

The IPO Portfolio: An Alternative Approach to Higher Returns?

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Abstract

Investors in today's financial markets continue to look for ways to enhance portfolio returns. Unfortunately, investments that offer the potential for higher gains may also include increased volatility, which can diminish some investor's desirability to hold these types of securities. Many portfolio managers, seeking to increase the return on their portfolios, will selectively choose riskier securities and practice risk reduction through diversification.

Initial public offerings (IPOs) may offer the investor an investment alternative to use in an effort to enhance portfolios returns. IPO research, however, shows IPO returns can be quite volatile. Combining IPOs into a single, separate portfolio may reduce overall risk, while minimizing the potential of jeopardizing the investor's total holdings.

Several research questions arise. Could a portfolio of IPO equity securities produce a rate of return comparable to a widely held index, such as the S&P 500? Specifically, can a diversified portfolio of IPO stocks out-perform the S&P 500 over short-term and longer-term time periods? If so, how risky would such an IPO portfolio be, compared to the widely-followed S&P 500 index? Finally, would combining an IPO portfolio with the S&P 500 portfolio result in overall risk reduction? This research seeks answers to these questions.

I. Literature Review

In recent years, initial public offerings (IPOs) have again been hot topics among investors looking to catch the next wave of rising stock prices in hope of enhancing portfolio returns. With the overwhelming success of Google's initial public offering fresh in their minds, IPOs have caught the attention of investors seeking to increase wealth.

Theoretically, higher-risk investments should provide higher rates of return for investors. There is consensus that IPOs under-perform seasoned issues in the intermediate and long term. Ibbotson (1975) and Ritter (1991) found IPO stock issues provide positive performance within the first year, but tend to under-perform similar stocks the following three years.

Difficulty in determining a correct portfolio balance using strictly IPOs to make up a portfolio is apparent. IPOs, generally, are more risky investments due to the companies' relatively unknown nature. Investors have little or no historical information prior to issuance of an IPO to reassure them about the overall health of the organization. Lack of public information and historical data are just a few of the factors that add to this uncertainty. As this information is introduced to the market, the stock price fluctuates. One way to minimize these fluctuations is to add more stocks to the portfolio.

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In theory, as one stock falls, another stock may rise, minimizing overall investment loss. Does this theory also hold true in the case of an IPO portfolio? Little research has been conducted on this topic.

Efficient Portfolios and Semi-Strong Form Market Efficiency

Efficient portfolios are defined by Brigham and Ehrhardt (2005) as, “those portfolios that provide the highest expected return for any degree of risk, or the lowest degree of risk for any expected return.” Simply, it is possible the current market price of the IPO reflects all relevant information. This could explain the fluctuation in market price of the IPO for a period of time after its issue. The market is essentially “reacting” to the new information about the organization made public by the IPO.

The semi-strong form efficiency of the Efficient Market Hypothesis (EMH) states all market data as well as publicly known and available data such as earnings, dividends, stock split announcements, new product developments, financing difficulties, and accounting changes are reflected in current stock prices. Semi-strong form tests of the EMH indicate the speed of adjustment of stock prices to announcements of new information (Jones 2002). For the semi-strong form of the EMH to hold true, investors will not be able to profit for long on new data introduced into the market because the new data is instantaneously reflected in the price. Consequently, investors should not expect to do better than the returns predicted using Security Market Line analysis unless they have access to information not available to the public.

In theory, new IPOs could be tested under the semi-strong form efficiency of the EMH. IPO organizations are typically private entities, minimizing the available information to the investor thus increasing the risk of the stock. When a new IPO is sold on the primary market, the previously unknown information is rapidly reflected in the market price of the stock. This sudden inflow of information contributes to the risk of the IPO. It is the semi-strong efficiency reaction to this new information that makes it hard for an investor to obtain a profit over time, unless he or she had access to non-public information.

Empirical research on the validity of the semi-strong form efficiency often involves an event study. An event study is an empirical analysis of stock price behavior surrounding a particular event (Jones 2002). Event studies look to find an abnormal return based upon an index factor, or a combination of a market factor and a unique company factor following a certain event. Commonly cited studies of semi-strong efficiency events include stock splits, accounting changes, and initial public offerings. Evidence indicates investors who are able to purchase these new IPOs at the offering price yield abnormal returns, but subsequent investors are unable to earn abnormal returns as the market prices have adjusted to their “true” values (Ibbotson, Sindelar and Ritter 1988).

IPO Pricing and Returns

Early studies of IPOs (Block and Stanley 1980; Brown 1970; McDonald and Fisher 1972; Logue 1973) suggest an IPOs’ initial high returns were due to the underpricing of the IPO by underwriters subsequently resulting in an adjustment in share price within a few weeks. These findings mirror the semi-strong form of the efficient markets hypothesis.

