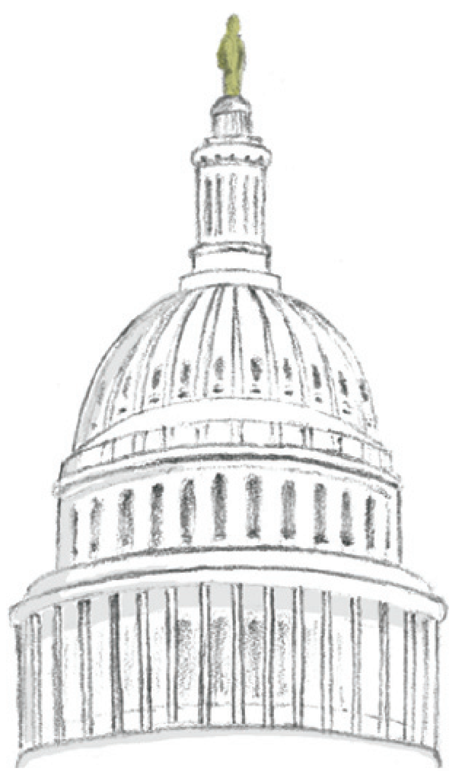
Capital Markets Series

Market structure is causing the IPO crisis — and more

By David Weild and Edward Kim June 2010



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Preface

Market structure is causing the IPO crisis — and more brings current two previously published studies, *Why are IPOs in the ICU?* and *Market structure is causing the IPO crisis*. Grant Thornton LLP has studied the decimation of the U.S. capital markets structure, the demise of the IPO market and, with the release of *A wake-up call for America*, the systemic decline in the number of publicly listed companies. We have provided analysis and insights and offered ideas for a new, opt-in stock market capable of reinvigorating the U.S. IPO market and stimulating job creation.

Grant Thornton has discussed our findings with a wide range of key market participants, including current and former SEC senior staffers, investment bank executives and the venture capital community. In fact, our IPO study was cited in the "NVCA[1] 4-Pillar Plan to Restore Liquidity in the U.S. Venture Capital Industry," which was released on April 29, 2009. As our studies gained visibility, the topic and our conclusions gained favor with the financial news media and with members of Congress and their staffers. On December 16, 2009, Sen. Ted Kaufman, D-Del., entered *Market structure is causing the IPO crisis* and *A wake-up call for America* into the public record during his speech: "Kaufman calls decline in IPOs 'choke point' to job creation, economic recovery."

The economic climate is ever changing. To receive periodic reports on issues relevant and timely to today's capital markets, visit www.Grant Thornton.com/subscribe and select the Capital Markets Series.

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[1] National Venture Capital Association

Introduction

As Congress battles over the shape of financial reform, will it address the lack of a properly functioning market structure? **The market for underwritten IPOs, given its current structure, is closed to 80 percent of the companies that need it.** In fact, since 2001 the U.S. has averaged only 126 IPOs per year, with only 38 in 2008 and 61 in 2009 — this compared to the headiness of 1991–2000 with averages of 530 IPOs per year. Companies can no longer rely on the U.S. capital markets for an infusion of capital, nor can they turn to credit-strapped banks. The result? Companies are unable to expand and grow — they are unable to innovate and compete — so they are left to wither and die, contributing to today's high unemployment rate.

During the time since our studies were released, Grant Thornton has received a number of intriguing questions. *Market structure is causing the IPO crisis — and more* addresses these questions and presents updated data through December 2009, while examining the continued lack of a properly functioning IPO and small cap stock market. The systemic failure of the U.S. capital markets to support healthy IPO and robust small cap markets inhibits our economy's ability to innovate, create jobs and grow. At a time when America is struggling with double-digit unemployment, the failure of the U.S. capital markets structure can no longer be ignored.

Lessons learned

1. IPO Crisis worsens — Calendar year 2009 represented one of the worst IPO markets in 40 years. Given that the size of the U.S. economy, in real GDP terms, is over three times what it was 40 years ago, this is a remarkable and frightening state of affairs. **Only 61 companies went public in the United States in 2009**, and the trend that disfavors small IPOs and small companies has continued. The median IPO in 2009 was $140 million in size — quite a contrast to 20 years ago when Wall Street commonly executed $10 million IPOs that succeeded.

2. Small business impact — The ramifications of the IPO Crisis extend well beyond the venture capital industry and affect "mom and pop" businesses as well. The non-venture capital and non-private equity segment of the market historically (over more than 20 years) has represented more than 50 percent of all IPOs. The lack of an IPO market is thus hurting small business by cutting off a source of capital (capital realized from going public) that in turn would drive reinvestment and entrepreneurship in the United States. We heard this repeatedly in our discussions.

