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## Determinants of IPO Underpricing: Tech vs Non-Tech Industries

Jordan Beck\*

**ABSTRACT.** Do firms in the tech industry experience higher levels of underpricing when going public as opposed to firms not in the tech industry? This research uses a linear regression model to analyze the determinants of underpricing in the initial public offering market. The model indicates that underpricing is influenced by the offer price, underwriter quality, and the size of the firm as a measure of risk. This analysis does not find evidence of higher levels of underpricing in the tech industry. Further research could analyze the levels of underpricing over time as an industry matures.

*“Go out on a limb. That’s where the fruit is.” – Jimmy Carter*

### **I. Introduction**

Between 1990 and 1998, companies left \$27 billion of potential capital on the table by underpricing initial public offerings (Loughran and Ritter 2002, 413). The same companies, combined, generated \$8 billion in profits in the year leading up to their initial public offering, which means the money left on the table represents more than three years of aggregate profits (Loughran and Ritter 2002, 413). In the year 2000, during the internet stock bubble, companies left \$27 billion on the table in their initial public offerings and 77 initial public offerings doubled in price on their first day of trading (Ritter 2016). Underpricing is still present as Snap Inc.’s stock price rose 44 percent on its first day in public markets.

The internet stock bubble and the recent initial public offering from Snap Inc. sparked a question about underpricing: do firms in the tech industry experience higher levels of underpricing compared to firms not in the tech industry? This study does not find statistically significant evidence supporting the theory of higher underpricing in the tech industry.

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## **II. Initial Public Offerings**

An initial public offering (IPO) involves a private company ‘going public’ by selling stock for the first time. The stock trades in public markets after its initial issue. Younger firms go public more often than older privately held firms. There are many advantages and disadvantages of going public.

### **A. ADVANTAGES**

An initial public offering increases the liquidity of the firm. Owners of private firms may have difficulties finding buyers of stock and setting a price for the transaction. Initial public offerings allow the founders of the company to diversify their own portfolios by selling a fraction of their stock to the public and moving their wealth to other investments.

Initial public offerings open doors for firms to raise additional capital. If a private firm needs to raise cash it has two options. The firm can go to the existing owners, who may not have the money or desire to put more money into the firm. The firm could also go to external wealthy investors. The wealthy investors may not want to put money into the firm unless they have voting control, which requires ownership of more than 50% of the firm (Brigham and Daves 2016, 698). After going public, firms are regulated by the Securities and Exchange Commission and must publicly disclose specific information, which makes investors more willing to invest in the firm and so makes it easier to access capital.

The promise of initial public offerings gives firms the opportunity to provide incentives to employees. The incentives can be stock ownership or options on stock, which may increase the productivity of employees (Brigham and Daves 2016, 698). Initial public offerings set market prices for the firms. When firms acquire or merge with other companies, the market price helps facilitate the price negotiations. Initial public offerings can also help firms sell their products and services after going public. The firms become better known, which opens new potential markets.

### **B. DISADVANTAGES**

Initial public offerings increase reporting costs for firms. A public

company must file quarterly and annual reports with the Securities and Exchange Commission, which drives up reporting costs. It can also be costly for firms to remain in compliance with the Sarbanes-Oxley Act. Initial public offerings also increase the time spent with investor relations because investors want to know what the firm is doing. This requires Chief Financial Officers to spend an estimated two days per week speaking with investors and analysts (Brigham and Daves 2016, 699). The use of executives' time presents a large opportunity cost as executives could spend their time creating value for the firm.

The increased reporting activities increase the transparency of the firm and its owners. Although transparency is a positive for investors, transparency has the potential to be a disadvantage to the issuing firm because competitors can see the reported operating data, which can be used to imitate the firm's activities.

Initial public offerings reduce the owners' or managers' control. Managers without voting control may feel obligated to show short-term earnings gains to please the shareholders (Brigham and Daves 2016, 699). This strategy may not be in the shareholders' best long-term interests. Firms must weigh the advantages against the disadvantages to decide whether they should issue an initial public offering.

