

SOCIAL MEDIA SURGE: IS IT A BUBBLE?

by

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INTRODUCTION

It can be argued that entrepreneurship and small businesses are two major drivers of the U.S. economy. Startup businesses are highly risky, but there is also the potential for high reward in the form of creating an extremely successful company and growth story. However, startup businesses require large amounts of cash in order to grow, and in recent decades founders have often turned to venture capital investors to provide this funding.

Venture capital investors are always on the lookout for investments with the potential to create big success stories out of relatively unknown companies. As such, venture capital investing is particularly prone to hype and excitement surrounding particular types of companies that aren't fully understood.

This paper will analyze the causes of the recent bubble in social media investing and compare them to causes of past speculative bubbles, particularly the Dot-com bubble of 1999-2000. It is believed that venture capital played a large role in fueling both bubbles by creating ungrounded hype around particular sectors in the market. This hype then proliferates to the general investing public and grows into a mass mania before eventually vanishing, causing the bubble to pop and valuations to crash.

REVIEW OF LITERATURE

There is a vast amount of research – dating back to 1841 – surrounding speculative bubbles and their causes. The literature examined for this paper focused mostly on investor psychology, venture capital investing in both normal and bubble situations, and specific issues with IPO's during the period of the Dot-com bubble that helped inflate the bubble.

Original Bubble Examinations

The first research on speculative bubbles dates as far back as 1841 with Charles Mackay's book *Extraordinary Popular Delusions and the Madness of Crowds*, which examines bubbles such as the 17th century tulip bulb mania and the 18th century South Sea Company bubble and Mississippi Company bubble. In each of the bubbles Mackay examines, people invested based not on the investments' intrinsic value, but on the idea that no matter what the investment would continue increasing in value. As more people joined in the mania, the value of the investments did go up, and Mackay said people were infected with the "madness of the crowd." (Mackay 1841)

Slowly investors realized the worthlessness of their shares (or items, in the case of the tulip bulbs), and the mania reverses as they mass exodus from their investment, causing value to crash and people to lose large amounts of money.

Investors haven't changed over the centuries that have passed since Mackay examined the first bubbles, and, while there are differences specific to each individual bubble, the causes of speculative bubbles today can still be attributed in an overall sense to the "madness of crowds" and investor ignorance to the underlying value in investments.

Investor Psychology

Modern fundamental investing seeks intrinsic value in stocks based on expected future company growth and current cash flow provided (in the form of a cash dividend). As the company's value increases, so does the price or dividend of the stock, providing the investor with monetary gain. As the name implies, fundamental investing is supposed

to be objectively based on company fundamentals rather than investor emotions, rationalizations, or overall market trends.

Due to the nature of humans, however, people rarely use only objective fundamentals when investing. This inevitably leads to periods of irrational investing, in which investors ignore logic and tend to rationalize faulty investments. Sahlman and Stevenson (1985) coined the term “capital market myopia,” referring to mass amounts of investors ignoring logical implications of their investment decisions. They concluded that typically logical investors could fall into a type of groupthink in which they “accept consensus conclusions at their peril.”

Whyte (1986) found that investors with multiple historical failures tended to view future decisions related to their past failures as choices between losses, which caused the investors to take on more risk. As investors become trapped in their own incorrect framework of investing, they make an increasing commitment to a losing course of action, taking on more and more losses. Whyte believes this is mostly based on investors’ desire to refuse to believe their own error.

Investors tend to create a reference point for losing investments, rather than analyzing their own overall wealth (Kahneman and Tversky 1979). People then take on greater risk in order to make it back to this reference point due to the mindset that they have already lost, and therefore the increased risk is somehow worth it. It was also observed that people tend to take on these risks after losses but avoid risk after gains; a loss somehow makes taking otherwise unacceptable gambles suddenly acceptable.

In loss situations, investors tend to allow emotions to cloud rational thought, narrowing their views and relying on prior stereotypes and beliefs, instead of broadening

their scope and accepting new observations and knowledge (Clore and Gasper 2000).

This can further exacerbate the results found by Whyte (1986), where investors become trapped in their faulty frame of reference, making the risks they take on even more dangerous as they are based on less and less logic.

Morgan (1986) examined people's tendency to trap themselves within conceptual frameworks (not only with regards to investing) and coined these constructed realities "psychic prisons." After people trap themselves in these prisons, they tend to shift all of their data to support the reality they have created. This behavioral tendency also leads to over-reaction to news that supports the investor's prior beliefs and to under-reaction to news that contradicts those beliefs. This is especially applicable to investors during bubble periods, and the combination of these ideas was examined thoroughly in the case of venture capital investors by Valliere and Peterson (2004).

Venture Capital Investing

How Venture Capital Works

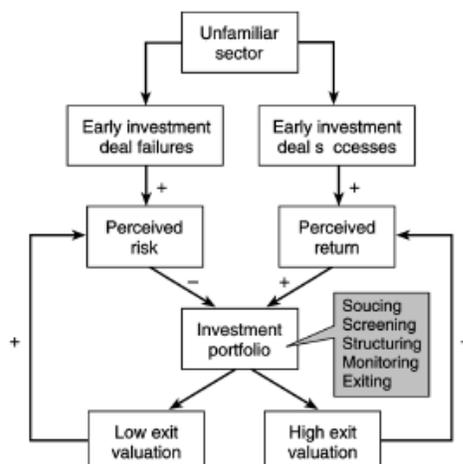
Venture capital funds are a type of investment manager that specializes in investing in newer "startup" companies. VC firms are usually structured as limited liability companies in which limited partners invest their money with the general partner, which in turn sources investment opportunities, which in turn invests the pooled money in typically small, startup investee companies (Valliere and Peterson 2004). The VC fund will then help its portfolio companies grow – through infusion of cash and management guidance – and eventually liquidate its investment, hoping to gain a significant return for the limited partners.

Due to the fact that many investee companies are relatively new and small, it can be challenging for VC firms to evaluate a potential investee's growth opportunities and the soundness of its idea and management team. According to Sahlman (1990), venture capital funds invest in an environment that may contain moral hazard (the tendency for a party to take risks because possible negative consequences will not be felt by the party taking the risk) and adverse selection (a situation in which, due to differing access to information in a market, some investors make bad investments based on what they falsely believe to be good information), which are both risks to the VC's investment goals. In order to combat this, VC funds have strict screening processes and have high required rates of return for investments. Even with these strict requirements there is a high degree of uncertainty in VC investing.

