

Why are IPOs in the ICU?

By David Weild and Edward Kim



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Introduction

Over the last several years, the IPO market in the United States has practically disappeared. While conventional wisdom may say the U.S. IPO market is going through a cyclical downturn, exacerbated by the recent credit crisis, many are beginning to share a view of a new and much darker reality: The market for underwritten IPOs, given its current structure, is closed to most (80 percent) of the companies that need it.

In this white paper, Grant Thornton LLP explores the history of the IPO market, what led us to this crisis, and our ideas for a new, opt-in stock market capable of reinvigorating the U.S. IPO market.

History of the IPO market

“By killing the IPO goose that laid the golden egg of U.S. economic growth, technology, legislation and regulation undermined investment in small cap stocks, drove speculation and killed the best IPO market on earth.”

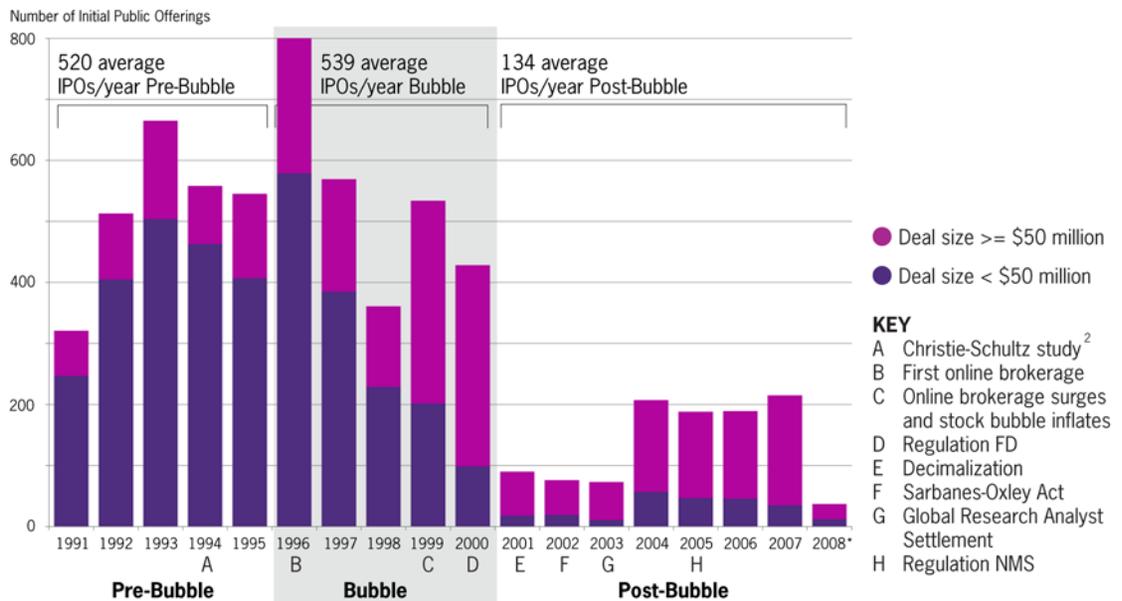
- David Weild

Let’s take a look at the IPO market that preceded the Dot Com Bubble of 1996 (see Exhibit 1). The Pre-Bubble period traded about the same number of IPOs as the Dot Com Bubble period.¹ Yet, the Pre-Bubble period had over three times more IPOs than the Post-Bubble period. On average, there were 520 IPOs per year leading up to the Bubble; you have to wonder, why the average number of IPOs since, fell by a third, to 134 IPOs per year following the Bubble.

Exhibit 1

Number of IPOs, 1991–2008

Deals smaller than \$50 million in proceeds versus deals larger than or equal to \$50 million in proceeds



* Data includes corporate IPOs as of 10/31/08, excluding funds, REITs, SPACs and LPs

Source: Dealogic, Capital Markets Advisory Partners

¹ Contrary to popular opinion, the number of IPOs during the Bubble was similar to the number of IPOs in the five years leading up to the Bubble. However, the average proceeds per IPO nearly tripled during the Bubble, with the proceeds directed at very early-stage businesses by historical standards.

² Christie, William G., and Schultz, Paul H., “Why do NASDAQ Market Makers Avoid Odd-Eighth Quotes?” *Journal of Finance*, Vol. 49, No. 5, 1994.

