MAR0) is computed for the final sample of 2,292 IPOs as follows:

$$\text{MAR0}_i = \left[\frac{\text{PFT}_i}{\text{OP}_i} - \prod_{t=0}^{\min[\text{FT}, 3]} (1 + \gamma_{mt}) \right] \times 100,$$

where $t = 0, 1, 2, 3$; PFT = closing price on the first CRSP-reported trading of the IPO stock; FT = first CRSP-reported trading day; OP = offer price of the IPO stock; and γ_{mt} = return on the CRSP NYSE/AMEX/Nasdaq value-weighted index on day t .

² The IPO stock's percentage return over three years is computed as follows:

$$\text{MAR3} = \left[\left(\prod_{t=\text{offer date}+6}^{\min[T, \text{delist}]} (1 + \gamma_{it}) \right) - \left(\prod_{t=\text{offer date}+6}^{\min[T, \text{delist}]} (1 + \gamma_{mt}) \right) \right] \times 100,$$

where γ_{it} = return on the stock i on day t ; T = offer date + 765 trading days; γ_{mt} = return on the CRSP NYSE/AMEX/Nasdaq value-weighted index on day t ; and R_{iT} = market-adjusted return on the IPO stock through the earlier of the offer date + 765 or its delisting date. IPOs are excluded from the sample where the first CRSP-reported trade occurred more than three days following the offer. Of the 2,292 IPOs, 299 were delisted within three years of the offer date. Of these, 22 were delisted within one year, and an additional 107 were delisted within two years of the offer date.

B. Underwriter Reputation Measures

We have compiled the four-tier underwriter reputation measure developed by Johnson and Miller (1988) (JM) according to their description. A rank of three, the most prestigious level, is assigned to each underwriter identified as a member of the “bulge bracket,” a two is assigned to those considered part of the “major bracket,” and a one has been assigned to underwriters in the “submajor bracket.” All other underwriters are assigned the least prestigious rank, zero. The mean JM ranking for the 2,292 IPOs in the sample is 1.17 with a median of 1.00.

The “bulge bracket” is a group of investment banks that have occupied a leading role in high-quality securities underwriting in the years since the Securities Act of 1933. These investment banks include traditional members like Morgan Stanley and First Boston and those that have joined subsequently such as Salomon Brothers. The next most prestigious investment banks are referred to as “major bracket” houses. This group includes firms like Lazard Freres and Company and Kidder, Peabody and Company. The firms in this group generally are allotted smaller portions in the underwriting syndicates than those in the bulge group but still wield considerable power on Wall Street. Finally, the submajor group consists of firms that are considered to be contenders for membership in the major bracket. They are often allocated a major bracket sized share of the offering but, on average, their underwriting proportions are smaller than either of the groups above them. Many of the firms in this bracket (for example, Bear, Stearns and Company) are recognized for their retail distribution capabilities.³

The Megginson–Weiss measure (MW) represents the relative market share of all IPO underwriting for each investment bank. The lead manager for each IPO is given full credit for the total amount underwritten. The lead manager maintains the ‘books’ and its name is the very first one from the left at the top of the tombstone. The relative market share for each underwriter is determined by dividing the underwriter’s total credits by the industry’s total. We use values provided by the authors to create the MW investment bank reputation measure for all IPOs that came to the market from 1979 to 1987.⁴ For the 1988 through 1991 period, we purchased data similar to Megginson and Weiss’s from the *Investment Dealers’ Digest* Information Services and compiled our own values.⁵ The mean MW rank for the 1,788 IPOs prior to 1988 is 5.65 percent, the mean for the remaining 504

³ For a further discussion of underwriting brackets see Hayes (1971) and Hayes and Hubbard (1990).

⁴ We are indebted to Kathleen Weiss Hanley for providing her list of investment bankers and their corresponding Megginson–Weiss ranks.

⁵ All IPOs prior to January 1, 1988, are assigned ranks per Megginson and Weiss (1991). These ranking data were provided by Kathleen Weiss Hanley. The Megginson and Weiss (1991) study covered IPOs through September 1987. For the 1988–1991 IPOs we use the underwriting data provided by *Investment Dealers’ Digest (IDD)* for the period 1986–1990. However, in additional analyses not reported here, we use the 1986–1990 *IDD* data to construct the MW measure for the 1986–1991 IPOs. The results are qualitatively similar to those reported here.

IPOs is 4.09 percent. For the entire sample, the mean MW is 5.31 percent with a median of 3.32 percent.

Unlike the MW proxy, which focuses on the relative market share of each underwriter, the determination of the CM reputation measure is more concerned with the *company* an investment banker keeps. It is based on the assertion that the Merrill Lynches and the Goldman Sachs will not allow their names to appear in the same bracket as the Blinder–Robinsons of the business. For the Carter and Manaster (1990) ten-tier reputation measure (CM), we use the values given in their 1990 article to rank underwriters for those IPOs issued from 1979 through 1984. For all offerings thereafter, a new CM ranking is estimated following the directions outlined in Carter and Manaster. Briefly, the measure is constructed by examining tombstone advertisements for the later years of the study (1985 through 1991). By comparing the relative placement of investment banks in the advertisements, we are able to place underwriters in each of 10 categories where nine is the most prestigious and zero the least.⁶ Within each subperiod (1979–84 and 1985–91) if a ranking change is observed for an investment bank, an average is used. The mean CM ranking for the 979 IPOs prior to 1985 is 5.45, the mean for the remaining 1,313 IPOs is 8.10. The average CM rank for all 2,292 IPOs is 6.97 with a median of 8.00.

The descriptive statistics for each of the variables described above are found in Table II.

II. Methodology

The primary method used to examine the explanatory power of the underwriter reputation measures is ordinary least squares regressions. Previous research suggests that underwriter reputation signals the underlying risks of the offering that are impounded in the immediate aftermarket return. We segment our sample by underwriter reputation and report the corresponding initial returns and the long-run performance for each segment. It appears

⁶ In tombstone advertisements, below the identification of the IPO's managing underwriter(s), the remaining IPO marketing syndicate underwriters follow in groups. Each group represents a different level of prestige, with the most prestigious at the top and the least prestigious at the bottom. For the first advertisement, a nine is assigned to the highest-placed underwriters, an eight to the next-highest underwriters, and so on. A second advertisement is then examined. If underwriters are displaced by higher-ranked underwriters, they are assigned a lower reputation rank. For example, if an underwriter in the first advertisement is located in the highest position and assigned a nine, but is located in the second-highest group in the second advertisement, the underwriter is reassigned an eight and all underwriters located in "inferior" groups in the previous advertisement are reassigned lower ranks as well. As each new advertisement is examined, underwriters displaced by a more prestigious group move down the scale, resulting in a discrete ranking scale from 0–9.

It should be noted that the order in which underwriters' names are listed in the tombstone advertisement exactly matches the order of names appearing in the 'underwriting' section of the prospectus. The underwriting section of the prospectus lists all investment bankers who agree to purchase a portion of the public offer. The order in which the names appear corresponds with the proportion of the offer each investment banker agrees to purchase.

Table II
Descriptive Statistics

Market-adjusted initial IPO return (underpricing), market-adjusted long-run return, explanatory variables, and underwriter reputation measures for 2,292 IPOs issued from January 1, 1979 to December 31, 1991. The market-adjusted initial return is the percentage increase from the offering price to the first available closing price. Returns are adjusted by subtracting the contemporaneous compounded CRSP NYSE/AMEX/Nasdaq value-weighted market returns. The market-adjusted long-run return on the IPO stock is computed from the offer date +6 through the earlier of offer date +765 or the stock's delisting date. The return is computed using a buy-and-hold strategy. Beta and the standard deviation of returns (STD Return) for each firm are estimated from a time series of daily raw returns using the offer date +6 through offer date +260. SIZE is the gross proceeds from the offering, exclusive of overallotment options. SIZE is deflated to the year 1979 using the annual inflation rate (CPI). Age is the age of the issuing firm at the time of the offer. SECOND is the percentage of the issue offered by current shareholders. MW is an underwriter reputation ranking variable using the relative market share for each managing underwriter. All IPOs issued prior to January 1, 1988 are assigned ranks per Megginson and Weiss (1991). These ranking data were provided by Kathleen Weiss Hanley. Those issued after are assigned ranks according to the updated market share data provided by *Investment Dealers' Digest*. JM is a discrete underwriter reputation ranking variable 0–3 where a 3 is the most prestigious underwriter and 0 is the least prestigious. CM is a discrete underwriter reputation variable 0–9 where a 9 is the most prestigious underwriter and 0 is the least prestigious underwriter. All IPOs issued prior to January 1, 1985 are assigned ranks per the Appendix in Carter and Manaster (1990). Those issued on or after January 1, 1985 are assigned updated ranks. The ranks for these IPOs are reestimated using contemporaneous data and following the instructions outlined in Carter and Manaster (1990).