The high uncertainty causes performance of VC investments to vary widely. Some portfolio companies perform extraordinarily well, earning the fund a massive return, while others fail miserably and die before the fund can get any return. Venture capitalists have a general rule of thumb that "out of 10 investments, two or three will fail and result in complete investment loss, six will survive but underperform target return rates or provide no easy liquidity path for the VC firm...and one or two will perform so spectacularly well as to result in acceptable overall portfolio returns (so called home runs)" (Valliere and Peterson 2004).

Venture Capital Investing Cognitive Model

Valliere and Peterson (2004) created a cognitive model for VC investors during non-bubble times based on interviews with investors. The model is illustrated in the diagram below (source: Valliere and Peterson 2004):



Investors first discover a new sector with potential for investment, and they assume that the method for successful investing is the same as in other sectors. The first-mover investors in the sector put capital into play, and their performance is carefully watched from the sidelines by other firms. Early home run exits increase the perceived potential upside of the sector, while failures demonstrate the potential losses. This is all taken into account as more and more VC firms start to enter the space, resulting in low or high exit valuations which feed the perceived risk vs. return of the sector. Over time, the return statistics begin to look like the industry standard of home runs, failures, and substandard exits.

Venture Capital Herd Mentality

Venture capital funds often cooperate with other VC firms in order to raise sufficient funds for an investment, to spread around costs of due diligence, and to mitigate risks to individual firms (Lerner 1994, Lockett and Wright 2001). According to Gompers (1996) and Gompers and Lerner (1998), firms sometimes make investment decisions in order to create a favorable impression on their peers, current or potential investors, or prospective investee companies – sometimes referred to as grandstanding.

This can lead to a form of herd behavior mentioned earlier as capital markets myopia (Sahlman and Stevenson 1985, Bygrave and Timmons 1992).

The benefits of grandstanding can be deduced – creating favorable impressions on the three groups mentioned above can be helpful to the funds in attempting to source and finance deals in the following ways:

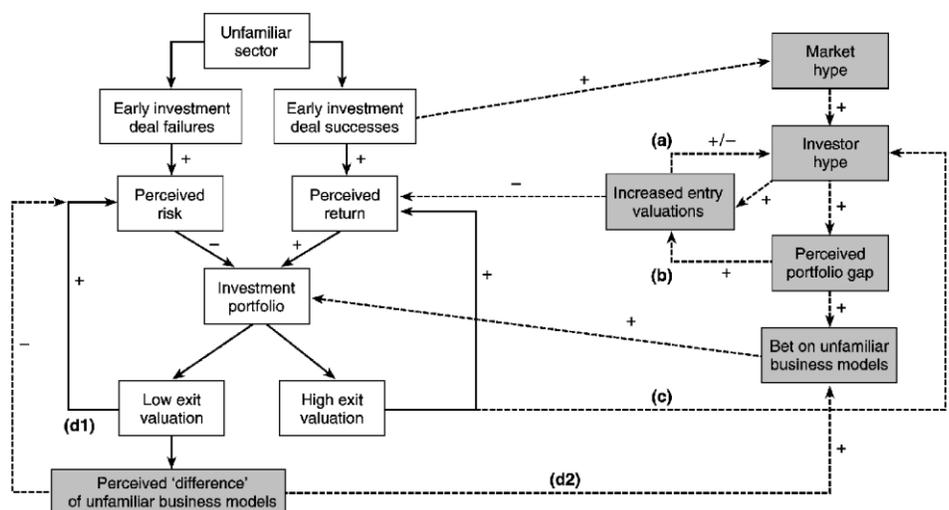
- *Peers*: VC funds are often looking to syndicate investments with peers, and they are more likely to attract syndicate partners if the peers believe the fund is investing in “hot” sectors.
- *Potential Portfolio Companies*: Potential investees would feel more secure in their acceptance of capital infusions from VC firms that have a track record in the investee’s sector.
- *Potential Investors*: Investors in VC funds hear the hype about sectors and have their own beliefs about what are good investment areas. They may invest their money in VC funds based on what sectors the VC is investing in and how that matches up with what sectors the investor believes to be profitable. Therefore, venture capitalists may make investments in certain areas in order to attract investors who are looking for exposure to that area.

It follows from this that VC firms could at times be stuck in a catch-22. A firm may have an uneasy feeling about investing in a certain company simply because it is in a hot sector, but the firm may be at a significant disadvantage in attracting investors and syndicate partners if it doesn’t hold a portfolio company from that sector. This could force illogical decisions and would only further increase hype around the bubble.

Venture Capital Bubble Investing

As was stated above, most of the time when investors discover a new sector, they invest under the assumption that the rules of the game haven't changed – a company must prove it has a decent chance of being a solid investment or even a home run. However, during bubble times, VC firms tend to shift their belief to follow the idea that the rules for successful investing are unknown; therefore it is harder to logically apply traditional investing theories and practices (Valliere and Peterson 2004).

Here, the psychic prison concept comes into effect. Investors allow themselves to be trapped in a positive feedback loop in which successful and unsuccessful exits both result in positive momentum for sector investing. High valuation exits understandably add to the hype of the sector as investors see success of other firms and wanted to join in. Low valuation exits, however, also fuel the bubble. Bubble investors see failures as proof that companies in the sector have wildly different business models, and therefore success relies upon placing multiple bets on different companies in the sector in order to have at least some success (Valliere and Peterson 2004). This causes entry valuations to increase, which in most cases would make investors more careful when buying a company, but in bubble cases it causes them to view the companies as hot commodities that need to be bought quickly. This feeds the loop, further increasing valuations and risk of portfolio companies.



(Source: Valliere and Peterson 2004)

Valliere and Peterson (2004) also found that company failures tend to be viewed as evidence that a successful business model still remains to be found. So, rather than failed exits serving as proof that there are serious flaws in sector business models and therefore decreasing investor desire to be involved in the sector, the failures actually increase investor presence as they search for the right company.

In the overall picture, VC firms make investments during bubble times for portfolio filling reasons rather than based on individual company strengths. A few major home run exits often ignite the fire of excitement in a sector, and the fire subsequently grows as investors jump into the mix simply for the sake of having a hand in the game. Eventually, investors find out that the failing companies aren't evidence of a different business model or new rules, but they are in fact proving the old rules that companies need solid business models with at least the possibility of soon being profitable in order to be good investments. When investors realize this, the bubble is popped and valuations come crashing down.

The Dot-Com Bubble

“Portal” E-Commerce Companies

Much of the hype during the dot-com bubble of 1999-2001 was built around e-commerce companies called web portals. Portals aggregate information on one web page in a uniform way. A good example of a portal is the Yahoo! main page – it has news, email, and other information all in one place.