Online brokerage accounts proliferate

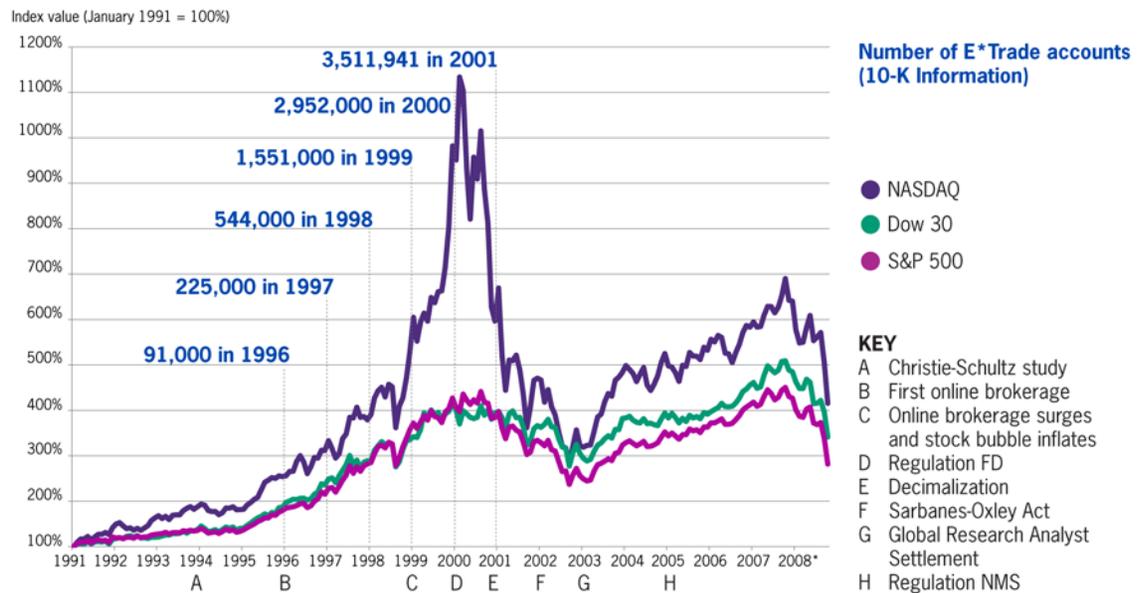
The first online brokerage accounts were launched in 1996 beginning with Charles Schwab and Co., Inc. and quickly followed by Ditek Online Brokerage Service LLC, E*Trade Financial, Waterhouse Securities, Inc. and numerous others. Initial brokerage fees were around \$25 per trade (soon to go lower), putting the whole advice-based brokerage industry, with fees of \$250 (and higher), on notice. Under the theory that E*Trade would be a pretty fair proxy for levels of activity in the online brokerage industry overall, we reviewed E*Trade 10-Ks to chart the number of online brokerage accounts opened at E*Trade (see Exhibit 2).

While it is impossible to establish cause and effect, it is reasonable to hypothesize that the Dot Com Bubble masked an underlying pathology: That the explosive growth in sub-\$25 commission-per-trade, self-directed online brokerage accounts brought unprecedented investment into stocks, helped to cause the Bubble and destroyed the very best stock marketing engine the world had ever known. Retail stock brokers were chased from the no-longer sustainable \$250 (and higher) commission-per-trade business of traditional stock brokerage to become fee-based financial advisors (asset gatherers).

Exhibit 2

The Dot Com Bubble

Did online brokerage help undermine the U.S. equities markets?



* Data as of 10/31/08

Source: NASDAQ.com and NYSE.com

The so-called competition of ideas, wherein stock brokers would look for the best available stock ideas for their clients, was killed by online brokerage. Unfortunately, the significance of this loss may have been masked by the heady days of the Bubble and the carnage following the correction.

Venture capital retreats

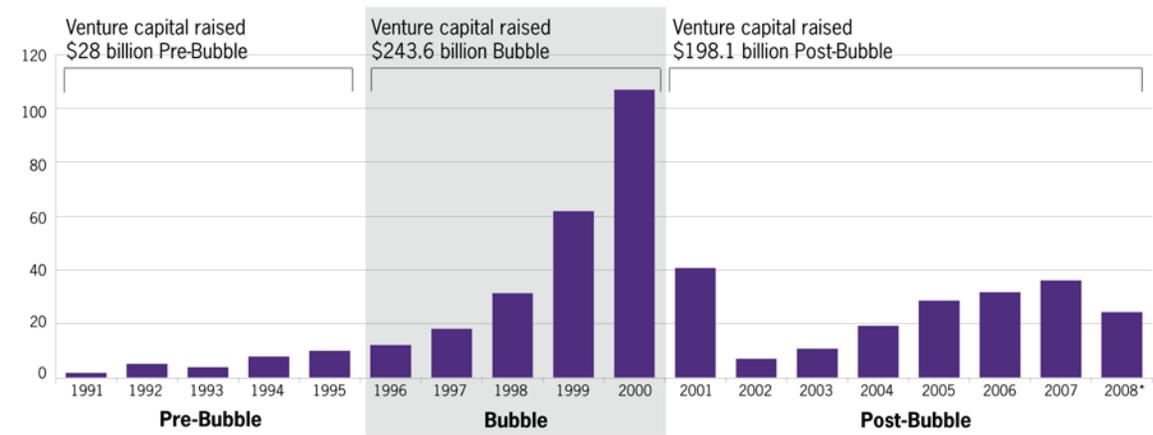
Interestingly, the Johnny Appleseed for the IPO market, namely the venture capital industry, raised many times more capital during and after the Dot Com Bubble (see Exhibit 3) than it did in the years leading up to the Dot Com Bubble.

Exhibit 3

Venture capital raised

The number of venture-funded IPOs should be at an all-time high given that the amount of venture capital raised post-1996 far exceeds the amount of venture capital raised pre-1996. Instead, the number of IPOs is depressed.