3. Market structure is at fault — The IPO Crisis is primarily a market-structure-caused crisis, the roots of which date back at least to 1997. The erosion in the U.S. IPO market can be seen as the perfect storm of unintended consequences from the cumulative effects of uncoordinated regulatory changes and inevitable technology advances — all of which stripped away the economic model that once supported investors and small cap companies with capital commitment, sales support and high-quality research.

4. Casino capitalism — We have interacted with management and portfolio managers of a number of classic, long-term investment firms, including Capital Guardian, Delaware Asset Management, Kaufman Funds, T. Rowe Price and Wasatch Advisors, that invest in small cap companies. These investors confirm that the current stock market model forces Wall Street to cater to high-frequency trading accounts at the expense of long-term investors, and that Wall Street is increasingly out of touch with the interests and needs of long-term equity investors. Specifically, we have heard that the quality of research on Wall Street has deteriorated dramatically while, in comparison, institutional investors' quality of in-house research is now "much better." We also have heard that more investment-oriented portfolio managers are more likely to be treated as "C" accounts (Wall Street may rank accounts as "A," "B" or "C"; most resources are given to the so-called "A" accounts).

5. Crisis started before Sarbanes-Oxley (2002) — The IPO Crisis was not induced by Sarbanes-Oxley, Regulation Fair Disclosure or NASD Rule 2711 (separation of banking and research). Each of these changes occurred well after the IPO Crisis was underway. While we believe these well-intentioned investor protections may have raised the costs of going public (and taking companies public), they did not cause the abandonment of the investment-centric Wall Street model (that also supported small cap companies and thus IPOs) in favor of a high-frequency trading model.

6. Origins of crisis obscured by Dot-Com Bubble (1997) — The IPO Crisis began during, but was hidden by, the Dot-Com Bubble. We see a clear decline in the number of smaller IPOs beginning in the 1996/1997 time frame, which aligns perfectly with the introduction of the Manning and Order Handling Rules. In addition, we spoke with the CEO of a firm that was active in small cap IPOs in the heart of that time frame. He shared that "the handwriting was on the wall that the combination of trading changes that were being contemplated was going to destroy support for small cap stocks."

7. This equity crisis exacerbates the credit crisis — Good credit starts with a layer of equity. Companies are less able to attract debt capital or credit when they have inadequate equity capital. The IPO Crisis is creating an equity crisis companion that is exacerbating the credit crisis.

8. A dysfunctional IPO market fuels unemployment — In addition to negatively impacting the number of publicly listed companies in the United States, our current market structure is having a deleterious effect on job creation. When companies cannot raise capital efficiently — or at all — they are deprived of their ability to acquire the assets and human resources they need to grow their businesses. If we want to stop this vicious cycle of rising unemployment and its devastating impact on U.S. citizens, we must take steps now to revive our IPO markets.

In addition to negatively impacting the number of publicly listed companies in the United States, our current market structure is having a deleterious effect on job creation.

A dysfunctional IPO market contributes to increased unemployment.

Source: Grant Thornton LLP, Dealogic and U.S. Department of Labor
Data includes corporate IPOs as of December 31, 2009, excluding funds, REITs, SPACs and LPs.

History of the IPO market

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,[2] yet the Pre-Bubble period had over four 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, since then, the average number of IPOs has fallen by 75 percent to 126 IPOs per year.

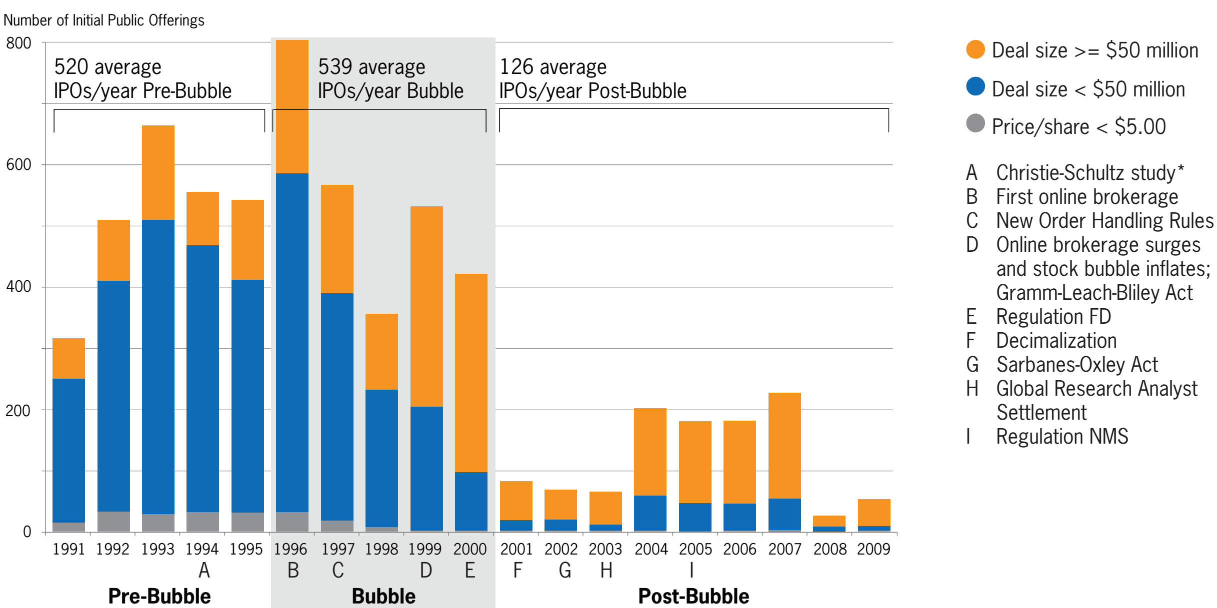
Does the effect of penny stocks alter this view of the IPO landscape?