Variable	Mean	Standard Deviation	Median
Market-adjusted initial return (%)	8.08	17.38	2.38
Market-adjusted long-run return (%)	−19.92	159.14	−50.72
Beta	1.38	0.85	1.30
SIZE (\$ millions)	41.37	104.35	15.00
Inflation deflated size (\$ millions)	27.46	68.08	10.42
Age (years)	12.84	21.18	5.00
SECOND (%)	16.59	23.60	0.00
STD Return (%)	3.38	1.56	3.13
MW (%)	5.31	5.89	3.32
JM	1.17	1.17	1.00
CM	6.97	2.35	8.00

that the information effect is complete in the initial returns—most of it by the end of the first day (Barry and Jennings (1993)). Accordingly, we use the market-adjusted initial return (MAR0) as the dependent variable in the regression analysis. The initial return for each IPO is regressed on the three reputation measures (MW, JM, and CM), both separately and collectively. To be consistent with prior research, the coefficient for each measure should be negative. However, when the market-adjusted long-run return (MAR3) is used as the dependent variable in the regression analysis, we expect the coefficient for each underwriter prestige measure to be positive per our earlier discussion.

To assess the marginal impact of the reputation measures, we include a number of additional independent variables. Each of these has been used in

previous and related research, primarily to proxy for the apparent risks of IPOs.

The natural logarithm of gross proceeds (LNSIZE) has been included in virtually all previous work. In this paper, LNSIZE is intended to control for any systematic influence due to offering size. Because larger IPOs are often made by more established firms, the risks should be diminished and, therefore, the initial returns should be smaller. The age of the firm has also been suggested to proxy for the risks of the IPO firm (Ritter (1984)); arguably older firms are less risky. For the empirical model, we use the natural logarithm of one plus the age of the firm at the IPO date (LNAGE). Ritter (1991) documents higher initial returns and more pronounced long-run underperformance for younger IPOs and interprets his evidence as being consistent with overoptimism. Therefore, we anticipate the coefficient for LNAGE to be negative for the initial return regression but to have a positive sign in the long-run return analysis.

The fraction of the offering represented by current shareholders is included to reflect preoffer demand. Hanley (1993) suggests that if there is a strong preoffer demand for an IPO, the number of shares being offered by existing shareholders is frequently revised upward. When the demand is weak, secondary shares are often the first to be cut back. Therefore, the number of shares offered by existing shareholders is a proxy for preoffer demand. We define the variable SECOND as the fraction of the total issue offered by existing preissue shareholders. Consistent with Hanley (1993), a strong preoffer demand should result in relatively more underpricing of the IPO. Accordingly, we expect a positive relation between the initial returns and SECOND. Finally, the standard deviation of the IPO stock raw returns is computed using a time-series of 255 trading days commencing 6 trading days after the offer. The standard deviation of the IPO stocks' returns (STD Return) should reflect the riskiness of future cash flows (see, among others, Johnson and Miller (1988)). Therefore, we anticipate a positive coefficient for STD Return.

The empirical model is displayed in equation (1).

$$\begin{aligned} \text{MAR0} = & b_0 + b_1 * [\text{Underwriter Reputation Measures}] + b_2 * \text{LNSIZE} \\ & + b_3 * \text{LNAGE} + b_4 * \text{SECOND} + b_5 * [\text{STD Return}] + \text{Error.} \end{aligned} \quad (1)$$

We use the same empirical model with the market-adjusted long-run holding period return (MAR3) as the dependent variable.

III. Results

A. Initial IPO Returns and Underwriter Reputation Proxies

As a preliminary examination of the univariate relationships among the variables in the study, Pearson correlation coefficients are estimated. The results of these estimations are provided in Table III.

Table III
Correlation Coefficients

Market-adjusted initial return (Underpricing), the natural log of 1,000 plus the market-adjusted long-run return, explanatory variables, and underwriter reputation measures for 2,292 IPOs issued from January 1, 1979 to December 31, 1991. The market-adjusted initial return (MAR0) is the percentage increase from the offering price to the first available closing price. Returns are adjusted by subtracting the contemporaneous compounded CRSP NYSE/AMEX/Nasdaq value-weighted market returns. The market-adjusted long-run return is computed from the offer date +6 through the earlier of offer date +765 or the stocks' delisting date using a buy and hold strategy (LNMAR3). The variable has been transformed to its natural log to alleviate skewness. SIZE, the gross proceeds from the offering in millions of dollars, is deflated to the year 1979 using the annual inflation rate and expressed as a natural log (LNSIZE). Age is the age of the issuing firm at the time of the offer and is expressed as the natural log of age plus one (LNAGE). SECOND is the percentage of the total issue offered by current shareholders. STD Return is the standard deviation of returns for each firm and is estimated from a time series of daily raw returns using the offer date +6 through offer date +260. MW is an underwriter reputation ranking variable using the relative market share for each managing underwriter. All IPOs issued prior to January 1, 1988 are assigned ranks per Megginson and Weiss (1991). These ranking data were provided by Kathleen Weiss Hanley. Those issued after are assigned ranks according to the updated market share data provided by *Investment Dealers' Digest*. JM is a discrete underwriter reputation ranking variable 0–3 where a 3 is the most prestigious underwriter and 0 is the least prestigious. CM is a discrete underwriter reputation variable 0–9 where a 9 is the most prestigious underwriter and 0 is the least prestigious underwriter. All IPOs issued prior to January 1, 1985 are assigned ranks per the Appendix in Carter and Manaster (1990). Those issued on or after January 1, 1985 are assigned updated ranks. The ranks for these IPOs are reestimated using contemporaneous data and then following the instructions outlined in Carter and Manaster (1990).

	LNMAR3	LNSIZE	LNAGE	SECOND	STD Return	MW	JM	CM
MAR0	-0.03	-0.11***	-0.06**	0.01	0.05**	-0.11***	-0.13***	-0.17***
LNMAR3		0.03	0.05**	0.09***	-0.15***	0.07***	0.09***	0.11***
LNSIZE			-0.11***	0.10***	-0.22***	0.44***	0.53***	0.60***
LNAGE				0.20***	-0.10***	0.08***	0.03	0.02
SECOND					-0.08***	0.09***	0.08***	0.13***
STD Return						-0.13***	-0.13***	-0.07***
MW							0.68***	0.57***
JM								0.65***

Significance at the 10, 5, and 1 percent levels is indicated by 1, 2, and 3 asterisks, respectively.

Many of the findings reported in earlier research are evident in the values found in Table III. For example, the more prestigious investment banks market the larger and more established firms. As one might expect, these are also the less risky IPOs, as measured by the time-series standard deviation of raw returns (STD Return). Moreover, the three reputation measures are highly correlated. Existing shareholders provide a higher proportion of the shares offered in IPOs associated with established firms and those with lower STD Return.

The results of the regressions on the market-adjusted initial return (equation (1)) are presented in Table IV. The principal variables of interest are the MW, JM, and CM underwriter prestige proxies. Univariate regressions for each reputation measure are found in regressions one through three. Multivariate regressions with the control variables and various combinations of the reputation rankings are shown in the remaining regressions. The final regression presents the results with all three reputation measures included.