Venture capital raised (\$Billions)



* Data as of 9/30/08

Source: National Venture Capital Association website

It can take on average five to six years³ for a successful venture-funded company to execute an IPO. The data in Exhibit 3 reveals that the time for an expected rebirth in the U.S. IPO market has passed. Simply stated, a U.S. economy with an abundance of venture capital should have produced over 500 IPOs every single year for each of the last four years; however, that is not the reality.

It's no mystery to people who work in the venture capital industry that in order to drive returns for investors in their funds, they've monetized returns by seeking "liquidity events" away from the public markets. While there is an array of liquidity options — including alternative listing venues, such as the NASDAQ Portal, the AIM Market (London) or the TSX (Canada) — most of these options have their own limitations and satisfy only a small fraction of liquidity needs. As a result, most companies today never make it public. Instead, the exit workhorse of venture capital is now the sale of a portfolio company to mostly strategic (large corporate) acquirers.

³ According to the NVCA, the median age of a venture-backed company at IPO hit 8.6 years in 2007, the longest "gestation period" on record dating back to 1991.

If small companies can be sold to large companies, why should we care about whether or not the IPO market can be fixed? For starters, a structurally compromised IPO market leaves a lot of shareholder return, economic growth and job formation on the table. No crystal ball can predict which companies are acquired before their prime. Even AT&T, Disney and General Electric all went public once. Some IPOs are tiny — mighty Intel Corporation went public in 1971 with an \$8 million IPO and a mere \$53 million valuation. Big corporations are eating our young as they starve for capital before they have the opportunity to reach adulthood. Their true potential will never be known.

More troubling perhaps is how the lack of an IPO market has caused venture capitalists to avoid financing some of the more far-reaching and risky ideas that have no obvious Fortune 500 buyer. Gone are the days when most venture capitalists would so willingly pioneer new industries and technologies (e.g., semiconductors, computers and biotechnology) that have no obvious outlet other than the IPO market. Today, the first question most venture capitalists ask of a potential portfolio investment is, “Who are the natural strategic buyers for your company or idea?” If the answer is “no one,” as it might have been in 1983 when Genentech was the first biotech company to go public, the likelihood is that the Genentechs of our world might never be funded.

Decline of the IPO market

“Deals under \$25 million have pretty much gone the way of the dodo bird.”

- David Weild

Companies stay private

All large companies start small. There are many more small companies that want to access small amounts of equity capital than there are large ones. So, when the small IPO all but disappears, it is fair to say that the market is broken and needs to be fixed.

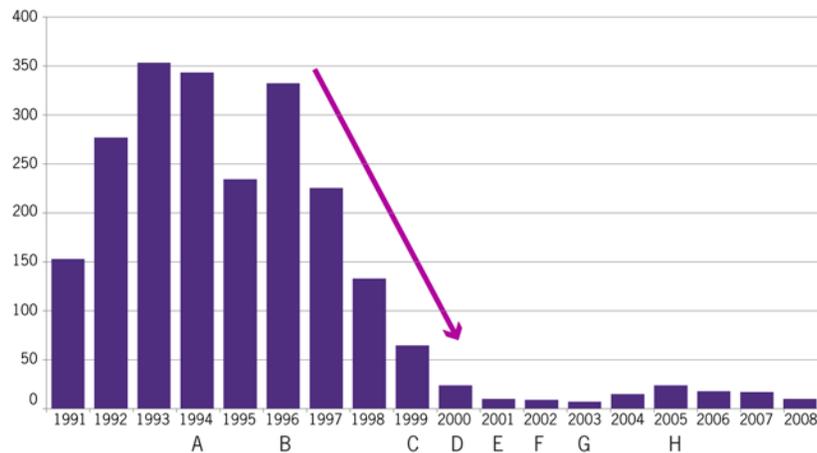
As you can see in Exhibit 4, small IPOs — those under \$25 million in size — suffered a rapid decline from 1996 to 2000. Interestingly, the small IPOs were seeing steady downward pressure at the same time that online brokerage was booming and displacing stock brokers. Sarbanes-Oxley didn’t come into play until later in 2002. So while Sarbanes-Oxley did increase the costs and time required to go public, it is a bit of a red herring in that it is only one factor, and probably not the major factor, in the demise of the IPO market.

Exhibit 4

IPOs raising less than \$25 million

Small IPOs declined from 1996 to 2000: online brokerage accounts proliferated from 1996 to 1999; Sarbanes-Oxley was not implemented until 2002.

Number of Initial Public Offerings



KEY

- A Christie-Schultz study
- B First online brokerage
- C Online brokerage surges and stock bubble inflates
- D Regulation FD
- E Decimalization
- F Sarbanes-Oxley Act
- G Global Research Analyst Settlement
- H Regulation NMS