### **III. The Process of Going Public**

Issuing an initial public offering is complicated, expensive, and time-consuming. First, a firm must find an underwriter by interviewing multiple investment banks and discussing issue strategies. Initial public offerings are commonly underwritten. When an underwriter underwrites the issue, the issuing firm receives a guarantee for the sale of their securities. The underwriter agrees to buy the entire issue and then resell the issue to investors. Underwriters sometimes form underwriting syndicates, a group of underwriters to help handle the issue, to spread out the risk involved with distributing the issue (Brigham and Daves 2016, 700).

As previously mentioned, regulation is one key factor to consider when private companies go public. An issuing firm must be registered with the Securities and Exchange Commission at least 20 days before the

issue. Issuing firms must submit a registration statement called the Form S-1, which contains financial, legal, and technical information about the issuing firm and is summarized in the prospectus for investors (Brigham and Daves 2016, 701). If there is inadequate information, the Securities and Exchange Commission can delay or stop the initial public offering. The preliminary prospectus, called the 'red herring', must be provided during any sales solicitation. If there is misrepresentations or omissions of material facts in the registration statement or prospectus, investors who suffer a loss may sue for damages (Brigham and Daves 2016, 702).

After the registration statement has been filed, the issuing firm goes on a roadshow. The issuing firm's senior management, underwriter, and lawyers travel to major financial centers throughout the United States to present potential institutional investors with the information in the registration statement and prospectus. Investors express their interest by indicating how many shares the investor is interested in buying. The underwriter records the number of shares each investor is willing to buy at a specified price. This process is referred to as book building. Book building provides information for the demand for the initial public offering. If demand is high and the initial public offering is oversubscribed, the underwriter may increase the offering price. The underwriter may lower the offering price if demand is too low. The issuing firm submits the final amended registration statement and prospectus the day before the trading of the initial public offering, which includes the number of shares to be sold and the offering price. If the Securities and Exchange Commission approves, the initial public offering will begin trading the next day (Brigham and Daves 2016).

#### **IV. Underpricing**

Ljungqvist (2004) defines underpricing as "the percentage difference between the price at which the IPO shares were sold to investors (the offer price) and the price at which the shares subsequently trade in the market" (381). Evidence of underpricing is clear relatively quickly in well-developed capital markets and is typically apparent after the first day of trading.

$$\text{Underpricing} = (\text{First day closing price} - \text{Offer price}) / \text{Offer price}$$

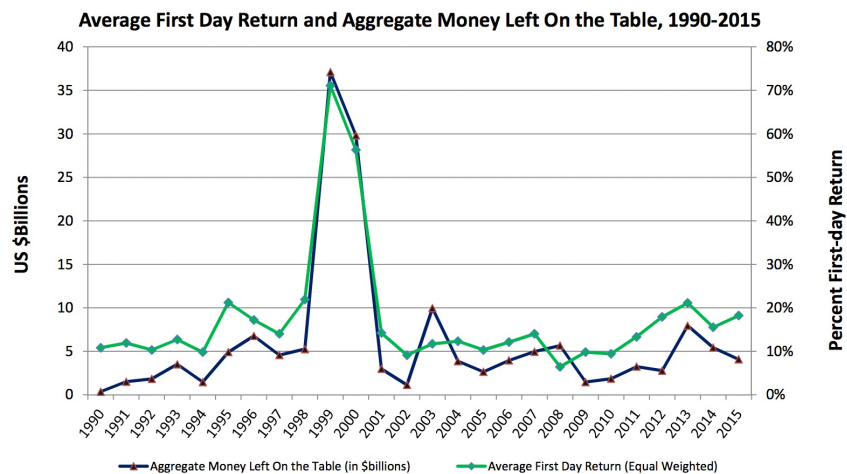
Levels of underpricing can also be calculated with the dollar amount of 'money left on the table'. Ljungqvist (2004) defines money left on the table as "the difference between the aftermarket trading price and the offer price, multiplied by the number of shares sold at the IPO" (381). This measure assumes that the issuing firm would be able to sell the issued shares at the aftermarket-trading price as opposed to the offer price. The firm has foregone that amount of money by selling at the offer price.

$$\text{Money left on the table} = (\text{First day closing price} - \text{Offer price}) \times \text{Shares issued}$$

Ritter (2016) presented Figure 1 to show the levels of underpricing from 1990 to 2015. The graph shows the aggregate money left on the table by issuing firms and the average first day return for the initial public offerings for each year.