As anticipated, the coefficients for MW, JM, and CM are negative and significant at the 1 percent level for the three univariate regressions. They are also negative and significant at the 1 percent level in the multivariate regressions (four through six), where each reputation measure is included separately but with all control variables. Although the coefficients for each of these control variables are generally consistent with expectations, significance appears to depend on the reputation measure introduced in the regression. For example, in regressions four and five the coefficients for both LNAME and LNSIZE are significant, at least at the 5 percent level, whereas in regression six only the control variable coefficient for LNAME is significant at the 5 percent level.⁷

In the remaining regressions, CM outperforms the other two underwriter reputation measures. In regression seven we analyze the MW and the CM reputation measures along with the control variables. In regression eight we report the results of the regression analysis using the JM and the CM reputation proxies. The CM measure remains significant in both regressions. The MW and the JM measures become insignificant when the CM measure is introduced simultaneously in the analyses. These results indicate that the CM underwriter reputation proxy has relatively greater explanatory power than the other two proxies. In regression nine all three reputation proxies are included in the analysis. Once again, of all the three reputation measures, only the CM proxy is statistically significant.

B. Long-Run Performance and Underwriter Reputation

Prior studies have documented that stocks of IPO firms have underperformed otherwise comparable non-IPO stocks over various long-run holding periods (Ritter (1991), Loughran and Ritter (1995)). However, the associa-

⁷ STD Return (the standard deviation of daily returns) includes a bid-ask bounce for NYSE/AMEX- and NMS-listed IPOs, but not for non-NMS Nasdaq listed IPOs. This happens because CRSP calculates daily returns using closing transaction prices only for the first group but uses the mean of the bid and ask quotes to calculate returns for non-NMS Nasdaq stocks. Thus, the regression coefficients on STD Return are likely to be biased toward zero.

Table IV

Cross-Sectional Regressions Explaining the Market-Adjusted Initial Returns for 2,292 IPOs Issued from January 1, 1979 through December 31, 1991

The dependent variable is the market-adjusted initial IPO percentage return of 2,292 firm-commitment nonunit IPOs within the period January 1, 1979 through December 31, 1991. The market-adjusted initial return is the percentage increase from the offering price to the first available closing price. Returns are adjusted by subtracting the contemporaneous compounded CRSP NYSE/AMEX/Nasdaq value-weighted market returns. The market-adjusted return is regressed on three alternative measures of IPO underwriter reputation (Megginson and Weiss (1991), Johnson and Miller (1988), and Carter and Manaster (1990)). Independent variables include the natural logarithm of gross proceeds in millions of dollars and deflated to 1979 dollars (LNSIZE), the natural logarithm of one plus age of the firm at the IPO date (LNAGE), the percentage of the total issue offered by current shareholders (SECOND), and the standard deviation of a time series of 255 daily raw returns for each IPO as a percent return (STD Return). MW is an underwriter reputation ranking variable using the relative market share for each managing underwriter. All IPOs issued prior to January 1, 1988 are assigned ranks per Megginson and Weiss (1991). These ranking data were provided by Kathleen Weiss Hanley. Those issued after are assigned ranks according to the updated market share data provided by *Investment Dealers Digest*. JM is a discrete underwriter reputation ranking variable 0-3 where a 3 is the most prestigious underwriter and 0 is the least prestigious. CM is a discrete underwriter reputation ranking variable 0-9 where a 9 is the most prestigious underwriter and 0 is the least prestigious underwriter. All IPOs issued prior to January 1, 1985 are assigned ranks per the Appendix in Carter and Manaster (1990). Those issued on or after January 1, 1985 are assigned updated ranks. The ranks for these IPOs are reestimated using contemporaneous data and then following the instructions outlined in Carter and Manaster (1990).

Regression	Intercept	MW	JM	CM	LNSIZE	LNAGE	SECOND	STD Return	F	Adj. R ²
(1)	9.81	-0.33 (-5.33)***							28.40***	0.01
(2)	10.34		-1.92 (-6.25)***						39.05***	0.02
(3)	16.89			-1.26 (-8.31)***					68.99***	0.03
(4)	12.39	-0.21 (-3.11)***			-1.21 (-3.25)***	-0.70 (-2.25)**	0.02 (1.45)	0.22 (0.95)	9.06***	0.02
(5)	12.18		-1.43 (-3.94)***		-0.91 (-2.34)**	-0.70 (-2.26)**	0.02 (1.42)	0.24 (1.00)	10.26***	0.02
(6)	16.35			-1.26 (-6.51)***	-0.07 (-0.16)	0.61 (-1.97)**	0.03 (1.80)*	0.39 (1.65)*	15.69***	0.03
(7)	16.19	-0.03 (-0.46)		-1.21 (-5.72)***	-0.04 (-0.09)	-0.60 (-1.92)*	0.03 (1.79)*	0.38 (1.62)	13.11***	0.03
(8)	15.95		-0.36 (-0.88)	-1.16 (-5.23)***	0.01 (0.02)	-0.60 (-1.92)*	0.03 (1.77)*	0.38 (1.60)	13.20***	0.03
(9)	15.94	-0.00 (-0.05)	-0.35 (-0.75)	-1.16 (-5.13)***	-0.01 (-0.03)	-0.60 (-1.91)*	0.03 (1.77)*	0.38 (1.59)	11.31***	0.03

Significance at the 10, 5, and 1 percent levels is indicated by 1, 2, and 3 asterisks, respectively.

tion between long-run performance of IPOs and the different measures of reputation of the underwriters who bring the issues to the market has not been examined in the earlier research.

In Table V, the 2,292 IPOs are separated into three groups based on their CM ranks: low, medium, and high. The low group consists of IPOs underwritten by investment bankers with a CM rank between 0 and 5. The high group consists of CM ranks 8 and above. The remainder forms the medium group. In Panel A we document the market-adjusted returns for the initial period and for the three-year holding period following the IPO for each of the three groups. The results are in line with our predictions for both initial and long-run returns. The full sample long-run results are also consistent with Loughran and Ritter (1995), who report an annual 7.4 percent underperformance in their IPO sample over a comparable three-year holding period. The bulk of the IPOs were made by high-reputation underwriters—those with Carter–Manaster ranks of eight or greater (1,304 of the 2,292 IPOs in our sample). The long-run market-adjusted returns become less negative monotonically with increasing underwriter reputation. In Panel B we report both parametric and nonparametric test statistics for differences in subsample average returns. We use the Kruskal–Wallis nonparametric difference in means test because it is robust to departures from normality and does not require equal sample sizes. For the initial returns, all the pairwise tests, parametric and nonparametric, for differences in means are significant at the 5 percent level or better. However, for the long-run returns, the parametric and nonparametric test results differ. The Kruskal–Wallis test statistics are significant at the 1 percent level for all the pairwise tests. The difference in means *t*-test statistic is significant at the 5 percent level for the high and medium reputation groups. The difference in means for the low and high reputation groups is significant only at the 10 percent level, but the difference between the low and medium groups is not significant.

Consistent with Loughran and Ritter (1995) our results also suggest that “investing in firms issuing stock is hazardous to your wealth.” However, investing in IPOs underwritten by high-reputation underwriters mitigates the hazard. Also, book-to-market adjustments might eliminate the underperformance entirely for the high prestige group (see Brav and Gompers (1996)). Although we find statistically reliable differences between long-run returns for the low and high CM reputation categories using nonparametric tests only, the difference (–33.77 percent versus –12.63 percent) is economically important. As CM ranks change from 4 to 9, the predicted long-run market-adjusted return changes by about 32 percent. Our results imply that \$132 would need to be invested in the IPOs offered by low reputation underwriters to achieve the same payoff as \$100 put in the IPOs underwritten by high reputation investment banks for a three-year holding period. A cursory review of the Appendix provides evidence consistent with our empirical analyses. For example, consider Merrill Lynch, ranked high by Carter–Manaster and Megginson–Weiss prestige measures, and Rooney Pace, which is ranked relatively lower. The market-adjusted initial returns of IPOs handled by Merrill Lynch have less underpricing (6.52 percent versus 18.12 percent on av-

Table V

IPO Returns and Underwriters' Reputation

Descriptive statistics for the market-adjusted initial IPO return, and the three year post-IPO market-adjusted return (offering day +6 to day +765) for 2,292 IPOs issued from January 1, 1979 to December 31, 1991, presented according to groups of the Carter and Manaster (1990) underwriter ranking variable. The market-adjusted initial return is the percentage increase from the offering price to the first available closing price. Returns are adjusted by subtracting the contemporaneous compounded CRSP NYSE/AMEX/Nasdaq value-weighted market returns. The market-adjusted long-run return on the IPO stock is computed from the offer date +6 through the earlier of offer date +765 or the stock's delisting date. The return is computed using a buy-and-hold strategy. The Carter–Manaster measure is a discrete underwriter reputation variable 0–9 where a 9 is the most prestigious underwriter and 0 is the least prestigious underwriter. All IPOs issued prior to January 1, 1985 are assigned ranks per the Appendix in Carter and Manaster (1990). Those issued on or after January 1, 1985 are assigned ranks. The ranks for these IPOs are reestimated using contemporaneous data and following the instructions outlined in Carter and Manaster (1990).

