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Initial Public Offerings (IPOs)

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As an investor, the first rule is to never get caught up in your emotions. There are thousands of different (exciting) investment opportunities in today's world, and some of them tend to be a bit riskier than others. These consist of stocks, bonds, certificates of deposit, mutual funds, exchange-traded funds, and several others. However, where do most of these investment tools originate? In order for a stock to be publicly traded on the stock exchange, it must undergo what it called an initial public offering (which I will refer to as an IPO). Since the primary objective is to raise capital, the original shareholders / owners of the company agree to sell part of their shares to outside investors in order to fund objectives of the firm.

Key Concepts

Although my research does not necessarily focus on the technicalities of IPOs, there are a few key concepts that are necessary to learn in order to fully understand my findings. To explain, I will briefly walk through the first day of Twitter's IPO. First, Twitter advertised (via an investment bank) to institutional investors that 70 million shares of Twitter were available for sale. These institutional investors include hedge funds, mutual funds, life insurance companies, pension funds, endowment funds, high-net-worth individuals (HNWIs), and several other "big players" in the market; these are the investors who have the opportunity to invest in the stock at the issue (or offering) price, which is essentially determined by supply and demand of the stock before it goes public. Saying that, Twitter's issue price was $26.00 per share. This means that the institutional investors who purchased the stock from the investment bank were able to purchase shares of Twitter at $26.00 per share.

The next important term is the opening price, which is the price at which the stock is first traded on the open market. Twitter's opening price was $45.10, which is substantially higher than its issue price. The opening price, however, is largely determined by the number of bids (to buy) relative to the number of offers (to sell) that are received when investors begin to place orders on the morning of the IPO. It is also important to understand that it is not unusual for a stock to begin trading on the market a couple of hours past 8:30 am (when the market opens).

The other important concept to understand is something called a lockup period, which is typically a time period of 180 days after the IPO. During this time, the institutional investors who were able to purchase the stock at the issue price are not permitted to sell any of their shares. This rule exists to give reassurance to other investors and to ensure that they will not sell their shares after potentially making a large profit very soon after the offering.

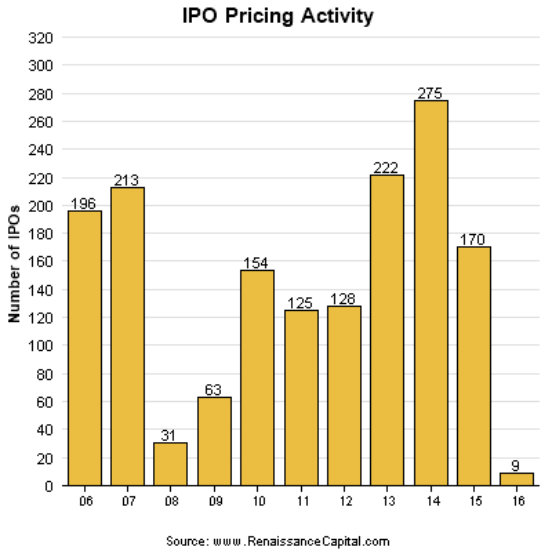
Research Question and Importance of the Topic

Without further ado, my research question is the following: Should an investor (at any level) consider investing in an IPO? Given the risk and volatility associated with IPOs, I was curious as to whether or not it would make sense for people should invest in them. I have always followed news related to the stock market and have tracked larger IPOs throughout the past few years, but I just never knew if it was a good idea to recommend an investment in any IPOs. On top of that, since it is such a huge part of a company's life cycle, I think it is essential to observe the reaction to the company going public; this includes the original shareholders, the institutional investors (including the ones that invest in the stock after it is open to the public), other outside investors, and the stock market itself. Lastly, I think it is important for people to simply be aware of the risks involved with investing in an IPO. Although my intended audience would include institutional investors along with more educated investors, I would also like beginning investors

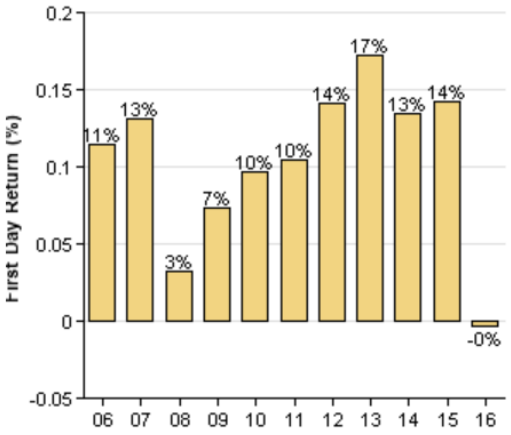
to be aware of the volatility and risk that come along with involving oneself in such an investment.