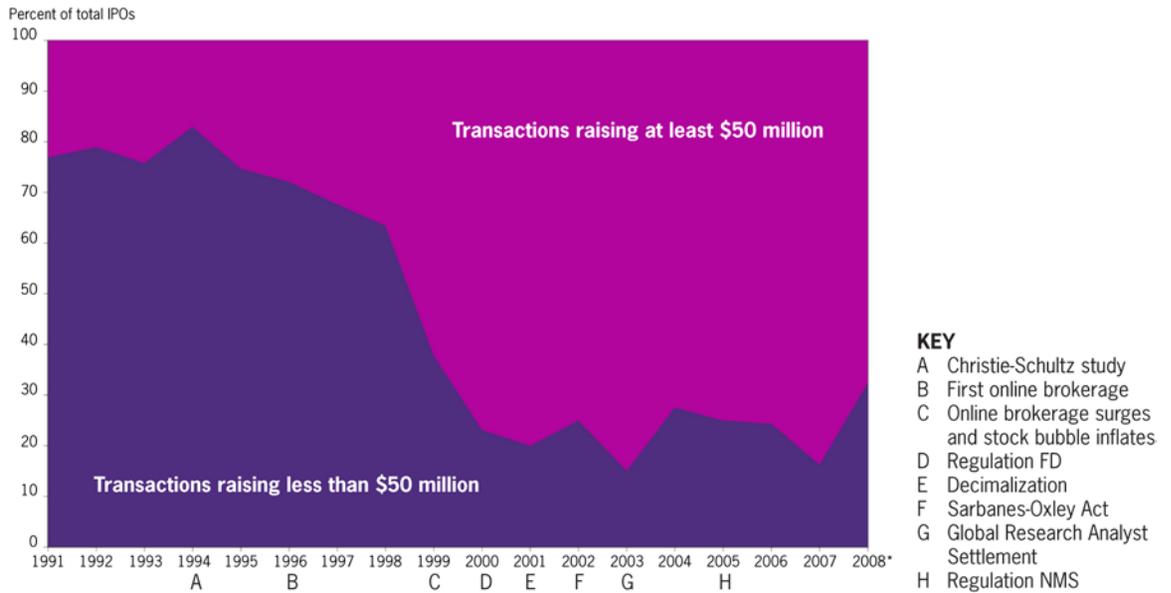
* Data includes corporate IPOs as of 10/31/08, excluding funds, REITs, SPACs and LPs

Source: Dealogic, Capital Markets Advisory Partners

Exhibit 5

The Perfect Storm

From 1991 to 1997 nearly 80% of IPOs were smaller than \$50 million in size but by 2000 the number of sub-\$50 million IPOs declined to only 20%.



* Data includes corporate IPOs as of 10/31/08, excluding funds, REITs, SPACs and LPs

Source: Dealogic, Capital Markets Advisory Partners

Decimalization introduced

A Perfect Storm occurs when a confluence of conditions builds to such an extent that an unprecedented amount of damage is caused to anything in its path. It's a once-in-a-lifetime event.

The stock market bubble and the legislative and regulatory aftermath created just such a Perfect Storm. With the benefit of hindsight, it appears that the online brokerage craze coupled with the impact of certain stock market analysts exaggerated the upward movement of stock prices. It is also clear that the growth in online brokerage was amplified by the growing financial news media.

Grave structural problems (brokers were fleeing commission-based brokerage to become fee-based asset gatherers) were masked by the Bubble. All the while, the SEC was continuing to champion a pro-consumer agenda that targeted reform of the full-service brokerage firms. Many of these changes would compound the structural problems that enabled an increase in speculative trading and a decrease in long-term investors. (We've seen these phenomena most recently in the housing markets with teaser rates and no-money-down mortgages). Yet the worst was still to come.

Barreling down the track in 2001 was the death star of decimalization. While it's difficult to argue in theory with the change from fractional to decimal increments, in hindsight the markets would have been better served by a reduction of increments to just 10 cents, rather than the penny increments for which the SEC pushed. The resultant loss of 96 percent of the economics from the trading spread of most small cap stocks — from \$0.25 per share to \$0.01 per share — was too much of a shock for the system to bear. Trade execution had to be automated. Market makers no longer exchanged information over the phone scrambling to match buyers with sellers on the other side of a trade. Liquidity, supported by capital commitment, was quickly a thing of the past in the NASDAQ system. In the name of championing consumers, the damage was done.⁴

The New York Stock Exchange managed to hold out for a time. However, the specialists finally fell victim to crushing spreads when Regulation NMS⁵ was implemented in July 2005.

Generally speaking, economists and regulators have maintained that competition and reduced transaction costs are of great benefit to consumers. This is only true to a point. When it comes to investments, higher front-end or transaction costs and tax structures that penalize speculative (short-term) behavior can act as disincentives to speculative behavior and create incentives for investment (buy-and-hold) behavior that may be essential to avoiding boom-and-bust cycles and maintaining the infrastructure necessary to support a healthy investment culture. As markets become frictionless (i.e., when there is little cost to entering into a transaction), it becomes easier for massive numbers of investors to engage in speculative activity. This occurred first with the introduction of \$25 per trade online brokerage commissions in 1996 (which later dropped to below \$10 per trade) and decimalization in 2001. Consumers flocked to the markets.

Regulatory action

Regulators may have unwittingly done a real disservice to mom and pop investors by enabling traders to hijack the markets for speculation. This phenomenon can be seen by the large Wall Street firms who have witnessed their top 10 (by revenue) institutional investors — which only a decade ago were “long-only” mutual funds such as Fidelity and Alliance — be displaced by hyper-trading long-short hedge funds.