Panel A: Market-Adjusted Returns						
Carter–Manaster Reputation Measure	N	Market-Adjusted Initial Return (%)			Market-Adjusted Return Day +6 to Day +765 (%)	
		Mean	Standard Deviation	Median	Mean	Standard Deviation
0 ≥ x < 5 Low	444	14.24	25.91	4.73	−33.77	260.35
5 ≥ x < 8 Medium	544	7.89	14.77	3.01	−26.11	125.76
8 ≥ x High	1,304	6.06	13.96	1.72	−12.63	124.49
Total	2,292	8.08	17.38	2.38	−19.92	159.14
Panel B: Test Statistics for Differences in Subsamples						
Reputation Groups	t-test (t-statistic)	Kruskal–Wallis (χ ² statistic)		t-test (t-statistic)	Kruskal–Wallis (χ ² statistic)	
Low vs. Medium	4.590***	5.640**		0.568	27.929***	
Medium vs. High	2.520**	8.908***		2.121**	14.128***	
Low vs. High	6.343***	26.492***		1.650*	83.835***	

Significance at the 10, 5, and 1 percent levels is indicated by 1, 2, and 3 asterisks, respectively. The test statistics are computed assuming intertemporal independence of residuals.

erage for Rooney Pace). Also, the long-run market-adjusted returns are relatively higher for Merrill Lynch managed IPOs (-19.41 percent against -78.35 percent for Rooney Pace).

The marginal impact of the underwriter reputation measures on the long-run holding period return is examined using the same set of control variables employed in the analyses of the IPO initial return. An examination of the distribution of the long-run returns reveals that they are skewed to the right and are significantly nonnormal. As an adjustment, we transform (MAR3) to the natural logarithm of 1,000 percent plus each buy-and-hold return [natural logarithm (1,000 percent + (MAR3))]. The transformed observations (LNMAR3) are then used as the dependent variable in the model.⁸ The regression results are presented in Table VI. In the first three regressions, each of the prestige measures is introduced by itself along with the other control variables. As expected, the coefficients for MW, JM, and CM are positive. However, of the three measures examined, only the Carter–Manaster underwriter prestige measure is significant at the 1 percent level. JM is significant at the 5 percent level and the coefficient for MW, although positive, is statistically insignificant.

In regression four, all three prestige measures are introduced simultaneously along with the other control variables. Only the CM measure is statistically significant at the 1 percent level.⁹

The results indicate that IPOs underwritten by more prestigious investment banks have, on average, a less negative performance over the three-year period examined. Also, of the three reputation proxies examined, the CM measure is the most significant in explaining the variability in the three-year holding period returns following the IPO.¹⁰

⁸ Using the long-run return without transformation (MAR3) as the dependent variable produces results that are qualitatively similar to those using the transformed variable (LNMAR3). Using LNMAR3 alleviates the skewness but does not eliminate it. We do not control for book-to-market effects. In addition, although SIZE (gross proceeds) is inflation-adjusted, it is partly picking up a time-trend because there is an increase in the real level of the stock market during the sample period. Since the market-adjusted long-run returns are more negative in the first half of the sample period, part of this effect is captured by LNSIZE (the natural log of SIZE).

⁹ We check the robustness of the results in Table VI by including the 45 IPOs that were listed on CRSP more than three days (but less than three months) after the offer date. The results are qualitatively the same for the 2,337 observations as they are for the 2,292 IPOs in the final sample. We then also include in our analysis the 316 observations with missing data for one or more variables by substituting a zero for missing age of the firm and/or underwriter reputation measure. The result for this larger sample of 2,653 observations (2,292 + 45 + 316) is also qualitatively the same. In fact, the significance of the CM measure increases with both of the larger samples employed.

¹⁰ We conduct several other robustness checks. First, we delete observations with the highest and the lowest five percent of long-run returns and conducted the analysis with the remaining observations. The results are qualitatively the same. Next, we rank-order the observations by their long-run returns and used the ranks as the dependent variable, instead of the long-run returns themselves. Again, the results are qualitatively the same. Outliers do not appear to be driving the results. We also use White's (1980) *t*-statistic to correct for heteroskedasticity. The results are robust to the use of White's correction. The test statistics are computed assuming intertemporal independence of residuals and may, therefore, be overstated.

Table VI

Cross-Sectional Regressions Explaining Natural Log of 1,000 Plus the Market-Adjusted Three Year Post-IPO Return

The dependent variable is the natural logarithm of 1,000 plus the market-adjusted three-year post-IPO return (offering day +6 through day +765) for 2,292 firms making an IPO within the period January 1, 1979 through December 31, 1991. The market-adjusted long-run return on the IPO stock is computed from the offer date +6 through the earlier of offer date +765 or the stock's delisting date. The return is computed using a buy-and-hold strategy. Returns are adjusted by subtracting the contemporaneous CRSP NYSE/AMEX/Nasdaq value-weighted market returns. The market-adjusted return is regressed on three alternative measures of IPO underwriter reputation (Megginson and Weiss (1991), Johnson and Miller (1988), and Carter and Manaster (1990)). Independent variables include the natural logarithm of gross proceeds deflated to 1979 dollars (LNSIZE), the natural logarithm of one plus the age of the firm at the IPO (LNAGE), the percentage of the total issue offered by current shareholders (SECOND), and the standard deviation of a time series of 255 daily raw returns for each IPO as a percent (STD Return). MW is an underwriter reputation ranking variable using the relative market share for each managing underwriter. All IPOs issued prior to January 1, 1988 are assigned ranks according to the Megginson and Weiss (1991). These ranking data were provided by Kathleen Weiss Hanley. Those issued after are assigned ranks according to the updated market share data provided by *Investment Dealers' Digest*. JM is a discrete underwriter reputation ranking variable 0–3 where a 3 is the most prestigious underwriter and 0 is the least prestigious. CM is a discrete underwriter reputation variable 0–9 where a 9 is the most prestigious underwriter and 0 is the least prestigious underwriter. All IPOs issued prior to January 1, 1985 are assigned ranks per the Appendix in Carter and Manaster (1990). Those issued on or after January 1, 1985 are assigned updated ranks. The ranks for these IPOs are reestimated using contemporaneous data and following the instructions outlined in Carter and Manaster (1990).

Regression	Intercept	MW	JM	CM	LNSIZE	LNAGE	SECOND	STD Return	F	Adj. R ²
(1)	6.8938	0.0006 (1.35)			0.0027 (1.06)	0.0024 (1.11)	0.0003 (3.18)***	−0.0104 (−6.32)***	14.90***	0.03
(2)	6.8950		0.0059 (2.34)**		0.0010 (0.36)	0.0023 (1.05)	0.0003 (3.19)***	−0.0104 (−6.34)***	15.65***	0.03
(3)	6.8757			0.0060 (4.41)***	−0.0035 (−1.21)	0.0018 (0.82)	0.0003 (2.94)***	−0.0111 (−6.77)***	18.53***	0.04
(4)	6.8756	−0.0004 (−0.71)	0.0017 (0.51)	0.0059 (3.80)***	−0.0035 (0.85)	0.0018 (0.85)	0.0003 (2.95)***	−0.0111 (−6.77)***	13.30***	0.04

Significance at the 10, 5, and 1 percent levels is indicated by 1, 2, and 3 asterisks, respectively. The test statistics are computed assuming intertemporal independence of residuals.