Figure 1

Source: Ritter (2016) <https://site.warrington.ufl.edu/ritter/files>



The average first day return is between 10% and 20% for the majority of the 25-year span. There is a spike when the average return jumps to 70%

and 60% in 1999 and 2000. This time period was known as the internet stock bubble. The graph also shows that the aggregate money left on the table tracks the average first day return relatively well and helps one visualize the extent of underpricing throughout time.

## **V. Literature Review**

Underpricing in the market for initial public offerings has been thoroughly researched since the 1980's. Determinants of underpricing with initial public offerings have been a great mystery as researchers have provided various theories to help explain the levels of underpricing. Ljungqvist (2004) grouped some of the most influential theories into four main categories: asymmetric information, institutional explanations, ownership and control reasons, and behavioral approaches. These theories help explain parts of underpricing. There is, however, no theory that completely explains underpricing on its own. This paper will use the same four categories to organize the underpricing theories and discuss a potential addition to the explanation of underpricing with regards to the issuing firm's industry.

## **VI. Asymmetric Information**

As previously discussed, there are three parties in an initial public offering: the issuing firm, the underwriter, and the investors. When information is not distributed evenly among the three parties, there is asymmetric information. One party may be better or worse off depending on how informed they are relative to the other two parties.

### **A. THE WINNER'S CURSE**

One of the best-known asymmetric information models is Rock's (1986) winner's curse. Rock's study was an extension of Akerlof's (1970) lemons problem. Rock studied the asymmetric information among the investors of initial public offerings. This study split the investors in two groups consisting of informed investors and uninformed investors with regards to future prospects of issuing firms. The informed investors are

only willing to invest in initial public offerings that they see attractively priced. When issues are overpriced, only the uninformed investors will buy into the issue. This leaves the uninformed investors losing out to the informed investors over time. If the expected returns for uninformed investors are negative, the uninformed investors will drop out of the market. Rock (1986) assumes the issuing firm relies on capital from both informed and uninformed investors; thus, the issues are underpriced to provide a positive return and keep the informed investors in the market for initial public offerings.

#### B. SIGNALING THEORY

Past research indicates that issuing firms may underprice their initial public offering to signal the firm's future prospects. Ibbotson (1975) said that issuing firms underprice their initial public offering to "leave a good taste in investors' mouths". Allen and Faulhaber (1989) have contributed a theory that aligns with Ibbotson's statement. Allen and Faulhaber (1989) assume that the issuing firm possesses the best information about its future prospects. Investors realize a larger initial return with the underpricing, signaling positive future prospects for the firm. This allows the firm to offer a seasoned equity offering, the issuance of additional shares of a public company, at a higher price. The higher proceeds from the seasoned equity offering may recoup the money that was foregone by underpricing the initial public offering. Low-quality firms refrain from signaling with underpricing, as they will not be able to recoup the money by charging a higher price in a seasoned equity offering.

#### C. MARKET FEEDBACK HYPOTHESIS

The market feedback hypothesis assumes that institutional investors hold better information on issuing firms. Underwriters and issuing firms would like to get a hold of the institutional investors' information during the book-building process. Ritter (1998) states that the issuing firm and underwriter must provide an incentive for the institutional investors to give up this information. Incentives are provided through the underpricing of the initial public offering. Ritter (1998) also states that underwriters can



underprice the initial public offering to get potential investors to buy the stock. Other investors will see the demand for the stock, resulting in more stock being purchased with the bandwagon effect.