⁴ Consumers and institutional investors undoubtedly benefited from decimalization and \$0.01 spreads in the trading of large capitalization stocks whose visibility and broad research coverage outweighed any loss of broker and trader support. Unfortunately, decimalization was “one-size-fits all” and was applied equally to small capitalization stocks that had comparatively little natural visibility.

⁵ Regulation National Market System (NMS) 2005: The SEC proposed a structural overhaul of the securities markets, requiring that (i) the best bids and offers (“top of book”) be displayed in all markets and that the best price cannot be “traded through” or ignored, (ii) markets cannot execute orders at a price worse than one displayed by another market, (iii) stocks cannot be quoted in fractions of less than a penny and (iv) market data revenues are allocated more equitably.

Is this what Congress really intended?

Winners	Losers
	Issuers
Hedge funds	Mutual funds
Trading-oriented institutions	Long-term institutions
Day traders	“Mom and “Pop” investors
Electronic trading	Stock brokers (Advice)
Electronic trading	Market makers (NASDAQ)
Volatility	Liquidity ⁶
“Black pools”	Transparency
Expert networks	Company fundamental research
Private equity	Investment bankers
Big company acquirers	Venture capital
PIPEs, reverse mergers, SPACs	IPOs
Asia (especially China and India)	United States

Regulation Fair Disclosure devalued stock research

Institutions stopped paying a premium for research. The need for research on the retail side of the business, with stock brokers unable to earn a proper commission, was diminished. Quality sell-side analysts left Wall Street to work at hedge funds. The “dumbing-down” of stock research was in full swing and companies were left without coverage or with increasingly ineffective coverage.

Global Settlement brings limited gains in independence

Last but not least; equity research may be less independent of investment banking than it was prior to the 2003 Global Settlement⁷ ruling. The economics to support equity research — trading and commissions — have been so eroded that the only significant economics left come from investment banking. Capital Markets Advisory Partners (see Exhibit 6) developed a study that demonstrates that the average number of investment banking bookrunners and co-managers has increased steadily across all transaction sizes. This is because the aftermarket commission and trading economics before decimalization were generally adequate to attract analyst coverage independent of the transaction. Today, all analyst coverage typically comes from the investment banking management team, and experience shows that some of these banks will fail to provide coverage. The bottom line is that, in recent years, research coverage is tougher for issuers to secure and is likely to be limited to the investment banking management team despite the intentions of the Global Settlement ruling.

“Necessity is the mother of invention: The IPO now pays for more equity research than before the Global Settlement as measured by the number of managers per IPO.”

- David Weild

⁶ “Decimals and liquidity: a study of the NYSE,” *The Journal of Financial Research*, Vol. XVII, No. 1, Spring 2004, pp. 75-94.

⁷ “The results indicate that decimalization has led to a significant increase in volatility...”

⁷ Global Research Analyst Settlement: The SEC, the NYSE, the NASD (now FINRA), the New York Attorney General’s Office and the NASAA announced a joint agreement reached with 10 of the largest securities firms to address conflicts between research and investment banking in their businesses. As part of the settlement, these firms agreed to insulate their banking and research departments from each other, to prohibit analysts from being compensated on a particular investment banking transaction, to prohibit investment banking from having any input into research compensation or coverage decisions, and to prohibit research analysts from accompanying investment bankers on pitches and road shows to solicit business or market new issues (including IPOs). Firms were penalized with \$1.4 billion in collective penalties.

Exhibit 6

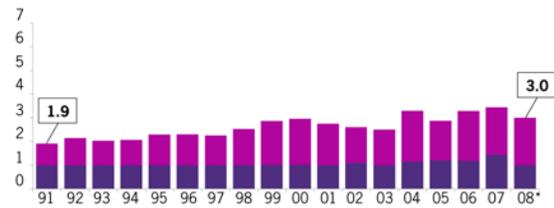
Securing research coverage by putting investment banks on the cover of the IPO prospectus

For all deal sizes, the average number of bookrunners and co-managers increased over time.

- Co-managers
- Bookrunners

Deal size \$25-50 million

Average of managers



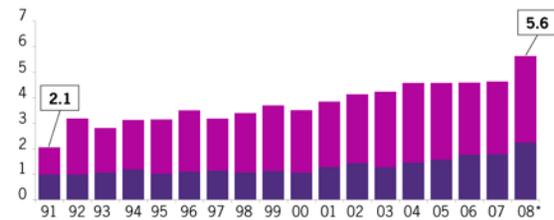
Deal size \$50-100 million

Average of managers



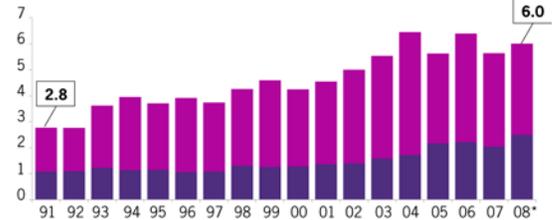
Deal size \$100-200 million

Average of managers



Deal size \$200-500 million

Average of managers



* Data includes corporate IPOs as of 10/31/08, excluding funds, REITs, SPACs and LPs

Source: Dealogic, Capital Markets Advisory Partners

Effect on capital markets

Impact of inaction

Lower U.S. economic growth – U.S. economic growth will be lower as returns languish without a functioning IPO market and investors allocate less money to venture capital as an asset class. The venture-exit timeframe is currently exceeding eight years, an all-time high, extending the return horizon and lowering the internal rate of return.