In the late 1990's, access to the World Wide Web was spreading quickly, and as websites became increasingly used, portals were discovered as useful ways to link what would be completely separate sites into one. They could also be used to display multiple types of products for sale on one page. Towards the end of the decade, many large companies started building their own portals or acquiring companies that could build a portal for them, and VC investors flocked to the portal space as it became the new hot sector.

The Internet Companies' Role

In the period of 1999-2000, Internet company IPO's took the market by storm – the dot-com bubble was in full swing in this two year period. There were a few factors fueling the bubble, and one of them was the dot-com companies themselves and their bank representatives running the IPO's.

Ljungqvist and Wilhelm (2003) studied the characteristics of Internet IPO companies in this period. They found that companies were often going public with little to negative earnings – in 1999 79% of companies doing an IPO had negative EPS, and in 2000 80.3% of companies had negative EPS. A majority of the companies in 1999 and 2000 – 67.2% and 72.7%, respectively - were also using IPO proceeds to fund daily

operating expenses, rather than to pay down debt or fund capital investment or acquisitions.

This was caused by what was then misunderstood business models that are now (most of the time) viewed as flawed. For example, some of the companies sold products for zero or negative profits simply to drive traffic to the site to increase advertising revenue. There were even financial ratios being made up regarding these companies, such as the now infamous “price to eyeballs” multiple used by audiohighway.com. Internet startups were able to get away with these kinds of things due to the lack of understanding in the sector and the mania surrounding it.

Many of the IPO’s during this time period also contained directed share programs (DSP’s), which allowed friends, family, employees, and occasionally VC firms to purchase shares at the IPO price. In 1996, DSP’s were present in 24.7% of issues, but this increased to 79.2% in 1999 and 92.6% in 2000 (Ljungqvist and Wilhelm 2003). DSP’s encouraged IPO underpricing, because the lower the IPO price, the more return friends and family could make by buying the shares and selling them soon after the IPO.

Ljungqvist and Wilhelm (2003) found other contributing trends during the bubble on the Internet company side as well, including a decrease in CEO and other insider holdings pre-IPO, an increase in investment bank lead IPO managers holding shares of the issuing company, and an increase in price revisions.

Venture Capital Role

By 2000, 72.4% of issuing firms were backed by venture capital (Ljungqvist and Wilhelm 2003). Venture capital played a large role in the Dot-com bubble, as sector speculating investors jumped into Internet and portal company investments in an attempt

to flip an investment for a quick profit. In 1999 and 2000, total venture capital dollars invested increased year-over-year an average of 353% and 174%, respectively. This included year-over-year increases of 560% and 532% in Q4 1999 and Q1 2000, respectively (Pricewaterhouse Coopers 2013).

The early hype around the sector was actually created by some successful companies, such as Amazon.com. Amazon became hugely popular very quickly, and it created a sense of excitement in the market as investors scrambled to find something similar that had a chance to become just as big.

Rapid increases in investment volumes during this time didn't necessarily mean there was much increase in market knowledge. Investments were simply bets on the portal model without much fundamental background driving them. One VC investor was actually quoted saying in an interview, "Portals are hot now. Even though we don't yet see how they're going to make money, we think they're going to be really huge at some point. So you've got to be willing to pay what it costs in order to have a finger in that pie" (Valliere and Peterson 2004).

As Valliere and Peterson (2004) found with their investigation into the psychology behind the Dot-com bubble, investors became trapped in a psychic prison in which all feedback and analysis from successful and failed exits became positive feedback to invest further in the sector.

Bubble Burst



(Source: Google Finance)

In March of 2000, the bubble swelled to its greatest point when the NASDAQ peaked at 5132.52. As more exits were made and investments were found to be successes or failures, investors began to realize that even Internet companies were not above the rules of investing. Consistent negative EPS, selling products at a loss, and not having a clear plan to make profits in the future had never been solid fundamentals for a company, and they still weren't despite the flashiness of some of the companies. As investor sentiment rapidly cooled on the Internet sector, valuations crashed along with stock prices. Millions of dollars that had been poured into the industry were lost as companies either failed completely or limped their way onward. The mania of the Dot-com era was over.

A NEW BUBBLE – SOCIAL MEDIA

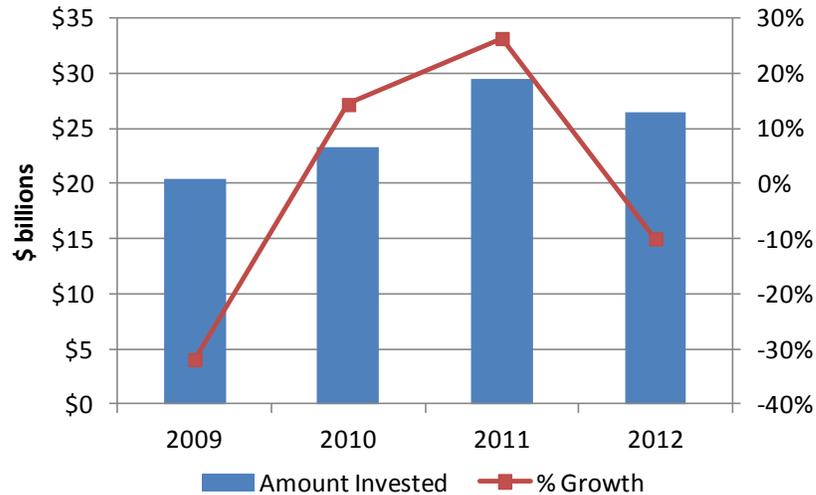
Bubbles tend to run in cycles, and for the most part they are all generally the same. After the mania subsides and valuations crash, investors promise themselves and others they will never get caught making the same mistakes again, and for a few years the venture capital market moves at a much lower pace of investment. However, new ideas slowly begin to arise in the startup space, and investors start to dip their toes into the market. Some new, exciting trend emerges, and suddenly the VC space is roaring again. Not every bubble is necessarily a devastating, multi-year-gains destroying monster, but they always have at least some material effect when they burst. Recently, there has been a speculative bubble in a new sector: social media.

The Return of Venture Capital

Overall Market VC Investing

During the height of the Dot-com bubble in 2000, total venture capital investment increased dramatically, often by triple digits year-over-year, as stated earlier in the paper. The bubble burst, and by 2003 this amount had decreased over 95%. Fast forward to 2010 – the recession caused by the housing bubble has ended, and the VC community is back on the uptick. As a whole, venture capital investments in 2010 and 2011 grew, with the total amount of venture capital dollars increasing by 14% in 2010 and 26% in 2011 (Pricewaterhouse Coopers 2013). The growth in 2011 is the largest growth in venture capital dollars invested since the Dot-com bubble.