#### D. PRINCIPAL-AGENT MODEL

Underwriters are held responsible for much of the activity in the book-building and price-setting process. Agency problems may arise between the underwriter and the issuing firm. Ljungqvist (2004) says that underpricing represents a wealth transfer from the issuing firm to investors, which can lead to rent-seeking behavior. Investors are competing for allocations of the initial public offering and may offer side-payments to the underwriter in the form of excessive trade commissions. Underwriters may also allocate underpriced stock to institutional investors in the hope they will gain future business from them. The practice of allocating stock is referred to as ‘spinning’ (Loughran and Ritter 2004). Both deliberately underprice initial public offerings.

### **VII. Institutional Explanations**

#### A. LEGAL LIABILITY

As previously mentioned, misrepresented or omitted information from registration and prospectus statements can lead to litigation. Investors can sue for damages if they suffer a loss from the purchase of a firm’s initial public offering, given the misrepresented or omitted information. Lowry and Shu (2002) argue that deliberate underpricing acts as an insurance policy against securities litigation. Underpricing lowers the probability of being sued and decreases the plaintiffs’ potential recoverable damages if sued. Their study finds evidence to support the insurance and deterrence aspects of the litigation-risk hypothesis.

### **VIII. Ownership and Control**

In private companies, the same people possess ownership and control responsibilities, but by going public, the firm separates these two

functions. The shareholders will own the firm while the managers will make the operating and investment decisions that could lead to agency costs (Ljungqvist 2004). There are two opposing arguments on the issue of agency costs, retaining control, and reducing agency costs.

#### A. RETAINING CONTROL

Brennan and Franks (1997) argue that underpricing is associated with oversubscription of the initial public offering. Firms then ration and discriminate in the allocation of shares. The firms prefer smaller allocations of shares spread throughout many investors. If managers pursue non-value-maximizing behavior, there is less chance of receiving scrutiny from large shareholders. Also, managers have less of a chance of being driven out by a hostile takeover.

#### B. REDUCING AGENCY COSTS

The argument of Stoughton and Zechner (1998) takes an opposing view from Brennan and Franks (1997). Stoughton and Zechner (1998) argue that it may add value to allocate large portions of stock to large investors. Large institutions can easily monitor the issuing firm and reduce agency costs. If shares are allocated to many smaller institutions, there is less monitoring of the issuing firm, thus leading to more agency costs. By allocating shares to a larger institution, smaller institutions can take advantage of their monitoring services as free riders.

### **IX. Behavioral Approaches**

#### A. INVESTOR SENTIMENT

Behavioral finance is interested in the effect on stock prices of ‘irrational’ or ‘sentiment’ investors (Ljungqvist 2004). Assuming investors have a positive attitude towards a firm’s future, the firm wants to capitalize on that optimism. The firm does not want to flood the market with shares because it would drive the price down. Instead, the firm wants to restrict the supply of the shares. Since there are regulations against doing this

directly, the issuing firm relies on institutional investors to hold back and not sell their shares for a specified time period. The institutional investors require the stock to be underpriced to take on the risk of holding back shares.

#### B. PROSPECT THEORY

Issuing firms do not tend to get upset about leaving large amounts of money on the table. Loughran and Ritter (2002) have looked further into this puzzle. Prospect theory assumes that issuers put more weight on the change in their wealth than on their level of wealth (Loughran and Ritter 2002). Prospect theory assumes the decision-makers' initial valuations are based on the initial price range in the registration statement. The offer price routinely differs from this range. Decision makers are satisfied with the underwriter's performance if the perceived wealth gain exceeds the cost of underpricing (Loughran and Ritter 2002).

### **X. Technology Firms**

The theories previously mentioned have helped explain the underpricing of initial public offerings across industries. The internet stock bubble sparked interest into the effects that the industry has on a firm's underpricing.