Entrepreneurs take a beating – Investors are already cutting back funding to entrepreneurs in this country. Venture capitalists, in order to make up short-falls in returns, will dilute entrepreneurs even more. The incentive for Americans to leave well-paying jobs and risk everything will be less. Suffering from a lack of support, the IPO takes a beating.

U.S. vulnerable to outside threats – The U.S. will lose its competitive advantage in developing, incubating and applying new technologies. Technologists are already returning to foreign jurisdictions like China and India where government has devised an increasing array of economic and capital markets incentives to compete.

Loss of American prestige – The ability of the markets to support IPOs once made the U.S. stock markets the envy of the world. Our system was so effective that the French government, concerned that the United States would trump them in the then-emerging biotechnology industry, launched the “Second Marché”⁸ in 1983 as a feeder to the Paris Bourse.

Capital markets infrastructure continues to erode – This country enjoyed an ecosystem replete with institutional investors that were focused on the IPO market — active individual investors supported by stock brokers and a cadre of renowned investment banks that supported the growth company markets for many years, including, L.F. Rothschild and Company, Alex. Brown & Sons, Hambrecht & Quist, Robertson Stephens and Montgomery Securities. None of these firms survives today. Firms have attempted to fill the void and found that the economic model supported by equity research, equity sales and equity trading no longer works.

⁸ The French stock market (NYSE Euronext Paris) now has four parts: The Premier Marché includes large French and foreign companies; the Second Marché now lists medium-sized companies; the Nouveau Marché (launched in 1996) lists fast-growing start-up companies; and Marché Libre (also launched in 1996), an unregulated OTC market.

“The Perfect Storm of technology, legislation and regulation took an entire industry (Wall Street) that once catered to and supported investors and put it into the hands of traders and speculators.”

- David Weild

Individual investors are left holding the bag – Traditional forms of capital formation (e.g., underwritten IPOs and marketed follow-on offerings) no longer work well for small cap issuers. As a result, investment banks have developed a series of financing structures that distribute shares exclusively to institutional investors (especially hedge funds) and generally dilute the ownership interests of individual shareholders disproportionately (e.g., PIPEs and Registered Directs⁹) by placing shares at a discounted price exclusively with institutional investors.

Issuers need to “get real” – In a hyper-efficient market, where trading spreads and commissions are approaching zero, the company needs to be large enough to attract research and investors, or invest heavily in outbound stock marketing and investor relations programs. Some of these efforts may include aggressive non-deal road show programs to find investors, paid-for research and even engaging promoters to target stockbrokers — all of which were services that were largely supported by the stock market prior to the Perfect Storm.

Investment banks – The largest investment banks are investing in capital-intensive operations as they consolidate trading and investor order flow. Investment banks are finding it difficult to make a living from the traditional sell-side equity research, sales and trading model. As a consequence, most investment banks are focused on mergers and acquisitions, private placements and PIPEs — businesses that avoid money-losing research, sales and trading operation.

Regulation backfires on the U.S. IPO market

<p>NYSE before decimals and Regulation NMS</p> <ul style="list-style-type: none"> • Specialists provide and commit capital to support especially less liquid (small cap) stocks • Capital commitments reduce volatility • Specialists support helps reduce the cost of capital • “Upstairs traders” market stocks 	<p>NASDAQ before decimals</p> <ul style="list-style-type: none"> • Market makers buy blocks of stock at the “bid” side of the market and brokers and sales traders sell it on the “ask” and earn \$0.25 per share, – e.g., buy stock at \$10/share and sell it at \$10.25/share • Research coverage helps attract order flow, profitably supporting sales, trading and research of common stocks
<p>NYSE after decimals and Regulation NMS</p> <ul style="list-style-type: none"> • Stocks quoted in \$0.01 increments • No longer profitable to commit capital • Specialists and “upstairs traders” lose jobs • Research coverage of small cap stocks pared back • Loss of liquidity in small cap stocks • Loss of aftermarket support for new issues, including continuous marketing • Heightened volatility • Lower valuations • Loss of small cap IPO market 	<p>NASDAQ after decimals</p> <ul style="list-style-type: none"> • Stocks quoted in \$0.01 increments • No longer profitable to commit capital • Market makers lose jobs • Research coverage of small cap stocks pared back • Loss of liquidity in small cap stocks • Loss of aftermarket support for new issues, including continuous marketing • Heightened volatility • Lower valuations • Loss of small cap IPO market

⁹ Private Investments in Public Equity (PIPEs) are privately issued equity or equity-linked securities that are sold to accredited investors by public companies. Registered Directs are a category of PIPEs, referring to common stock issued under an existing and effective registration statement.

Search for alternatives

There has been no shortage of effort to find an alternative to an IPO for private U.S. companies. Among these are the NASDAQ Portal Alliance (144A PIPO), InsideVenture and Entrex markets.

To date, most of the major U.S. investment banking initiatives have been focused on the 144A PIPO market in efforts to create institutional-only markets for private placements of equity that would be issued to qualified institutional buyers (QIBs) and accredited investors subject to a Regulation D exemption from registration and a 144A safe harbor for aftermarket trading. These offerings are referred to by Wall Street as 144A PIPOs or “pre-IPOs.”