Beatty and Ritter (1986) provide evidence the underwriting price differential is a result of the uncertainty of investors regarding its value and the reputation of the investment banker. “There is a monotone relation between the (expected) underpricing of an initial public offering and the uncertainty of investors regarding its value. We argue that the resulting underpricing equilibrium is enforced by investment bankers, who have reputation capital at stake.” An investment banker who “cheats” on this underpricing equilibrium will lose either potential investors (if it doesn't underprice enough) or issuers (if it underprices too much), and thus forfeit the value of its reputation capital. Tinic (1988) also provides strong evidence supporting the underpricing phenomenon calling it “implicit insurance” against legal liabilities bankers.

Underpricing an IPO can prove costly for the issuing firm. Rock (1986) argues that the underpricing of the IPO is compensation for the added risk of minimal information. As a result, informed investors are less likely to buy the IPO than uninformed investors. There is little doubt that investing in an organization that has minimal available market information is looked upon as a more risky venture than investing into an established firm. Human nature causes us to feel uncertain about future events, which plays a vital part in our emotional decision to invest.

Managerial Ownership

A 1992 study by Lee, Rosenstein, Rangan, and Davidson, noted decreased agency costs were a result of increased managerial ownership of the firm. Jain and Kini (1994) argue that post IPO operating performance is directly related to better monitoring by boards with higher ownership stakes. Howton, Howton, and Olson (2001) find insiders and the percentage of independent outside shareholders directly relate to initial IPO returns and long-run IPO returns are directly related to ownership by insiders.

All these studies reflect how a “vested interest” plays a vital role in IPO performance. A board that monitors its managers to ensure shareholder wealth maximization can potentially achieve greater, more sustained, positive returns. Other factors may account for IPO returns. The role of the day of the week and its effect on the IPO return can also be informative.

Day-of-the Week Effect

Several studies suggest a correlation to lower returns and the day of the week. French (1980) and Flannery and Protopapadakis (1988) suggest lower returns occur at the beginning of the week and are most prevalent on Monday and Tuesday. A study by Perfect and Peterson (1997) suggests IPOs have stronger day-of-the-week patterns than other securities with the magnitude of the effect declining from the first to the third year of trading. Expanding on this phenomenon, Higgins, Howton, and Perfect (2000) suggest investors make their buying decisions based upon the previous day market returns, rather than previous day returns of the actual security. The results of the Higgins, Howton, and Perfect (2000) study indicate IPOs have a similar autocorrelation pattern to other firms around the weekend, suggesting IPOs respond to market information with a lag around the weekend.

II. Methodology

We constructed two individual portfolios from calendar years 2001 and 2006, composed of 50 randomly selected domestic IPOs. There were approximately 90 and 150 domestic IPOs

issued in each year, respectively. The two time periods were selected so that relatively short-term and longer-term performance and risk measures could be calculated. Several of these companies merged or went out of business, which resulted in a net portfolio of 45 IPOs each year. First day performance of each IPO and value of the S&P 500 at that time as indicated by Yahoo! were recorded.

Mean and standard deviation analyses of each portfolio were calculated for the offer price, first day open price and first day close price, S&P 500 first day open price and first day close price, IPO and S&P 500 opening day percent changes, and overall IPO and S&P 500 percent changes and changes in portfolio value since inception to determine overall diversification benefits of the portfolio. Additional data on the second day through fourth day price movements was also gathered.

III. Results

Table I shows the exchanges on which the 45 data set IPOs selected traded in 2001 and 2006. In both years, the majority of the new firms were listed on the NASDAQ. Many new issues were also listed on the New York Stock Exchange.

Table II displays the first day trading results of each IPO portfolio. Dollar and percentage average change in values were relatively small, with the 2006 IPO portfolio actually declining in value that first day. In each year, the number of declining issues exceeded the number of advancing issues.

Table III compares the first day average percentage change in value of each IPO portfolio with the same day's change in the S&P 500 and their resulting standard deviations. Mean IPO and S&P values were calculated using beginning and ending prices, without dividends or stock splits. While the 2001 IPO portfolio value results were positive, the S&P 500 value results were negative. The 2006 IPO and S&P 500 results were just the opposite. In both years, however, the risk of the IPO portfolio, as measured by the standard deviation, was significantly higher than the S&P 500 risk.