Ritter (2016) defined tech stocks as "internet-related stocks plus other technology stocks, not including biotech." Examples of tech companies include Facebook, Snap Inc., and Square. Facebook uses the internet as a main component of business in its social media business model. Snap Inc. uses the technology of cameras in its business model. Square uses technology to provide credit card reading services. John Deere is an example of a company not in the tech industry. Although there is technology incorporated into John Deere's agriculture equipment, the technology is not its main line of business in their business model. Tech companies actively use the internet and technology as a main component of business in their business model.

Karlis (2008) found evidence that internet companies are more underpriced relative to companies that do not use the internet as a main

line of business. This may be explained by the additional risks associated with internet companies because of their relatively young age and difficulty in valuing the internet companies. The higher risk of technology-related companies may accentuate the underpricing.

Bomans's (2009) model explained underpricing with issue size, offer price, underwriter quality, and industry. Offer price and industry were the only two significant independent variables in the model. Bomans (2009) found evidence to support the theory of higher levels of underpricing for technology-related initial public offerings in Europe. My study aims to provide insight to the underpricing associated with technology-related initial public offerings in the United States.

## **XI. Model**

My research attempts to explain the determinants of underpricing. Specifically, my research tests if being involved in the tech industry affects the level of underpricing in a firm's initial public offering. My model is based upon the model of Bomans (2009). I have, however, modified the model due to data limitations. In order to explain the changes in underpricing, I use underpricing as the dependent variable in the model.

The dependent variable can be interpreted as a percentage return on the first day of trading. Underpricing is a function of offer price, underwriter reputation, and industry. Equation [1] presents the final form of my model. The expected sign is included on each coefficient and the expected sign has been hypothesized based on past literature and the relationship with underpricing. A positive coefficient indicates that an increase in the independent variable increases the initial percentage return and, therefore, the level of underpricing. A negative coefficient indicates that an increase in the independent variable decreases the level of underpricing.

### Equation 1 – Final Model

$$\text{UNDERPRICING} = \beta_0 - \beta_1 (\text{PRICE}) - \beta_2 (\text{UW}) + \beta_3 (\text{LOGASSETS}) - \beta_4 (\text{TECH}) + \varepsilon$$

## **XII. Variables**

*UNDERPRICING* is measured as the percentage return on the first day that a stock is publicly traded. In this analysis, the average initial return is 14.2 percent, which is much larger than the daily return of the stock market. If only we could all get our hands on initial public offerings. There is, however, some risk involved with initial public offerings, as there is a wide range of returns. *UNDERPRICING* will be the dependent variable in this analysis.

*PRICE* is an independent variable in this analysis. The offer price of the issue is a very important aspect of the stock's return. The offer price is predicted to have a negative relationship with the level of underpricing because a higher offer price will result in a lower percentage return on the first day of trading, all else equal. Also, a lower offer price will leave more room for underpricing, therefore signaling positive future prospects of the firm (Allen and Faulhaber 1989). Contrary to these theories, initial public offerings may also be influenced by herd behaviors in the financial markets, which could drive the price up and increase the initial percentage return. Ritter (1998) discussed the bandwagon effect with initial public offerings, which may affect the *PRICE* variable.

*UW* is a dummy independent variable representing underwriter quality. This analysis uses Bloomberg's (2015) initial public offering underwriter rankings, which are ranked by the number of initial public offerings they have underwritten in a year. The independent variable carries a value of 1 if the initial public offering had a lead underwriter that was ranked in the top 10 by Bloomberg. The independent variable carries a value of 0 if it does not use a top 10 underwriter as identified by Bloomberg. Carter, Dark, and Singh (1998) find that reputable underwriters are associated with less short-run underpricing. Cliff and Denis (2004) find that issuers are less likely to switch underwriters for future issues if the initial public offering has greater underpricing (2893). Underwriters could underprice the issue to have a higher chance of future business. Loughran and Ritter (2004) find that top-tier underwriters are associated with higher levels of underpricing. Following these studies, the *UW* coefficient is predicted to have a positive relationship with the level of underpricing.