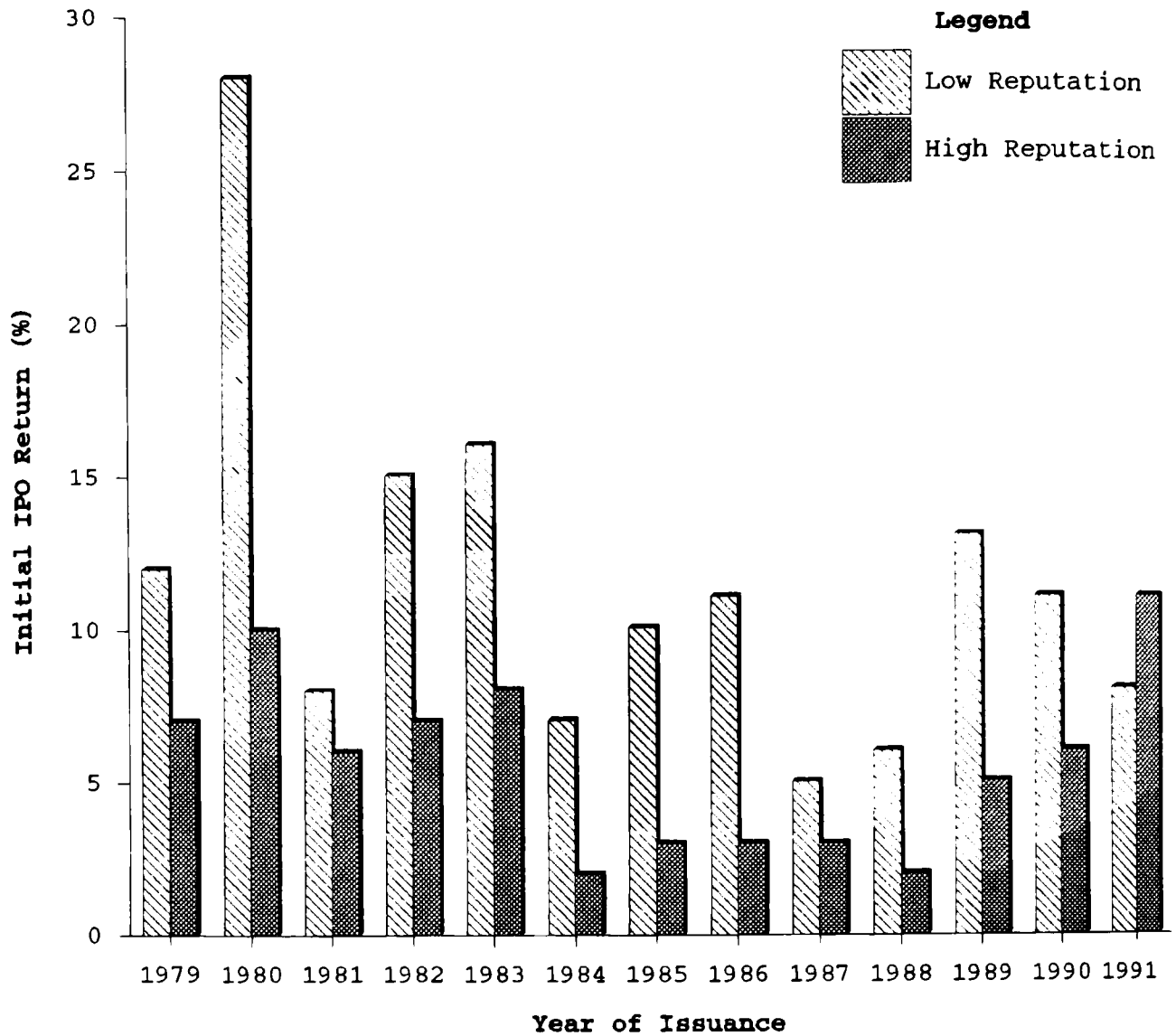


Figure 1. Initial IPO Return. The average market-adjusted initial return for 2,292 firms making an IPO from January 1, 1979 through December 31, 1991. The market-adjusted initial return is the percentage increase from the offering price to the first available closing price. Returns are adjusted by subtracting the contemporaneous compounded CRSP NYSE/AMEX/Nasdaq value-weighted market returns. The returns have been classified by underwriter reputation for each year. The median Carter-Manaster reputation rank of eight has been used to segment the IPOs underwritten into high and low reputation investment banks.

Figures 1 and 2 are consistent with our regression results. The median CM rank has been used to segment underwriters into two classes. The 'low reputation' group in Figures 1 and 2 consists of underwriters with CM ranks below 8, the 'high reputation' group has CM ranks of 8 or greater. With the exception of 1991, in each of the years 1979 to 1991 the average initial returns are more positive for the IPOs managed by the lower reputation underwriters. On the other hand, over the same period, the long-run return is smaller for the high reputation underwriters only in 1979, 1982, and 1988.