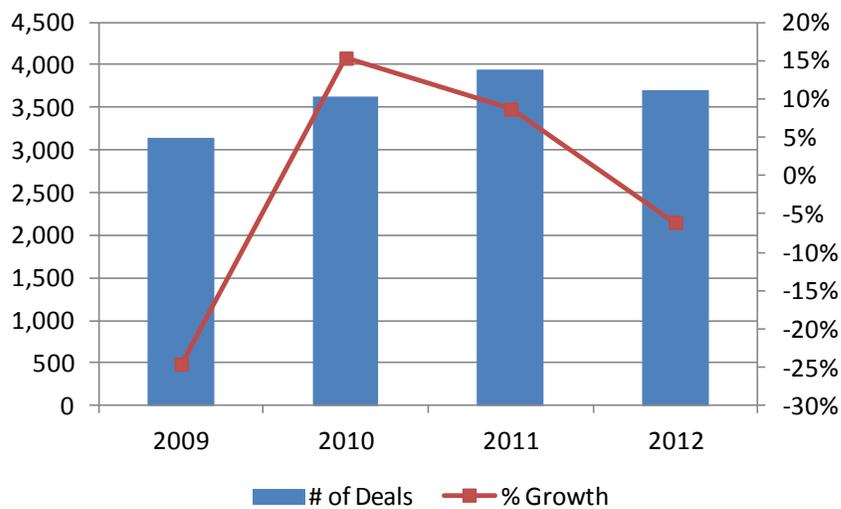
Total Deal Dollar Value



(Source: Pricewaterhouse Coopers 2013)

As the total dollar value increased over 2010 and 2011, the actual number of deals completed increased as well. In 2010, the number of deals increased 15%, slightly more than the increase in total dollar value. In 2011 this trend switched, with the deal number increasing by 8%, much less than the 26% increase in dollar value.

Total Deals Completed



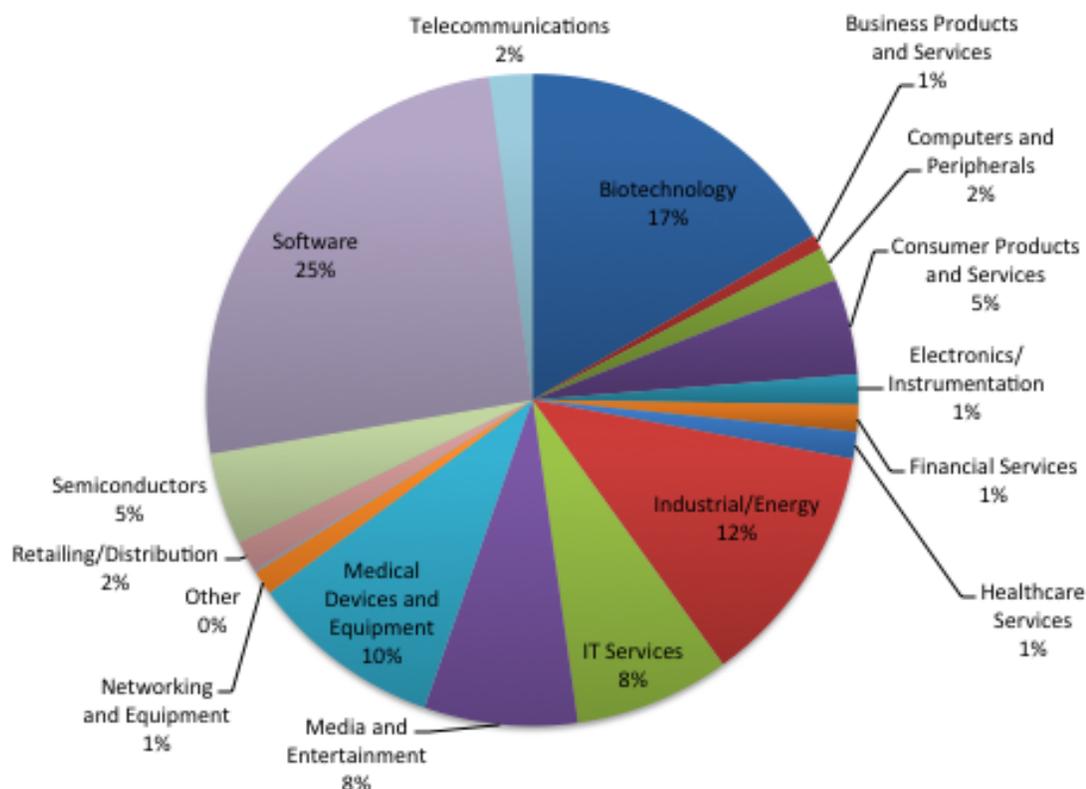
(Source: Pricewaterhouse Coopers 2013)

In 2011, total dollar growth was much higher than actual deal growth. This means that VC investors were pumping more dollars into relatively fewer investments compared to 2010. This shows increased confidence because, rather than spreading money around into many different small investments, venture capitalists began to increase their risk with more concentrated positions.

Internet Specific VC Investing

While 2010-11 saw definite growth in total market venture capital investing, there was even more significant growth in technology VC investments. As was demonstrated during the Dot-com bubble, technology companies tend to be hotspots for venture capital. In 2011, investments in the “Software” segment made up the largest portion of total investment dollars, taking up 25% of the pie. Biotechnology – still in the tech realm – took up the next 17%.

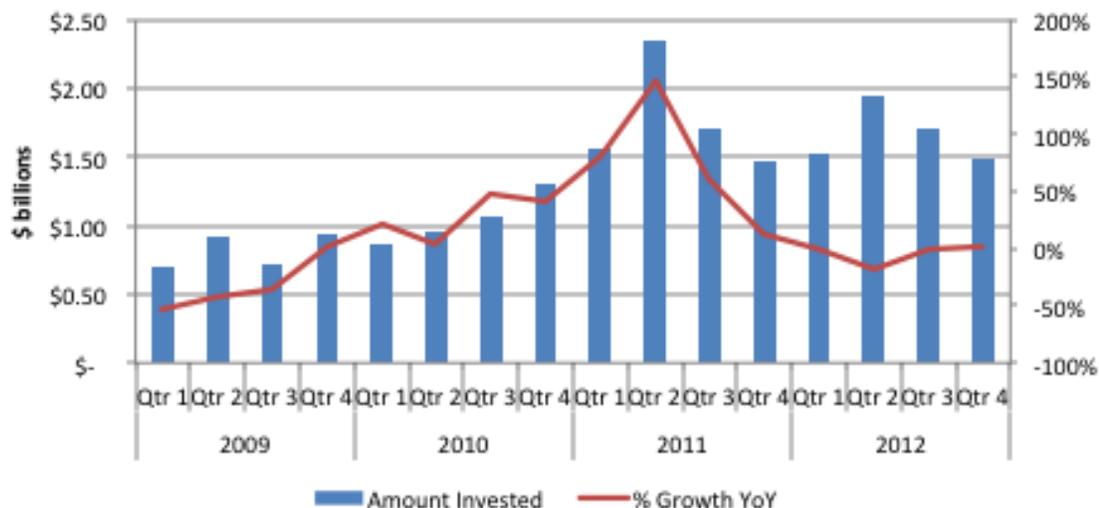
VC Investments by Sector, 2011



(Source: Pricewaterhouse Coopers 2013)