There were four credible marketplace entries in this niche: GSTrUE (Goldman Sachs Tradable Unregistered Equities), OPUS-5 (an alliance among five of the large investment banks), NASDAQ Portal and Friedman Billings Ramsey. Over the last year, participants in OPUS-5 and Goldman Sachs have thrown their hats in with NASDAQ to form the NASDAQ Portal Alliance. Friedman Billings Ramsey remains independent, as they were the market share leader.

“It is said that if the IPO market has a cold, the 144A market will catch pneumonia.”

- David Weild

These so-called 144A markets will come to the aid of some companies but not most companies. The reason is simple: The number of and type of investor is restricted. There is little liquidity. In fact, even the \$880 million Oaktree offering¹⁰ that was run by Goldman Sachs is said to have attracted less than 50 investors.

One constructive structural element to the NASDAQ Portal Alliance is that it is quote driven and not electronic, which should create incentives for market makers to commit capital and provide liquidity (unlike current public market structure). The market will need to attract more institutional investors, market makers and research analysts if it is to have a chance of succeeding. However, the loss of individual investors from the market is likely to undercut its ability to support small offerings, because large populations of small (retail) investors are what historically support liquidity and valuations in small cap stocks. Smaller companies attract fewer institutional investors willing to participate due to liquidity constraints — a problem that does not afflict most individuals.

¹⁰ Oaktree Capital Management raised \$880 million in May 2007, becoming the first firm to list on the Goldman Sachs Tradable Unregistered Equity market (GSTrUE).

Conclusion

The United States needs an opt-in (by the issuer) capital market that provides the same structure that served the United States in good stead for so many years. This market — let's call it “The Second Market” — would be:

- **Opt-in** – Issuers would determine whether they wished to list in this marketplace or the traditional market.
- **Public** – Unlike the 144A market, this market would be open to all investors. Thus, brokerage accounts and equity research could be processed in the ordinary way, keeping costs under control and leveraging currently available infrastructure.
- **Regulated** – The market would be subject to the same SEC regulations and enforcement as existing markets.
- **Quote driven** – The market would be a telephone market¹¹ supported by market makers or specialists much like the markets of a decade ago. These individuals would commit capital. They could not be disintermediated by electronic communication networks or ECNs, as ECNs would not interact with the book.
- **Quote increments at 10 and 20 cents** – 10 cents for stocks under \$5.00 per share; 20 cents for stocks \$5.00 per share and greater. These increments could be reviewed annually by the market and the SEC.
- **Broker intermediated** – Investors could not execute trades in this market electronically. To buy stock, an investor would need to call a brokerage firm up on the phone. Brokers would earn higher commission rates and have an incentive to get on the phone and present stocks to potential investors.

This structure would lead to investment in the types of investment banks that once supported the IPO market in this country (e.g., Alex. Brown & Sons, Hambrecht & Quist, L.F. Rothschild & Company, Montgomery Securities, Robertson Stephens, etc.). This in turn would trigger rejuvenation in investment activity and innovation.

¹¹ The market would use electronic quotations to advertise indicative prices but market makers (including “specialists”) would be left to negotiate actual buys and sells.

The Perfect Storm

Technological, regulatory and legislative change and how it chiseled away at the U.S. IPO market

Date	Event	Description	Impact
May 1975	May Day 1975	On May 1, 1975, the U.S. Securities and Exchange Commission mandated the deregulation of the brokerage industry. The mandate abolished high fixed fees for trading stocks.	<p>Intended consequence: Allow market competition to dictate commission levels.</p> <p>Unintended consequence: Ushered in birth of discount brokerage and triggered dramatic increase in the number of individual investors entering the stock market.</p>
March 1994	1994 study and subsequent settlement	A March 1994 study by two economists, William Christie and Paul Schultz, noted that NASDAQ bid-ask spreads were larger than was statistically likely, indicating “an implicit agreement among market makers to avoid using odd-eighths in quoting bid and ask prices...” ¹² As part of NASDAQ’s settlement of these antitrust charges, NASDAQ adopted new order handling rules that integrated ECNs.	<p>Intended consequence: Eliminate tacit collusion among market makers and reduce trading costs for investors.</p> <p>Unintended consequence: Began cutting into economic incentive for market making firms to provide liquidity and support of stocks.</p>
1996	First online brokerage Start of stock bubble	Online trading is introduced by the discount brokerage firm of Charles W. Schwab and Co., Inc. in 1996. Datek Online Brokerage Services LLC, E*Trade Financial, Waterhouse Securities and others enter the fray.	<i>Did online brokerages enable the Dot Com Bubble? Did online brokerages destroy support for small cap stocks by causing the world’s biggest army of retail stock salesmen to abandon commissions and seek refuge in asset-based accounts?</i>
1999	Online brokerage surges Stock bubble accelerates	The online brokerage industry in the short space of three years has “already achieved mass appeal and before year end should reach 9.3 million accounts and 512,000 trades a day at an average price of \$25,” according to Alan Levinsohn in an <i>ABA Banking Journal</i> article, “Online brokerage, the new core account?” ¹³	<p>Intended consequence: Provide inexpensive online brokerage to individual investors.</p> <p>Unintended consequence: Encouraged trading at the expense of advice-based and long-term stock investing.</p> <p><i>Retail investors embrace cheap trades and discard the expense (stock brokers) of anyone that might talk sense into them. Financial media programs fan the flames.</i></p>

¹² Christie, William G., and Schultz, Paul H., “Why do NASDAQ Market Makers Avoid Odd-Eighth Quotes?” *Journal of Finance*, Vol. 49, No. 5, 1994.