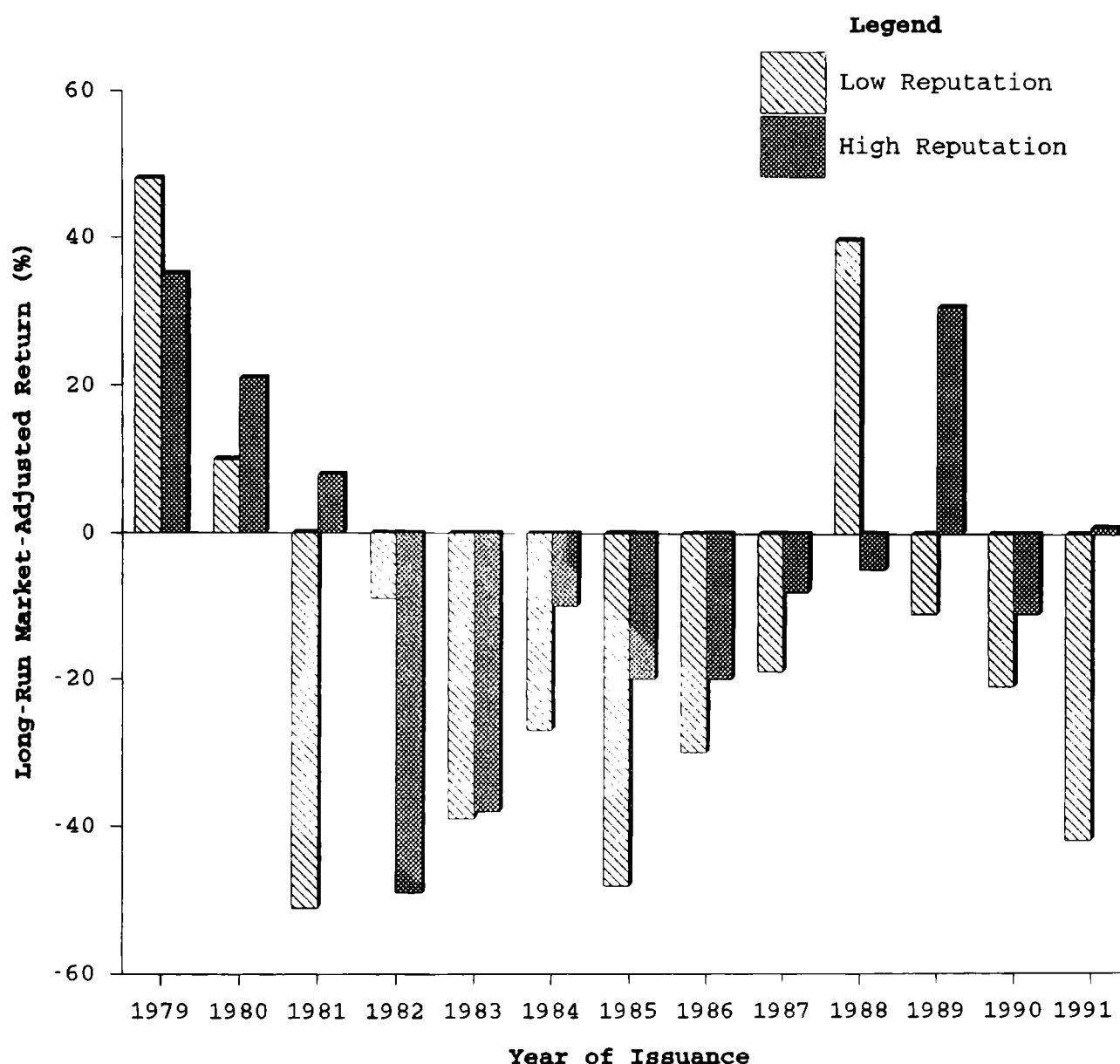


Figure 2. Long-Run Market-Adjusted Return. The average market-adjusted three-year post-IPO returns for 2,292 firms making an IPO from January 1, 1979 through December 31, 1991. The IPO stocks' market-adjusted long-run returns have been calculated using a buy-and-hold strategy where the holding period extends from offering day +6 through offer date +765 (760 trading days). The returns have been classified by underwriter reputation for each year of issuance. The median Carter–Manaster reputation rank of eight has been used to segment the IPOs underwritten into high and low reputation investment banks.

IV. Conclusion

We examine three alternative measures of underwriter prestige and their association with initial and long-run returns. The three prestige measures were developed by Johnson and Miller (1988), Carter and Manaster (1990), and Megginson and Weiss (1991). We find each reputation measure examined by itself to be significantly related to the initial return. However, of the three, only the Carter–Manaster measure remains significant when evaluated simultaneously with the Johnson–Miller and the Megginson–Weiss mea-

tures. Consistent with Michaely and Shaw (1994) we find that, on average, the long-run market-adjusted returns are less negative for the IPOs brought to market by more prestigious underwriters. In our analyses of the long-run holding period returns, we find that of the three reputation proxies examined, only the Carter–Manaster measure is statistically significant when the proxies are examined simultaneously.

Of the three underwriter reputation measures evaluated, the Carter–Manaster measure is the most costly to compile, in terms of time and effort. Although tedious to construct, we believe that the CM proxy serves best to control for underwriter prestige in IPO studies. To aid future researchers needing to control for underwriter reputation, the Appendix provides a list of investment bankers in the sample with updated Carter–Manaster ranks and corresponding Megginson–Weiss ranks.

Appendix

An alphabetical list of investment bankers is presented below.

Appendix

An alphabetical list of investment bankers with updated Carter–Manaster ranks and corresponding Megginson–Weiss ranks. The Carter and Manaster ranking is estimated via the relative placement in IPO tombstones from 1985 through 1991. The maximum ranking is nine and the minimum is zero. For investment banks with ranking changes across years, an average is used. The Megginson and Weiss measure is the market share for each underwriter. The total dollar amounts of underwriting for the industry and for each investment bank were acquired from the *Investment Dealers' Digest* Information Services for the years 1986–1990. The Megginson–Weiss measure is computed by dividing the dollar amount of underwriting credited to each investment bank by the total underwriting amount for the industry. For those IPOs issued from January 1, 1988 onward, this market share measure was used and was provided by *Investment Dealers' Digest*. All IPOs issued prior to January 1, 1988 are assigned ranks per Megginson and Weiss (1991). These ranking data were provided by Kathleen Weiss Hanley.

The number of nonunit IPOs, the average market-adjusted initial and long-run returns, and the mean offering size reflect full underwriting credit to the lead manager. The initial return for each IPO is computed as the percentage increase from the offering price to the first CRSP-reported closing price. The long-run return is calculated using a buy-and-hold strategy from the first CRSP-reported trade through the earlier of day 765 or the stock's delisting date [Note: The long-run return excludes the initial return]. Both the initial and long-run returns are adjusted by subtracting the contemporaneous compounded CRSP NYSE/AMEX/Nasdaq value-weighted market returns.

There are 2,292 IPOs with initial returns, long-run returns, and data for reputation, size, age, standard deviations, and insider selling. There are 2,337 IPOs with all of these data except initial returns. For the 29 underwriters affected, information for IPOs with initial returns is listed on the top line and information for all IPOs with long-run returns is listed in parentheses on the second line.

Investment Bank	Number of IPOs	Mean	Mean	Mean	Offering Size (Mill 1979 \$)	Carter–Manaster	Megginson–Weiss (%)
		Market-Adjusted Initial Return (%)	Market-Adjusted Long-Run Return Excluding the Initial Return (%)	Market-Adjusted Long-Run Return Excluding the Initial Return (%)			
Adams, James, Foor & Company	3 (6)	1.93	-122.12 (-133.60)	3.58 (2.75)		2.50*	0.03*
Advest	16	8.45	-34.01	4.86		7.13	0.2364
Akroyd & Smithers	2	2.78	-126.13	3.69		0.50*	0.01*
Allen & Company	14	14.36	-34.50	68.06		7.00	1.1966
Bacon, Stifel Nicolaus	3	-5.52	-73.15	3.34		5.75	0.0042
Baer & Company	1	11.04	-50.93	3.13		5.00	0.00*
Baird, Patrick	1	2.21	-96.88	5.03		3.50	0.0088
Baird, R. W. & Company	6	10.21	17.16	10.02		5.75	0.0193
Baker, Watts, & Company	4	9.31	-48.04	3.17		6.00	0.04*

Appendix—Continued

Investment Bank	Number of IPOs	Mean			Mean Offering Size (Mill 1979 \$)	Carter—Manaster	Megginson—Weiss (%)
		Market-Adjusted Initial Return (%)	Market-Adjusted Long-Run Return Excluding the Initial Return (%)	Market-Adjusted Long-Run Return Excluding the Initial Return (%)			
Bateman Eichler, Hill Richards	12	5.55	-70.37	-70.37	10.19	5.83	1.86*
Baum, George K.	2	21.91	-18.44	-18.44	13.27	5.17	0.0430
Bear, Stearns & Company	50 (53)	5.07	-9.68	-9.68	24.70	8.75	0.8660
Birr, Wilson Securities	2	16.31	(-14.39)	(-14.39)	(23.93)		
Blackstock & Company	2	2.24	-185.55	-185.55	2.96	6.50	0.0042
Blair, D. H. & Company	58	15.68	22.26	22.26	2.02	5.50	0.0116
Blair, William & Company	31	11.55	42.02	42.02	3.33	8.00	0.4877
Blinder, Robinson, & Company	0 (2)	—	-2.65	-2.65	14.62	7.88	0.2069
			—	—	—	1.00*	0.06*
			(-120.63)	(-120.63)	(2.19)		
Buckingham Research	2 (3)	4.67	-113.66	-113.66	2.98	2.00*	0.01*
			(-108.18)	(-108.18)	(3.45)		
Blunt, Ellis, & Loewi	13	7.29	4.53	4.53	9.71	7.17	2.20*
Boettcher & Company	14	7.32	-49.63	-49.63	6.41	6.00	1.04*
Bradford, J. C. & Company	14	5.34	77.06	77.06	8.10	7.38	0.0628
Brean Murray, Foster	5	-10.61	8.52	8.52	70.80	5.00	0.0171
Brown, Alex & Sons	107	9.98	11.67	11.67	38.07	8.88	8.8023
Burgess & Leith	3	9.60	-108.22	-108.22	3.58	1.00*	0.04*
Butcher & Singer	9	0.08	-6.95	-6.95	6.26	6.75	0.45*
Cable, Howse, & Ragen	1	7.52	646.58	646.58	3.46	6.75	0.28*
Carolina Securities Corp.	2	1.45	-115.30	-115.30	3.12	4.25	0.80*
Chesler & Dunn	0 (2)	—	—	—	—	1.00*	0.01*
			(-88.60)	(-88.60)	(2.92)		
Christopher, B. C. Securities	1	1.17	-113.88	-113.88	3.25	5.50	0.0148
Cohn, S. D. & Company	1	12.64	-39.97	-39.97	2.27	0.00*	0.0032
Commonwealth Association	3	4.10	-91.47	-91.47	2.53	4.50	0.0254
Covey & Company	0 (1)	—	—	—	—	1.00*	0.01*
			(-38.00)	(-38.00)	(3.64)		