Drilling down further, Internet-specific investing saw a much larger spike in growth than the overall venture capital market. This sector is where the excitement really started to build once again. Throughout 2010 and into 2011, total dollars invested in Internet-specific deals increased dramatically, peaking with a year-over-year increase of nearly 150% in the second quarter of 2011. While these investments are in the Internet sector, the companies are much different from the Dot-com portal companies. Much of the current tech investment is driven by mobile centered companies, such as mobile app companies, or by new social media companies, which bring together large communities of people over the Internet.

Internet-Specific Dollars Invested



(Source: Pricewaterhouse Coopers 2013)

Just because the companies have a different model, however, doesn't mean that model is understood. There is still a large amount of uncertainty surrounding the current crop of tech companies, on everything from how they make a profit to what they actually do. This is where the bubble mania behavior returns, and much of that mania was concentrated in the social media space from 2010 to 2012.

Social Media – the New Portal

Over the past decade, the Internet has helped usher in a paradigm shifting type of media called “social” media. Social media allows users from all over the world to share information – pictures, stories, posts, comments, etc. – with other people whenever they desire. This has revolutionized the way people interact with each other, and social media companies have been cropping up everywhere, with investors rushing to get a piece of the pie.

Venture capital has pumped money into social media companies over the last few years due to a growing fervor caused by the hype around a few companies – namely Facebook, but also Groupon, Zynga, and LinkedIn. Besides these high profile IPOs, there have been other, smaller social media IPOs as well, such as Yandex, Renren, Jive, and Angie’s List. The common links between most of these IPOs are that they IPO’d in 2011, and that the stocks are significantly down since the IPO. Three of the above-mentioned stocks – Facebook, Groupon, and Zynga – had high profile IPOs that resulted in a crashing stock price for the company.



(Source: Google Finance)

Facebook

Facebook completed the largest IPO in history on May 18, 2012, valuing the company at \$100 billion. Facebook is a (or *the*) social media company with over 1 billion users around the world who post pictures, comments, videos, and stories on their individual web pages to share with all of their Facebook “friends,” or people who they have given access to see this information. Despite the company’s negative stock returns since its IPO, Facebook still has its massive user base that it is working on monetizing,

and as such it hasn't been quite the failure that Zynga and Groupon have been. Therefore, this paper will focus more on the latter two stocks, however, Facebook deserves some mention simply because it alone drove much of the hype in the social media sector.

The majority of Facebook's revenue comes from advertising, with 84% stemming from advertising in 2012 (Facebook 2012). Facebook is continually working on ways to use the information people post on their pages about themselves – their interests, hobbies, etc. – to target advertisements that they see on the Facebook website towards them.

In the year or two leading up to the company's IPO, its user base was growing rapidly toward the 1 billion mark. Monthly average users (MAUs) grew 39% during 2011 and 25% during 2012 (Facebook 2012). This rapid user growth made advertisements on the site more valuable, increasing ad revenue and the valuation of the company due to investor expectations and hype.

Facebook became increasingly valuable in the pre-IPO markets, and it went through eleven rounds of capital raising in the period between Sep 2004 and its IPO. Some of the more significant fundraising rounds include a \$500,000 angel investment in 2004 by Peter Thiel and Reid Hoffman, a \$200 million investment by Microsoft in 2007, and a \$1.5 billion investment in 2011 by Goldman Sachs and Digital Sky Technologies (SecondMarket). As Facebook was constantly being invested in pre-IPO, its valuation skyrocketed, inevitably reaching the \$100 billion mark at \$38 per share during its IPO. The excitement around Facebook caused VC investors who had missed out on the opportunity to invest in the company to look for the “next Facebook,” which drove much of the increased Internet-specific investment in 2011.

While many institutional investors cashed out during the IPO, the stock quickly declined over the next few months, reaching its lowest point on September 4, 2012 at \$17.73 per share. Much of the decline can be blamed on the extremely hyped up nature of the stock pre-IPO, and the fact that the company just doesn't have the growth or value to be a \$100 billion market cap company. Facebook is currently working to grow in other ways, particularly through mobile monetization, and it remains to be seen whether or not it will be successful in doing so.

Groupon

Groupon was founded in 2008 as a daily deals company that provided subscribers with an email a day containing discount deals for various merchants in any individual subscriber's local area. Since 2008, Groupon has evolved, keeping its deals concept but adding other concepts such as Groupon Goods, Groupon Now!, and Groupon Travel.

The company had extremely high growth in subscribers for the few years leading up to its IPO, with a growth of 2700% in 2010, and a growth of 282% from Jan 1 to September of 2011, the latest numbers available at the time of its first prospectus filed (Groupon, Inc. 2011). In order to attain these growth numbers, however, the company spent large amounts on marketing, or what they call "subscriber acquisition." In 2008, 2009, and 2010, marketing expenses were 326%, 35%, and 93% of revenue.

VC investors were paying heavily for this growth, investing over \$1 billion in Groupon between 2008 and its IPO in 2011 (SecondMarket). In the beginning of 2011, the company raised \$950 million at a valuation of \$4.75 billion. Within a few weeks, as Groupon began entering talks with Wall Street banks to do its public offering, the company was rumored to be valued at \$15 billion. A few months later, the company was

valued at \$25 billion (Tweney and SigFig 2011). This is one of the biggest examples of the mania surrounding social media during 2011 and early 2012 – Groupon’s valuation increased over 400% in a matter of months simply due to hype around the company and its IPO.

Accounting Issues

Groupon filed its first S-1 Prospectus in June of 2011, but the company did not actually complete its IPO until November. This was due to multiple revisions mandated by the SEC to questionable accounting practices and metrics.