*LOGASSETS* is an independent variable representing the log of the issuing firm's total assets at the end of 2014. Past studies have used the

initial public offering's issue proceeds to measure the size of the firm. Unable to get access to this data, I use the firm's assets as a proxy for the size of the firm. Using a firm's assets is a common method in finance to measure the size of the firm because this number cannot theoretically be negative. I use the log of assets to capture the economies of scale. Beatty and Ritter (1986) find evidence for higher levels of underpricing associated with higher uncertainty about the firm's future prospects. Smaller firms are considered more risky than larger firms and are predicted to have higher levels of underpricing. *LOGASSETS*, as a measure of size and therefore risk is expected to have a negative relationship with underpricing.

*TECH* is a dummy independent variable representing a firm's industry. The independent variable will carry a value of 1 if the initial public offering's firm belongs to the tech industry and carry a value of 0 otherwise. Tech stocks are defined as those with Standard Industrial Classification codes 3571, 3572, 3575, 3577, 3578, 3661, 3663, 3669, 3671, 3672, 3674, 3675, 3677, 3678, 3679, 3812, 3823, 3825, 3826, 3827, 3829, 3841, 3845, 4812, 4813, 4899, 7371, 7372, 7373, 7374, 7375, 7378, and 7379 (Loughran and Ritter 2004). Ritter (2016) added Standard Industrial Classification codes 3559, 3576, and 7389. The technology industry is extremely volatile. Technology firms are typically younger firms when they go public and are much harder to value. Hence technology firms are more risky than non-tech firms. Consequently, investors require higher returns for higher risk, therefore increasing the level of underpricing. For these reasons, the *TECH* variable is predicted to have a positive coefficient.

### **XIII. Data and Descriptive Statistics**

Data for this study were compiled from The Center for Research in Securities Prices, IPO Scoop, and Nasdaq. The Center for Research in Securities Prices is a database collected and compiled by The University of Chicago Booth School of Business. IPO Scoop is an independent research firm for initial public offerings. Nasdaq's website holds financial information for all companies currently trading in the public market. The data set includes financial information for 136 initial public offerings in 2015 after excluding those with an offer price below \$5.00 per share, Real

Estate Investment Trusts, and firms not listed on The Center for Research in Securities Prices. Descriptive statistics for each variable are presented in Table 1.

TABLE 1 – Descriptive Statistics  
N=136

Variable	Mean	Standard Deviation	Minimum	Maximum	Expected Sign
UNDERPRICING	0.142	0.290	-0.274	1.856	N/A
PRICE	15.113	5.228	5.000	25.000	-
UW	0.717	0.452	0	1	+
TECH	0.217	0.414	0	1	+
LOGASSETS	7.978	0.973	5.301	10.534	-

The average underpricing for an initial public offering was 14.2 percent in 2015. There is, however, a wide range for this variable. The minimum amount of underpricing was -27.4 percent. This was the case when vTv Therapeutics' stock price fell by 27.4 percent in the first day of trading. On the other end of the spectrum, Seres Therapeutics stock price jumped 185.6 percent on the first day of trading. This data shows the high volatility and risk in the market for initial public offerings. The average of the offer price in this data was \$15.11 with a range from \$5.00 to \$25.00. The averages of the two dummy variables represent the percentage of the sample possessing the indicated characteristic. In this data, 71.7% of the sample hired a top-tier underwriter as a lead underwriter for their initial public offering. Also, 21.7% of the issuing firms belonged to the tech industry. This sample provides an average log of assets to be 7.978, which equates to roughly \$94,960,462 in total assets. Total assets have a wide range with a minimum of \$200,000 in total assets and a maximum of \$34,269,300,000 in total assets.

#### **XIV. Results and Discussion**

The results of the regression analysis are presented in Table 2. The analysis was performed on 136 initial public offerings in 2015. The *PRICE* and *UW* independent variables are significant at the one-percent

level ( $p < .01$ ). The *LOGASSETS* independent variable is significant at the five-percent level ( $.01 < p < .05$ ) and the *TECH* independent variable is not found to be statistically significant with this sample. The adjusted  $R^2$  equal to 0.1320 means that the model can explain about 13.2 percent of the observed variation in the dependent variable. The F-statistic, a measure of the overall fit of the model, is 5.04 and indicates that the model is significantly different from the null model at the one-percent level.