Cowen & Company	2	9.05	-86.90	23.70	5.50	0.0221
Craig-Hallum	4	30.62	-56.66	2.65	4.50	0.0112
Cralin & Company	1	3.33	-146.09	2.27	1.00*	0.00*
Crowell, Weeden, & Company	1	8.65	-25.87	2.63	5.25	0.01*
Dain Bosworth	18	9.97	-39.84	6.39	7.63	0.0486
Daiwa Securities America	1	-2.50	4.58	34.48	8.13	0.0381
Dean Witter Reynolds	51	7.15	-7.23	33.18	8.50	3.3628
Dickenson, R. G. & Company	7	6.27	-16.30	5.68	5.50	0.0401
Dillon Read	12	-2.84	46.74	45.65	8.63	0.9692
Donald, N. & Company Sec.	2	69.46	-135.45	2.50	3.00*	0.02*
	(4)		(-108.34)	(2.31)		
Donaldson, Lufkin, & Jenrette	48	4.21	-26.84	22.14	8.75	1.1525
Drexel Burham Lambert	109	3.39	-17.91	24.36	8.83	3.9736
	(114)		(-17.95)	(24.04)		
Duane, James J. & Company	8	13.67	-59.24	4.11	2.00*	0.0043
Eberstadt Flemming	2	-0.59	-120.72	16.36	5.00*	0.0085
Edwards, A. G. & Sons	12	7.74	9.64	23.37	8.00	0.0235
Engler & Budd	1	112.98	-136.93	3.03	6.00	0.0169
	(2)		(-165.50)	(3.05)		
Eppler, Guerin, & Turner	12	5.24	-55.49	6.84	6.25	0.0915
Ernst & Company	1	-3.83	-95.78	3.03	2.50	0.0083
Evans & Company	4	-11.68	-57.29	3.93	6.50	0.0543
Ferris & Company	4	-1.98	-36.36	2.07	5.13	0.02*
First Affiliated Securities	4	0.76	-118.96	2.25	5.00	0.0398
First Albany Corp.	5	7.79	-42.44	7.19	6.00	0.0182
First Boston Corp.	53	4.95	-10.78	59.92	9.00	4.1927
First Equity Corp.	2	15.22	-60.56	5.58	4.00	0.0168
First Financial Securities	0	—	—	—	0.00*	0.00*
	(1)		(-157.17)	(1.46)		
First of Michigan	3	-1.64	-63.34	5.26	5.63	0.03*
First Wilshire Sec. Mgmt.	1	0.01	-105.57	2.92	1.50*	0.01*
Fitzgerald, DeArmon, & Roberts	1	-0.17	-188.05	2.19	1.50*	0.0286
Foster & Marshall	4	8.57	-7.08	5.44	4.50	0.03*
Furman Selz Mager Dietz	12	17.85	-57.57	8.09	6.38	0.0848
Gant, J. W.	0	—	—	—	1.00*	0.02*
	(1)		(44.48)	(1.46)		

Appendix—Continued

Investment Bank	Number of IPOs	Mean		Offering Size (Mill 1979 \$)	Carter-Manaster	Megginson-Weiss (%)
		Market-Adjusted Initial Return (%)	Market-Adjusted Long-Run Return Excluding the Initial Return (%)			
Gilford Securities	6 (7)	24.54	-61.01 (-65.66)	3.81 (3.52)	2.00	0.0206
Gintel & Company	1	34.83	106.12	5.00	3.00*	0.02*
Goldman, Sachs, & Company	85	6.46	8.83	71.75	9.00	9.9022
Greentree Securities	2	25.46	-158.41	1.50	1.00*	0.0064
Gruntal & Company	1	5.73	-40.59	6.39	5.88	0.0053
Gulfstream Financial Assoc.	1	5.50	-62.57	1.68	4.00	0.0026
Hambrecht & Quist	44	16.77	-32.04	12.07	9.00	0.2885
Hanifen, Imhoff, & Sanford	12	28.52	-70.41	3.33	5.00	0.0106
Herzfeld & Stern	3	3.39	-37.25	3.63	1.00*	0.02*
Hopper, Soliday, & Company	1	13.56	-9.85	1.76	4.50	0.02*
Howard, Weil, & Labouisse, Fiedrichs	3	0.47	-78.99	6.77	5.75	0.0106
Hutton, E. F. & Company	58 (60)	3.28	-16.07 (-18.45)	29.43 (29.68)	8.00	11.01*
Institutional Equity	7	10.14	94.27	5.44	2.50*	0.07*
Interstate/Johnson Lane	6	2.38	50.78	5.41	6.00	0.1021
Invemed Associates	2	32.01	34.16	6.48	6.50	0.0362
Investment Corp. of Virginia	1	2.40	-68.00	3.78	6.00	0.0143
Janney Montgomery Scott	4	1.95	138.90	5.39	6.00	0.0423
Jefferies & Company	1	-2.14	139.72	4.38	5.33	0.01*
Jerold Securities & Company	1	4.56	-220.99	1.82	1.00*	0.01*
Jesup and Lamont	0 (1)	—	— (-26.68)	— (2.63)	0.00*	0.01*
Johnson Lane Space Smith & Co.	4	5.17	-94.17	3.37	5.25	0.24*
Johnston, Lemon, & Company	2	0.93	-103.62	7.44	4.88	0.0081
Josephthal & Company	6	5.20	161.03	4.36	5.38	0.04*
Keane Securities	1	-2.78	-117.20	3.18	3.00	0.0232

Keefe Bruyette, & Woods	7	5.16	-67.99	12.36	8.33	0.1023
Kidder, Peabody, & Company	88	4.88	-13.55	24.68	8.83	1.8474
Kinnard, J. G. & Company	2	54.58	-135.68	4.05	5.17	0.0181
Kleinwort Bensen	1	-2.81	-1.58	38.19	6.75	0.34*
Ladenburg, Thalmann, & Company	29	9.56	-47.35	5.54	6.00	0.2003
Laidlaw Adams & Peck	19	10.52	-14.24	4.22	6.50	0.0459
Larkin, Emmett A. & Company	3	0.48	-130.58	3.31	4.00	0.01*
Lazard Freres & Company	15	3.34	-15.49	43.33	8.75	1.8773
Legg, Mason Woodwalker	5	1.35	-60.15	4.20	7.13	0.0996
Lehman Brothers, Kuhn Loeb, Inc.	17	3.48	14.20	26.53	7.50	1.01*
Lovett Mitchell Webb Garrison	1	-0.64	-9.31	3.84	5.50	0.06*
Manley, Bennett, & McDonald	2	-3.22	-51.63	2.89	2.00*	0.04*
Marantette	1	7.37	-98.23	3.13	3.00	0.01*
McDonald & Company	8	20.41	-57.74	7.78	7.00	0.1261
McKinley Square Allsop Sec.	1	1.23	-67.75	4.67	4.50	0.0618
Merrill Lynch White Weld Cap.	144 (145)	6.52	-19.51 (-17.52)	61.90 (61.71)	8.88	11.6412
Meyers, H. J.	5	23.61	-94.20	4.43	3.33	0.0550
Montgomery Securities	36	12.66	-43.83	13.98	8.75	0.2344
Moore, Schley, Cameron & Co.	3	4.93	80.48	10.45	6.50	0.01*
Morgan Keegan & Company	7	6.48	-11.22	30.32	6.63	0.3235
Morgan Olmstead Kennedy	3	15.15	-17.51	7.23	3.75	0.22*
Morgan Stanley & Company	73	7.88	2.81	37.59	8.88	2.0450
Mosley Hallgarten	25	6.55	-42.50	5.54	5.75	0.1242
Muller & Company	11 (13)	8.34	-78.26 (-44.69)	3.79 (3.62)	5.00	0.0312
Needham & Company	1	22.35	-97.24	10.06	6.00	0.0185
Newhard, Cook, & Company	1	-14.99	-152.28	2.58	6.25	0.0022
Nomura Securities	3	-0.85	-7.25	158.54	8.25	0.2318
North American Securities	2	50.25	-43.77	3.42	4.00	0.0183
Noyes, D. A. & Company	1	0.13	-118.29	5.85	5.00	0.01*
O'Berweis Securities	1	2.45	-135.70	1.58	3.75	0.0095
Oppenheimer & Company	8	3.57	-55.77	16.06	7.88	0.6904
Paine, Webber, Jackson Curtis	63	6.47	-21.23	38.24	8.75	7.2634
Parker/Hunter	1	15.51	-19.85	3.89	4.88	0.0128