The first, and possibly most problematic, issue was with Groupon’s method for recognizing its revenue. The company reported revenue as the total amount customers paid for coupons, without excluding the amount Groupon pays to the actual merchants. This falsely inflated Groupon’s revenue by 138% in 2010 – the change slashed revenue by over \$400 million that year (Groupon, Inc. 2011)

The second accounting issue dealt with a measure of operating income called Adjusted Consolidated Segment Operating Income (Adjusted CSOI). In his opening letter to shareholders in the S-1, CEO Andrew Mason explained Adjusted CSOI with the comment, “This metric is our consolidated segment operating income before our new subscriber acquisition costs and certain non-cash charges; we think of it as our operating profitability before marketing costs incurred for long-term growth” (Groupon, Inc. 2011). While many companies may report some form of consolidated segment operating income, the purpose of which is to exclude costs such as stock-based compensation or acquisition costs (in order to give a more accurate view of the company without one time expenses), Groupon made the further adjustment of excluding its marketing expenses. In

Q1 2011, this excluded expenses amounting to over \$179 million, and resulted in operating income of \$81 million. After the SEC mandated that Groupon change this metric, the Q1 segment operating income was reduced to a loss of over \$98 million (Agrawal 2011).

Groupon also reported the number of customers who had purchased a deal, however, they reported this as a cumulative number, meaning it would never actually decrease. The company also removed a chart from its final S-1 detailing its gross profit margin, because the margin had become worse as time went on pre-IPO due to all of the revisions.

Finally, in March 2012 Groupon announced a revision to its 2011 results based on an unexpected increase in customer refunds. The refunds increased because of the heavier mix of large ticket deals purchased, which have a higher likelihood of being returned. The company failed to recognize this possibility throughout 2011 and as such incorrectly estimated its revenues; after the change, revenue and operating income were reduced by \$14.3 million and \$30 million, respectively, in Q4 2011.

These accounting problems seem similar to the issues during the Dot-com bubble, such as with the “price to eyeballs” metric mentioned earlier in this paper. Groupon appeared to be attempting to cover up weaknesses in its business model with these adjusted accounting metrics. In the end, the delays caused by multiple S-1 amendments ended up greatly reducing the company’s perceived value, and by the time of its IPO, Groupon’s valuation had dropped to around \$12 billion, a 52% decrease from its highs of \$25 billion.

Operational Results

Groupon has yet to record a profit for a full year since its founding. In 2012, the company did manage to reduce marketing costs as subscriber growth slowed due to the law of diminishing returns. However, the company had other issues that plagued it last year. Trailing 12 month billings per average active customer – how much the average customer paid to Groupon during the last twelve months – declined 23% year-over-year (Mason, Andrew 2013). This means that revenue growth is being driven by an increasing number of subscribers, but each subscriber is paying less. This could signal maturity, or even fatigue, in the market, which indicates a large slowdown in growth.

On top of this, Groupon's deal revenue has been growing at a slower rate, while the revenue from Groupon Goods – a segment that sells goods directly to the consumer, requiring Groupon to first purchase the goods, then hold them in inventory and eventually sell them – has been increasing. This switch isn't necessarily a good thing – the deals business has margins of 85% (not including the cost of sales force, which brings it down to around 40%), while the goods business has margins of only 3% (Mason, Andrew 2013). If this trend continues, Groupon's cost of goods sold will increase significantly, making the company even less profitable.

In Q2 2012, Groupon purchased a minority position in Life Media Limited, also known as F-tuan, a competitor. According to Groupon's Q4 2012 Earnings Call, F-tuan has revised its forecasted revenues down significantly as compared to the expectations on which Groupon's investment was made. Groupon was forced to record a \$50 million pre-tax impairment charge in Q4. This means the company overpaid for its stake in F-tuan

due to the hype around the daily deals business model, and now it is feeling the negative effects of that mistake.

Overvalued

Groupon IPO'd at \$20 per share with a valuation of \$12.7 billion on November 4, 2011. The shares reached their highest price that day at \$26 and have been on a downward slide ever since. The stock is currently down over 70% from its IPO price, and the company has a valuation of \$4.12 billion (Yahoo! Finance).

Zynga

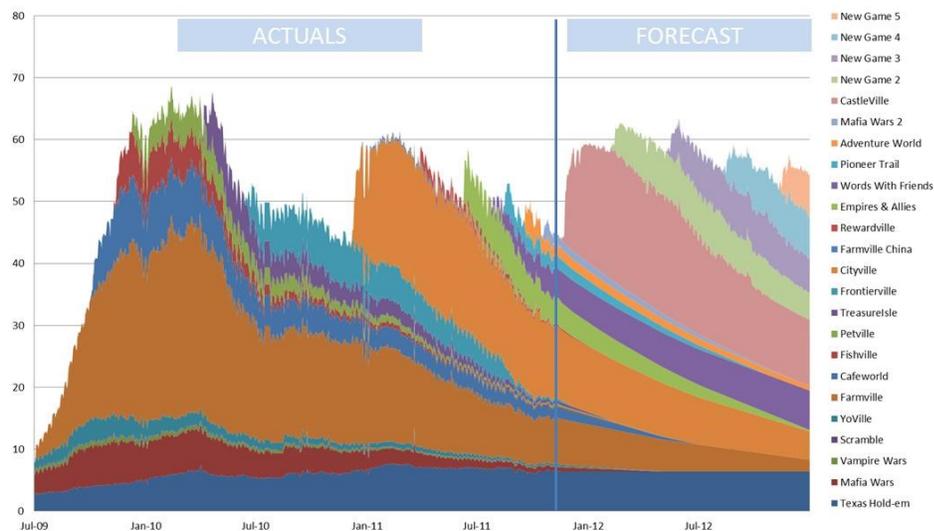
Zynga was founded in 2007 as a social gaming company offering online games mostly played on Facebook under a free-to-play model. Under the free-to-play model, users can play the games for free but pay small fees for virtual goods or upgrades; this is also known as a “freemium” model. Like Groupon, Zynga grew extremely quickly in the year or two after its founding. Its strong growth came on the back of some of the company's extremely popular games, such as Farmville and Mafia Wars.

Zynga raised \$860 million in venture capital investments between 2008 and early 2011 (SecondMarket). The company was the leading innovator in social games and as such had the jump on other gaming companies with regards to establishing a brand and growing its player base. Much of the excitement around Zynga was fueled by its rapid growth in users and the assumption that this growth would continue.

User Base

However, Zynga's games are very “hit-driven,” meaning that their user base spikes a few months after a successful game is released, then begins to decline

significantly a few months later. Below is an example of historical (and an outdated forecast) daily active users (DAUs) in millions for some of Zynga's games.