Table IV displays the Day 1 through Day 4 IPO portfolio average value and standard deviation for both years studied. Changes in the average value of each portfolio were relatively small. The 2001 portfolio initially shows a gain over two days, but then declines in value. The 2006 portfolio initially falls, recovers and reflects a gain in day 4. Although the average portfolio values for 2001 and 2006 were similar, the standard deviations for the first four trading days in 2001 were higher than for the first four trading days for 2006.

Table V reflects the change in IPO portfolios and S&P portfolio average values since inception in 2001 and 2006. As expected, the change in values in the 2001 portfolio over the five-year holding period to year-end 2006 is greater than for the 2006 portfolios held for a much shorter timer period. The average gain for the 2001 IPO portfolio was significantly higher statistically than for the S&P portfolio over the five-year time period. Results for the 2006 IPO portfolio, however, were not statistically different than results for the S&P 500. In both years (2001 and 2006), the percentage change in average value for the IPO portfolio is significantly

greater than the percentage change in average value for the S&P 500. Risk, as measured by the standard deviation, for the IPO portfolios is also higher than for the S&P 500 portfolios.

Table VI reflects the association between each IPO portfolio and the S&P 500 index. In 2001, the Pearson Product Moment Correlation was negative. The Pearson Product Moment Correlation showed a low positive association in 2006. This association may provide insight for potential risk diversification.

IV. Conclusions

This research has shown IPO portfolios may produce a rate of return comparable to the S&P 500. In the two years studied (2001 and 2006), overall performance of the IPOs and S&P 500 portfolios were mixed. Since inception, however, IPO portfolios returns were significantly higher than the S&P 500 portfolio over a comparable period of time. Risk, as measured by the standard deviation, was found to be higher for the IPO portfolios than for the S&P 500 portfolios. The potential exists to enhance portfolio returns through inclusion of IPOs in a portfolio, albeit with the possibility of higher risk. Efficient diversification, however, may enable investors to add significant numbers of IPOs to their holdings to potentially enhance their returns. The low positive and the negative correlations from this study indicate that combining an IPO portfolio with the S&P 500 index can result in overall portfolio risk reduction.

Several opportunities for further research are available. An analysis of a portfolio with varying quantities of IPO stocks could be conducted to possibly create a more efficient portfolio balance, potentially reducing overall risk and increasing return. This research concentrated exclusively on domestic IPO firms and use of the S&P 500 as a measure of performance. An analysis of a portfolio containing international as well as domestic IPOs could potentially even further diversify risk and increase returns.

Table I
Exchanges on Which Data Set IPO Companies Traded

Exchange	Number of Companies	
	2001 (n = 45)	2006 (n = 45)
NYSE	19	13
AMEX	1	2
NASDAQ	25	30

Table II
Results of First Day IPO Portfolio Trading

	2001 (n = 45)	2006 (n = 45)
Portfolio Change in Value (\$)	\$0.01	-\$0.06
Portfolio Change in Value (%)	0.0820%	-0.7415%
Number of Advancing Issues	19	17
Number of Declining Issues	20	27
Number of No Change Issues	6	1

Table III
First Day Average Percentage Change in Return

	2001 (n = 45)	2006 (n = 45)
IPO Mean	0.0820%	-0.7415%
IPO Standard Deviation	0.0768	0.0889
S&P 500 Mean	-0.3411%	0.0154%
S&P 500 Standard Deviation	0.0101	0.0072
Significance Level	**	**

** Significant difference at the 0.05 level

Table IV
IPO Portfolio Average Value: Day 1 through Day 4

Day	2001 Portfolio		2006 Portfolio	
	Average Value	Standard Deviation	Average Value	Standard Deviation
1	\$17.19	\$8.56	\$17.90	\$7.45
2	\$17.37	\$8.73	\$17.81	\$7.28
3	\$17.18	\$8.61	\$17.87	\$7.48
4	\$17.06	\$8.66	\$17.94	\$7.82

Table V
IPO and S&P 500 Change in Portfolio Average Value:
Day 1 through Year-End 2006

	2001 (n = 45)	2006 (n = 45)
IPO Dollars	\$12.18	\$2.37
IPO %	77.70%	10.10%
IPO Standard Deviation	1.3027	0.3489
S&P 500 Dollars	\$201.92	\$120.93
S&P 500 %	17.17%	9.40%
S&P 500 Standard Deviation	0.0915	0.0388
Significance Level	**	

** Significant difference at the 0.05 level

Table VI
Correlation Matrix
IPO Portfolio and S&P 500

	2001		2006	
	IPO Portfolio	S&P 500	IPO Portfolio	S&P 500
IPO Portfolio	1.0000	-0.0650	1.0000	0.1679
S&P 500	-0.0650	1.0000	0.1679	1.0000

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