¹³ Levinsohn, Alan, “Online Brokerage, the New Core Account?” *ABA Banking Journal*, Vol. 91, No. 9, Sept. 1999.

Technological, regulatory and legislative change and how it chiseled away at the U.S. IPO market

Date	Event	Description	Impact
October 2000	Regulation Fair Disclosure Stock bubble bursts	Fair Disclosure mandated that all public companies must disclose material information at the same time.	<p>Intended consequence: Level the information playing field for all investors.</p> <p>Unintended consequence: Caused a wholesale deterioration in the depth and breadth of company research coverage available to investors. May have actually benefited hedge funds to the detriment of “long-only” institutional investors and consumers. Hedge fund compensation model allowed heavy investment in alternatives to sell-side research that institutional investors no longer valued. “Why pay for something that everyone else has?” was a common refrain.</p>
2001	Decimalization	SEC phases in decimal pricing for stocks and options, eliminating the historical fractional spreads.	<p>Intended consequence: Lower trading costs and make it easier for the average investor to understand.</p> <p>Unintended consequence: As spreads disappeared, so too did economic incentives for firms to provide research and liquidity support for stocks. Diminished spreads increased the risk to market makers of displaying limit orders, which decreased the liquidity provided by such orders. Consequently, in light of the diminished depth at a particular price, the buy side increasingly moved to quantitative and algorithmic trading, breaking up block orders that could no longer be handled efficiently.</p> <p><i>Traders stop supporting small cap stocks once trading spreads decline by 96%. The last bit of economics left for retail stock brokers to market stocks is stripped away. “Stocks are sold, they’re not bought” goes the old cliché, and there is no one left to sell small-cap stocks.</i></p>
July 2002	Sarbanes-Oxley Act	In response to major corporate accounting scandals at large public companies including Enron, WorldCom, Tyco International and Adelphia, the United States implements the Sarbanes-Oxley Act. The legislation established new or enhanced standards for all SEC issuers, their boards, management and an oversight board for public accounting firms.	<p>Intended consequence: Restore public confidence in the nation’s capital markets by, among other things, strengthening public accounting controls.</p> <p>Unintended consequence: May have reduced America’s international competitive position by creating a regulatory burden for public companies that has discouraged foreign and domestic issuers from going public in the United States.</p> <p>Led to the growth of a series of strategies to avoid incurring Sarbanes-Oxley costs until after capital has been raised (e.g., 144A PIPO offerings).</p> <p><i>Increased costs of outside experts (legal and accounting combined) due in part to “Andersen risk” and the inability of many experts to find insurance. Sarbanes-Oxley is a bit of a red herring. Online brokerage and decimalization were significantly more damaging to the IPO market.</i></p>

Technological, regulatory and legislative change and how it chiseled away at the U.S. IPO market

Date	Event	Description	Impact
April 2003	The Global Settlement	An enforcement agreement is reached between the NYS AG, SEC, NASD (now FINRA), NYSE, NASAA and 10 of the largest U.S. securities firms to address conflicts between research and investment banking in their businesses. As part of the settlement, securities firms had to insulate their banking and research departments from each other. Analysts could no longer be compensated on a particular piece of investment banking business. Investment banking was precluded from having any input into research compensation or coverage decisions, and research analysts were prohibited from going with investment bankers on pitches and road shows to solicit banking business or market new issues (including IPOs).	<p>Intended consequence: Separate equity research from investment banking.</p> <p>Unintended consequence: At least on IPOs, investment banking paid for more research than previously, based on the number of investment banks on the cover of a prospectus.</p> <p><i>Led to a further decline in the equity research coverage and support of small cap stocks.</i></p>
July 2005	Regulation National Market System	The SEC proposes a structural overhaul of the securities markets, requiring that (i) the best bids and offers (“top of book”) be displayed in all markets and that the best price can’t be “traded through” or ignored, (ii) markets can’t execute orders at a price worse than one displayed by another market, (iii) stocks can’t be quoted in sub-pennies and (iv) market data revenues are allocated more equitably. ECNs enjoy resurgence. Currently, the most prominent ECNs are Direct Edge ECN (owned by a consortium of Knight Capital Group, Citadel and Goldman Sachs) BATS Trading and Baxter-FX.	<p>Intended consequence: Modernize the regulatory structure of the markets and provide all investors with equal access to the best prices.</p> <p>Unintended consequence: Caused increased fragmentation and “dark” liquidity pools, increased technology and compliance costs for broker dealers and placed greater emphasis on quantitative trading systems.</p> <p><i>Delivered the “coup de grace” to NYSE specialists and stripped any remaining specialist support for small cap stocks on the Big Board.</i></p>

About the authors

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