Contrary to expectations, the positive coefficient on *PRICE* means that a one-unit increase in the offer price will increase the level of underpricing by 1.63 percent, all else equal. The positive coefficient supports the findings of Bomans (2009). The initial expectation was that a higher offer price would cause lower demand, therefore, reducing the amount of underpricing, as investors don't drive up the price. An explanation for the positive coefficient may lie in Ritter's (1998) bandwagon effect. When looking at the book building process of initial public offerings, it is the demand of the institutional investors that drives the decision of offer price. If there is high institutional demand, the underwriter will set a higher offer price. Once the public investors see the higher offer price due to high demand from institutional investors, the public investors may follow the institutional investors in demanding the newly issued stock. This bandwagon effect causes higher demand for the stock, which drives the stock price up on the first day leading to higher levels of underpricing.

TABLE 2 – Regression Results

Variable	Coefficient	Robust S.E.	P-value	Bomans
Constant	0.3823	0.1809	0.037	0.1049
PRICE	0.0163***	0.0052	0.002	0.0025***
UW	0.1459**	0.0468	0.002	-0.0219
TECH	0.0278	0.0579	0.632	0.0582***
LOGASSETS	-0.0748**	0.0293	0.012	-0.0011
N = 136	Adj. $R^2 = 0.1320$	F = 5.04***	Prob>F = 0.0008	Adj. $R^2 = 0.0434$

\*\*\*Significant at 1%      \*\*Significant at 5%

As hypothesized, the *UW* dummy variable carries a positive coefficient. If a firm uses a high-quality underwriter, the firm can expect higher levels of underpricing on the initial public offering by 14.59 percent. There has been extensive research on the underwriters' effects on



underpricing because of this considerable effect they can impose on initial public offerings. My findings support the work of Cliff and Denis (2004) as well as Loughran and Ritter (2004).

Consistent with expectations, *LOGASSETS* carries a negative coefficient. A one-unit increase in the log of the firm's total assets is associated with a reduction in the level of underpricing by 7.48 percent. Supporting the work of Beatty and Ritter (1986), larger firms are associated with lower levels of underpricing because of the lower levels of risk. Bomans (2009) measured the firm's size as a measure of risk with the issue proceeds from the initial public offering, which was not found to be significant. The *LOGASSETS* variable better explains the level of underpricing in this model.

*TECH*, my variable of interest, is not found to be significant. In my findings, belonging to the tech industry does not statistically significantly affect the level of underpricing. Bomans (2009) and Karlis (2008) used data from the 1990's and early 2000's, the time of the internet stock bubble. Karlis (2008) found evidence to support that more established industries are not associated with higher levels of underpricing. By 2015, the tech industry has matured and become more established and may no longer be associated with higher levels of underpricing. We cannot, however, rule it out based on these findings.

## **XV. Conclusion**

Underpricing is measured with the percentage return on the stock in its first day of public trading and can also be expressed as the amount of money left on the table. Past literature has provided various theories to explain underpricing that have been grouped into 4 categories; asymmetric information, institutional explanations, ownership and control, and behavioral approaches.

This study explored whether firms in the tech industry experience higher levels of underpricing in initial public offerings than firms who are not in the tech industry.

An OLS regression model was employed to analyze the underpricing of initial public offerings in 2015. The coefficient for the tech industry dummy variable was not found to be statistically significantly different

from zero. This analysis does not find evidence for higher levels of underpricing in the initial public offerings of firms in the tech industry.

The lack of evidence may be a result of the maturation of the tech industry. Previous studies had examined the early years of the industry. Future research could attempt to explain the levels of underpricing for less mature industries. Future researchers could also attempt to find an alternative to grouping industries and their levels of maturity.

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