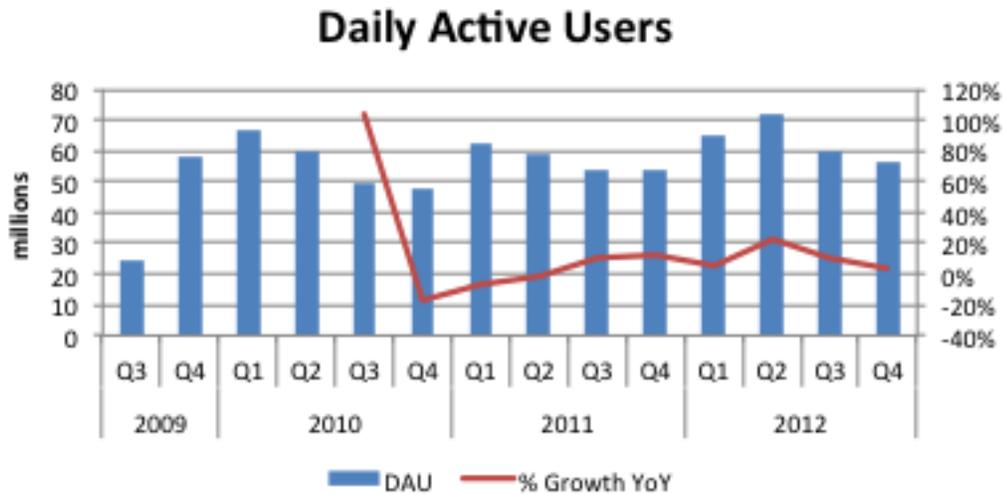


(Source: Cleland and Appdata 2011)

This fast decline requires Zynga to constantly release new hit games in order to keep its user growth steady as users grow bored with older games. Around the time of the IPO, investor hype around Zynga was high, because most believed Zynga could continue to create these hits. In January 2012, J.P. Morgan released a research report initiating Zynga at “Overweight” due to its status as a “leader in social gaming” based on the fact that it had produced 4 of the top 5 games on Facebook measured by monthly active users (MAUs) – the number of unique people who log into a Zynga game in a given month – according to Appdata (Anmuth 2012). Now, Zynga only has 2 of the top 5 - and the same out of the top 10 – most popular games on Facebook based on MAUs (Appdata).

Zynga's total user growth has still been increasing over the last few quarters, but it has been doing so at a slower rate. In Q4 of 2012, DAUs grew only 3%, as opposed to majority double-digit growth in many years prior. MAUs still had solid growth above

20%, however this could be a disturbing trend (Zynga, Inc. 2013). If MAUs is increasing faster than DAUs, this means Zynga is still picking up players, but the players are logging on to Zynga's games less often. Less time spent on the company's games can never be seen as a good thing, because there is less attachment to the game and therefore a decreased chance that players will purchase virtual goods to enhance their experience. Monthly unique payers (MUPs, the number of unique individuals who purchased a virtual good) decreased 1% YoY and 2% QoQ for the fourth quarter as well (Zynga, Inc. 2013).

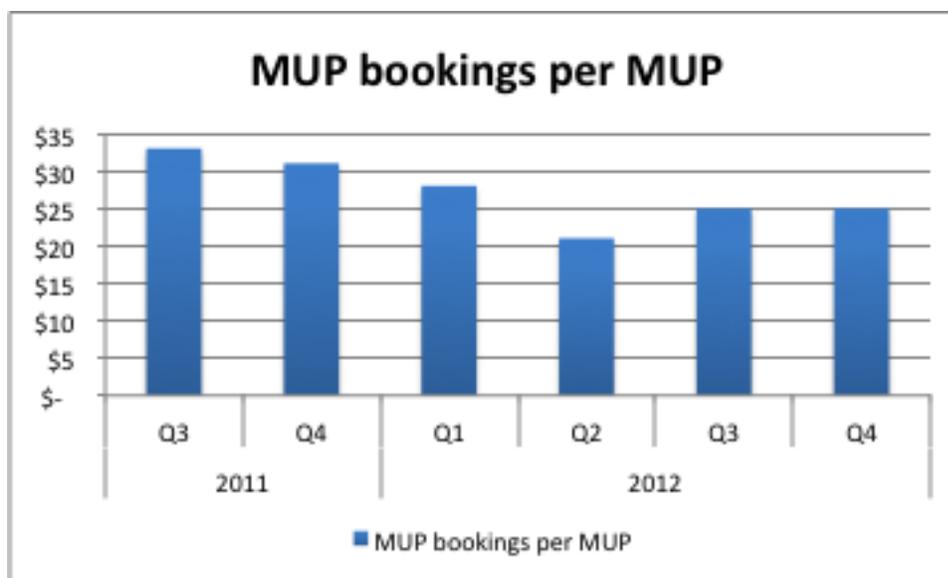


(Source: Zynga, Inc. 2013)



(Source: Zynga, Inc. 2013)

Zynga relies on a free-to-play model for its games, selling virtual goods to make up the largest part of the company's revenue. The players that actually buy these goods, however, represent an extremely small percentage of the overall player base. In 2012, an average of 3.4 million users purchased in-game items – amounting to 2% of the overall player population (Zynga, Inc. 2013). Management lists this as a risk in their 10K report – the fact that their paying player base is so small that if they were to lose part of that player base, it could substantially affect revenue.



(Source: Zynga, Inc. 2013)

The above chart shows what Zynga calls their “average monthly unique payer books per MUP,” which is basically the average amount spent by each monthly unique payer. There has been a trend downward over the last six quarters (the number isn’t reported before Q3 2011), and management attributes this to their growth in mobile games, which have a lower monetization rate. In fact, according to management, the bump up in Q3 and Q4 2012 is due specifically to less mobile MUPs. This trend is a very negative one for the company, because as a whole it is working to move more into mobile games along with the rest of the industry, which is leaving behind traditional PCs for mobile devices. As Zynga makes more mobile games in order to keep up with player desires, it will be forced to deal with the lower monetization rate of mobile, and therefore lower revenues.

In order to make up for lower revenues from player payments, management has been increasing in-game advertising. The advertising has not been fully supplementing the decrease in player payments, as shown in the chart below, detailing ABPU (average bookings per user - the total amount of user payments plus advertising revenue, divided

by the number of days in the period, divided by DAUs). Despite the attempted advertising revenue increase, quarterly ABPU is still down year over year, once again displaying a weakness in Zynga's revenue growth plans.