Existing Research

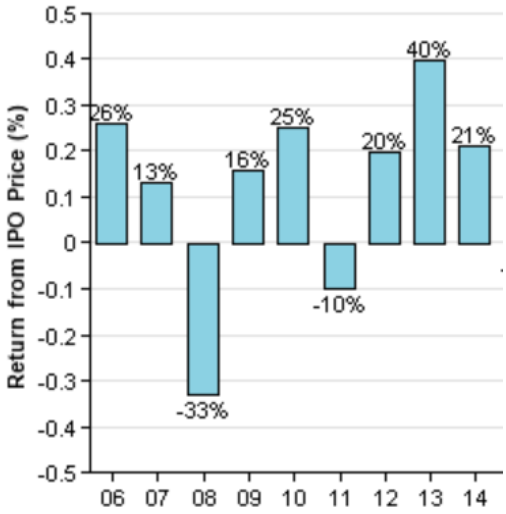
As I previously stated, I have always had a general understanding of IPOs and how big of a deal they can be; however, there is some existing research on the topic. The data mainly consists of the number of IPOs per year, the average annual returns, and the average first day "pop." I retrieved this data from Renaissance Capital - The IPO Expert (http://www.renaissancecapital.com). The following are a few graphs I salvaged from their website:



This graph simply gives the viewer an idea of how many IPOs occur each year. On average, there are a little over 150 IPOs per year over the past 10 years. One can also see that there are fewer IPOs in recession years and much more IPOs during bull markets.



This graph displays the average first day return based on the issue price. Over the past ten years, we can see that there is roughly an average of a 12% first day "pop" for the institutional investors that are fortunate enough to purchase the stock at the issue price.



This graph displays the average annual returns for all IPOs in the year they happened. Excluding 2008 - which was a miserable year for all stocks for obvious reasons - there seems to be an average of around 15% - 20%. Again, this is based on the issue price.

Research Methodology

Since I did not find the above data to suffice, I wanted to figure out when an investor should consider investing in an IPO (if at all). As a result, I gathered my own data on over 40 IPOs. I selected stocks from different sectors, large ones, small ones, poor performers, and

successful performers. From there, I imported the opening and closing prices from Yahoo Finance for all of these stocks into an Excel spreadsheet and manipulated the data to find the following: first day return, first week return, first month return, one year return, one year return against S&P 500, the return of the month before the lockup expiration date, and the return of the month after the lockup expiration date. These were all calculated using the opening price. However, concerning the issue price, I also looked at the first day return to see how significant the first day "pop" actually is; I also looked at the six month return because that is when the institutional investors are able to sell their stock.

Findings and Conclusions

Returns for Institutional Investors (Issue Price)		
	Median	Average
Day 1	10.00%	20.54%
Month 6	27.91%	42.39%

The returns above are what institutional investors would make if they invested in an IPO; therefore, these returns were calculated using the issue price as the beginning price. From this data, we can see that there was a median first day "pop" of 10% and an average of over 20%. However, this is essentially irrelevant since they must hold on to the stock until the lockup period expires. Hence, I calculated a median six month return of almost 28% and an average of over 42%. Based on this data, we can clearly conclude that institutional investors should always invest in IPOs whenever given the opportunity.

Returns for All Investors (Opening Price)		
	Median	Average
Day 1	0.00%	1.00%
Week 1	2.49%	3.29%
Month 1	1.33%	6.66%
Month before Lockup Expiration	-1.47%	-4.44%
Month after Lockup Expiration	-0.24%	0.40%
Year 1	8.64%	28.85%
Year 1 (against S&P 500)	-2.92%	18.80%

This group of returns is what every other investor would receive, assuming that they purchase the stock at the opening price. I believe that it is more realistic to look at the median returns, assuming that an investor will not invest in every individual IPO. Also, there are more positive outliers than negative outliers, so the average is typically a bit skewed. People tend to get excited about IPOs and want to get involved immediately, which is why I looked at the first day return. However, the median return of 0% tells me that it is simply not worth the risk, especially given the volatility on the first day alone. The first week and first month returns are positive, but they are still only around 2%. As a result, I would say that investing in an IPO for the first month is not worth the risk.

Moving forward to the two months surrounding the lockup period, I wanted to know how investors reacted to the potential sell-off that the institutional investors would commit. So, I looked at the 30 days before and the 30 days after the lockup expiration date. They both had negative median returns, which did not necessarily surprise me. The month before the lockup expiration date seemed to be especially volatile, producing some returns of almost -50%.

Looking at the first year return, I found a median return of almost 9%. However, this is not as great as it sounds, considering that these IPOs occurred in a strong bull market. Thus, I compared the returns of every IPO to the S&P 500 during the respective period of time. After

doing this comparison, I found a median advantage of 2.92% for the S&P 500. Given this statistic and the fact that IPOs tend to me much more volatile, I would strongly recommend to not invest in IPOs if you are not an institutional investor.

Lastly, I calculated an average weekly gain / loss of 4.82% for the IPOs I analyzed. This essentially means that during any given week, the IPOs I selected moved an average of 4.82% (up or down) per week during their first year. To compare, I found the S&P 500 average weekly gain / loss to be 1.26% from 2012 to 2015. This tells me that IPOs are roughly four times as volatile as the market.

Limitations and Further Research

The only limitation I really had was the sample size. I felt that if I were able to produce a much larger sample size, my margin of error would be much lower. I also believe that this would narrow the gap between the medians and averages for some of my results.

If I could do further research on the topic, I would first look into IPOs of different periods. My research was based on IPOs that occurred between 2012 and 2015, so it would be intriguing to look into stocks that went public in times when the market was not performing as well. For example, I could take a batch of IPOs during a time of recession and compare them to a batch of IPOs during a time of prosperity and growth. Lastly, I would have liked to drill down on the significance of the size of the IPOs. It would be fascinating to see if there are any correlations between the market cap of the companies and their related returns and volatilities.