Appendix—Continued

Investment Bank	Number of IPOs	Mean Market-Adjusted Initial Return (%)	Mean Market-Adjusted Long-Run Return Excluding the Initial Return (%)	Mean Offering Size (Mill 1979 \$)	Carter—Manaster	Meggison—Weiss (%)
Paulson Investment Company	11 (12)	5.81	-49.62 (-54.19)	5.64 (5.29)	5.00	0.0455
Piper, Jaffray, & Hopwood	20	5.62	-18.07	18.14	7.75	0.9398
Pittcock, E. J. & Company	2	136.83	-122.66	4.45	1.00*	0.00*
Prescott, Ball, & Turben	14 (15)	8.63	-36.08 (-43.65)	5.33 (5.15)	7.50	0.55*
Prudential-Bache	81 (84)	7.07	-38.83 (-40.34)	48.08 (46.60)	8.75	8.2713
Quinn & Company	2	-2.52	-69.97	2.10	0.00*	0.01*
Raucher Pierce	16	5.01	-69.14	9.67	6.25	0.0556
Raymond, James & Assoc.	5 (6)	11.65	-74.05 (-87.66)	5.68 (5.06)	5.63	0.0259
Reich & Company	2	13.44	-76.15	3.27	4.00	0.0093
Robertson, Stephens, & Company	44	15.60	-11.06	15.10	8.75	0.4560
Robinson-Humphrey Company	26	6.95	5.75	9.25	7.38	0.67*
Roney & Company	2	9.52	22.34	4.02	4.75	0.0349
Rooney Pace	28	18.12	-78.35	5.66	6.38	0.0504
Rosenkrantz, Lyon, & Ross	6	11.37	-0.39	4.96	5.00	0.0661
Rotan Mosle	9 (11)	18.49	-58.97 (-59.69)	5.19 (6.54)	5.67	0.51*
Rothschild, L. F. Unterberg Towbin	67 (68)	9.81	-29.87 (-28.33)	19.69 (19.56)	8.25	0.3924
Ryan, Beck, & Company	1	-0.31	-98.34	21.18	7.00	0.1357
Salomon Brothers	47	2.02	3.69	48.84	9.00	3.3747
San Diego Securities	1	2.79	-18.84	3.03	5.50	0.0064
Schneider, Bernet, & Hickman	6	17.90	-97.75	7.40	6.00	0.07*
Scott & Stringfellow	2	9.26	33.97	3.80	5.50	0.0114

Seidler, Amdec Securities	1	0.04	-114.87	4.02	5.13	0.0197
Shearson, Hayden, & Stone	21	12.18	10.64	13.29	8.33	2.87*
	(22)		(9.25)	(17.92)		
Shearson Lehmann	59	2.60	-4.72	73.31	8.83	10.0567
Sherwood Securities	3	-0.03	-105.17	9.18	1.00*	0.0201
Shoenberg & Heiber	1	4.54	-46.79	2.28	1.00*	0.0011
	(2)		(-88.37)	(3.42)		
Simon, IM & Company	1	-0.03	-143.43	2.10	6.00	0.0032
Smith Barney, Harris Upham	56	5.78	-26.26	21.13	8.75	2.6111
Starr Securities, Inc.	6	39.91	-85.87	2.24	6.00	0.0136
	(7)		(-97.54)	(2.14)		
Steichen, R. J. & Company	1	5.97	-98.47	4.11	1.00*	0.01*
Steiner Diamond & Company	1	10.19	-84.52	4.77	5.00	0.02*
Stephens	3	5.19	2.24	5.25	6.75	0.0167
Stern Brothers	2	8.82	-61.96	3.27	6.50	0.01*
Stifel Nicholas & Company	10	2.95	-74.35	10.32	5.75	0.00*
Stuart James	2	8.80	74.71	2.53	6.00	0.1140
Summit Investment	2	23.31	242.91	3.04	1.50*	0.0074
Sutro & Company	7	16.98	14.65	6.85	6.00	0.0597
	(8)		(28.95)	(6.51)		
Swartwood, Hesse	2	8.91	-121.87	2.17	1.00*	0.0011
Swergold Chefitz	2	4.46	-60.26	6.77	5.75	0.0064
The Chicago Corp.	10	6.13	308.54	3.80	5.50	0.0410
The Milwaukee Company	1	-0.30	43.25	3.19	3.50	0.0190
The Ohio Company	6	27.75	-90.35	5.55	5.50	0.0117
Thomson McKinnon Securities	6	3.56	-28.55	9.29	7.75	0.1331
	(7)		(-22.59)	(8.63)		
Tucker, Anthony & Day	16	9.35	-48.61	11.73	7.00	0.2529
Underwood, Neuhaus, & Company	2	-4.58	-59.04	6.03	7.00	0.0499
Van Kasper & Company	2	0.71	-13.71	2.41	3.50	0.02*
Volpe & Covington	3	15.83	-28.60	9.04	5.00	0.02*
Wall Street West	0	—	—	—	0.00*	0.00*
	(1)		(-180.53)	(1.82)		
Warburg, Paribus, & Beclar	7	1.75	-75.01	11.58	6.67	0.60*
Weber, Hall, Sale, & Assoc.	8	3.64	-54.43	3.60	3.00	0.0032

Appendix—Continued

Investment Bank	Number of IPOs	Mean			Offering Size (Mill 1979 \$)	Carter-Manaster	Megginson-Weiss (%)
		Market-Adjusted Initial Return (%)	Market-Adjusted Long-Run Return Excluding the Initial Return (%)	Mean			
Wedbush, Noble, Cooke	14	-0.63	-19.22	7.46	4.00	0.0948	
Wegard, J. C. & Company	1 (2)	-3.52	-120.46 (-31.21)	3.01 (2.42)	2.00	0.0198	
Werbel-Roth Securities	4	31.20	-115.76	2.72	4.00	0.0212	
Wertheim & Company	3	13.74	-38.74	107.93	8.83	0.5259	
Weinrich, Zitzmann, & Whitehead	1	-0.47	-76.24	2.45	1.50*	0.01*	
Wessels, Arnold, & Henderson	1	24.90	-72.25	8.85	5.33	0.0193	
Whale Securities Corp.	4	15.93	-11.90	2.56	3.33	0.1015	
Wheat, First Securities	7	2.46	9.87	38.85	7.75	6.3998	
Williams Securities Corp.	4	27.71	-59.71	4.41	5.17	0.0308	
Wolf, F. N. & Company	4	18.58	90.99	3.54	2.00	0.0742	
Woodruff, William K. & Company	7	17.27	-91.04	6.54	4.38	0.0295	
Woolcott	1	18.53	-99.85	5.87	3.75	0.0093	
Yamaichi	1	13.96	484.68	19.44	7.75	0.14*	
Yorke McCarter	1	-3.05	129.30	2.93	3.00	0.0095	
Total	2,292 (2,337)						

*Those investment banks where Carter and Manaster or Megginson and Weiss ranks are identified with an asterisk, either did not market IPOs in the later period of this study or their market share data were not reported by *Investment Dealers' Digest* for the 1986-1990 period. Hence, we did not estimate updated ranks. The values indicated by an asterisk for the Carter and Manaster ranks are from their original study. The values indicated by an asterisk for Megginson and Weiss ranks were kindly provided by Kathleen Weiss Hanley and were estimated from pre-1986 data.

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