	2011				2012			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
ABPU	\$ 0.051	\$ 0.051	\$ 0.058	\$ 0.061	\$ 0.055	\$ 0.046	\$ 0.047	\$ 0.051
% Growth YoY					8%	-10%	-19%	-16%

(Source: Zynga, Inc. 2013)

The decline in bookings is especially problematic for Zynga due to its high fixed costs. In the Q2 2012 earnings call, CFO Dave Wehner said, "I want to note that our cost base is largely fixed, so reduced bookings will have a significant impact on adjusted EBITDA" (Pincus, Mark 2012). As Zynga's bookings decline but the company's costs stay the same, it will lose more and more money.

Failed Acquisition

In March 2012, Zynga held a press call announcing the acquisition of OMGPOP, the maker of the hit mobile game Draw Something. In the call, management stated that "In just six short weeks, Draw Something has been downloaded more than 35 million times and tops the charts in both free and pay. In the Apple App Store and in just the last week more than 1 billion drawings have been created" (Ko, Dave 2012). It is widely believed that Zynga acquired OMGPOP simply for the game Draw Something, rather than for the team behind the game. While management stated on the call that they had a "tremendous amount of respect for this team" and weren't acquiring OMGPOP for Draw Something alone but for the team's creative talent, an analyst on the call, Richard Waters of the Financial Times, hit the nail on the head when he stated that it looked like Zynga was just buying a single game, since OMGPOP hadn't had success in the past. And, he

said, if the reported \$200 million price tag of the acquisition is correct, it would be an expensive business model to do that every time a charts-topping game comes around (Ko, Dave 2012). This comment was spot on, especially taking into consideration management's statement that Draw Something had "become one of those moments for water cooler type for people of all ages, a true cultural phenomenon loved by celebrities from folks like Miley Cyrus to Rosie O'Donnell..." (Ko, Dave 2012).

A few months later, it was clear Zynga had made a mistake in acquiring a single game. Shortly after the acquisition, Draw Something DAUs and MAUs declined substantially, and Zynga was forced to write down \$95.5 million of the \$183 million acquisition as a loss (Zynga, Inc. 2012). In the Q2 2012 earnings call, management admitted they had acquired OMGPOP for the Draw Something product line, going against what they had said in the acquisition press release. Zynga CEO Mark Pincus said, "And so...the OMG acquisition we saw as a rare instance for us, only the second time that we've acquired a product line, and so we're committed to growing primarily through organic development" (Pincus, Mark 2012).

Overvalued

Zynga IPO'd on Dec 16, 2011 at \$10/share, valuing the company at \$10 billion. Since then, the stock has dropped 64%, and it is currently trading at just over \$3/share with a valuation of \$2.7 billion (Yahoo! Finance).

Has the Bubble Burst?

After taking into account the blown up pre-IPO valuations of Facebook, Groupon, and Zynga, it is safe to say that there was a bubble in social media stocks. The question remains, however, as to whether or not that bubble has popped. It could be argued that it

has popped, based on the decimated valuations of the three companies analyzed in this paper. However, there is still hype and rumor regarding the potential IPOs of social media sites Twitter and Pinterest.

According to analyst firm Greencrest Capital, Twitter could currently be valued at around \$11 billion based on its recent rounds of fundraising and trading on pre-IPO secondary markets (Kelly 2013). In a February Wall Street Journal article, Dennis Berman argues that Twitter has the potential to match Google in terms of profitability. The article is mostly based on hearsay and hype, with quotes such as “Advertising-data-firm eMarketer Inc. estimates 2014 [Twitter] revenue at \$808 million, but people in the venture-capital community are already whispering that Twitter will break \$1 billion by then,” and “Twitter isn’t worth \$10 billion if you benchmark it to its current financials. But that hardly matters now” (Berman, Dennis K. 2013). The article goes on to estimate revenue per user \$4, bump that up to \$7 by 2016 based on what analysts believe about Facebook revenue, and then assume 30-40% margins based on more whispers in the venture capital community – the people who stand to gain most from Twitter’s valuation being hyped up. Then, the article slaps Google’s then 17-times trading multiple on Twitter, and says “...voila, Twitter has a value of \$12.5 billion. And you needn’t tweak conditions much to get a higher number” (Berman, Dennis K. 2013).

In addition, the article mentions that Pinterest just earned a \$2.5 billion valuation with zero revenue. Articles and ideas such as these point to the possibility that the social media bubble could still be growing.

Social Media vs. Dot-Com

Some similarities can be drawn between the bubble in social media and the bubble of the Dot-com era, despite the fact that the social media bubble has not been near as large, nor has it caused similar damage to the entire stock market after some social media stocks crashed.

The recent social media companies that have IPO'd, especially Groupon and Zynga, are similar to some of the Dot-com companies in that many investors simply don't understand the business models of the companies. Their methods of earning revenue can be complicated, and their user growth was severely overestimated in pre-IPO valuations.

Groupon has never made a profit at year end, which brings up the lesson stated by Valliere and Peterson in 2004 – companies that don't make a profit and aren't likely to do so in the future don't make good investments. Groupon has also had multiple accounting issues due to tweaking their metrics in order to make the company look better – similar to the “price-to-eyeballs” ratio utilized during the Dot-com era.

Zynga's revenue and user growth was highly overestimated, along with its ability to continually release hit games. On top of that, it has an extremely small percentage of its player base that actually pays for its games, which opens up the possibility for revenue volatility if the user base continues to shrink.

Finally, these companies have bought into the bubble themselves with failed acquisitions during overhyped times in the market. Both Zynga and Groupon were forced to write down millions in their acquisitions of OMGPOP and F-Tuan, respectively, and

the question comes to mind as to whether or not Facebook will have to write down any of its \$1 billion acquisition of Instagram.

In the end, a big factor driving both bubbles is the pre-IPO hype caused by venture capital investing before the IPO. In these rounds of fundraising leading up to the public offering, the same mania that Charles Mackay studied in 1841 can easily arise, causing valuations to falsely balloon simply based on excitement. This part of human nature, the tendency to be carried away by excitement or trapped in false positive feedback loops, causes investors to overlook significant weaknesses in company business models. This illogical investing is the root driver of all bubbles, and there is convincing evidence in history that this kind of behavior won't be eliminated any time soon, if ever.

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ABSTRACT

Market “bubbles,” or periods of irrational investing and excitement for a particular type of investment, have been a recurring phenomenon in markets since the 1600’s. These bubbles result in a large buildup of wealth followed by a crash and extremely quick loss of that wealth.

Through analysis of fundamental flaws in the business models and decisions of investors in three social media companies – Facebook, Groupon, and Zynga – this paper argues that there is a new bubble in social media stocks, and that it has similar drivers to those of the Dot-Com bubble in the late 1990’s and early 2000’s. These drivers are increased venture capital investing, relatively unknown and misunderstood business models, and the general irrational excitement surrounding the companies.