Penny stock IPOs are generally defined as IPOs that are priced at less than $5 per share (the minimum price generally required for listing on the NYSE and NASDAQ). As it turns out, while the absolute number of penny stock IPOs was elevated during the 1990s, penny stock IPOs represented significantly less than 10 percent of small IPOs (Exhibit 1). Penny stocks have had little, if any, effect on the small IPO market.

Exhibit 1

The IPO market is broken

In the last decade the number of IPOs has fallen dramatically, specifically deals less than $50 million in proceeds.



Source: Dealogic, Capital Markets Advisory Partners

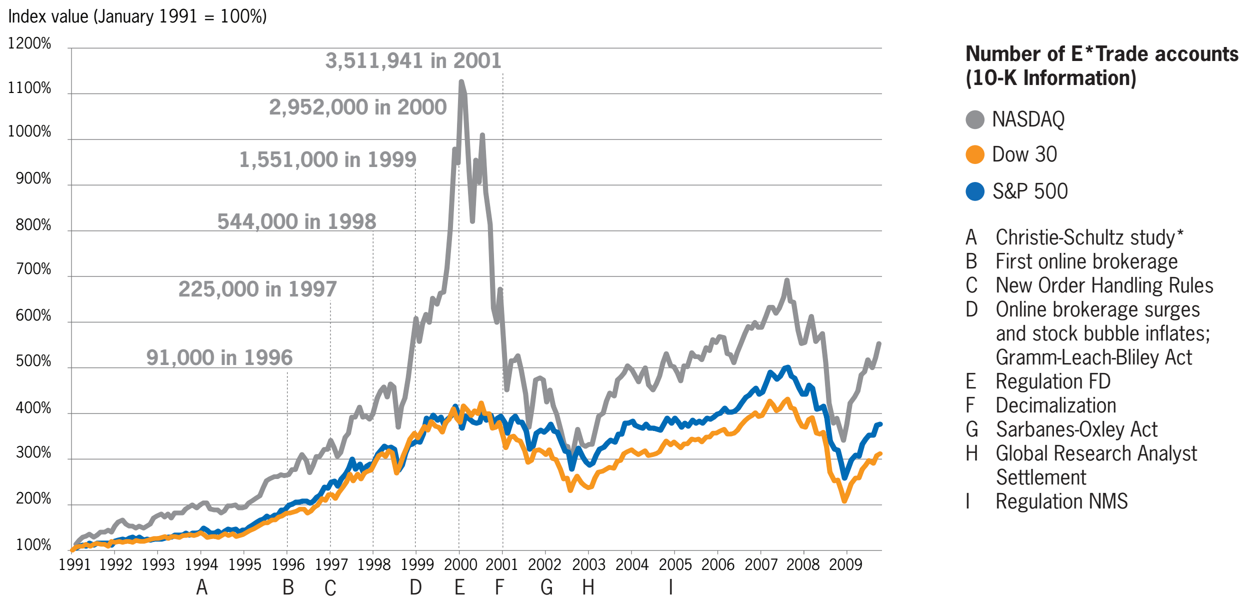
Data includes corporate IPOs as of December 31, 2009, excluding funds, REITs, SPACs and LPs

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

[2] 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.

Exhibit 2

Did online brokerage help undermine the U.S. equities market?
The Dot-Com Bubble (1996 through 2000) masked the IPO crisis.



Source: NASDAQ.com and NYSE.com
*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 Datek Online Brokerage Services 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: 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 stockbrokers were chased from the no-longer-sustainable $250 (and higher) commission-per-trade business of traditional stockbrokerage to becoming fee-based financial advisors (asset gatherers).

The so-called competition of ideas, wherein stockbrokers 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 headiness of the Bubble and the carnage following the correction.

> "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, Senior Advisor at Grant Thornton LLP, Capital Markets

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.

It can take, on average, five to six years[3] for a successful venture-funded company to execute an IPO. The data in Exhibit 3 reveals that the time has passed for an expected rebirth in the U.S. IPO market. 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 — that, however, is not the reality.

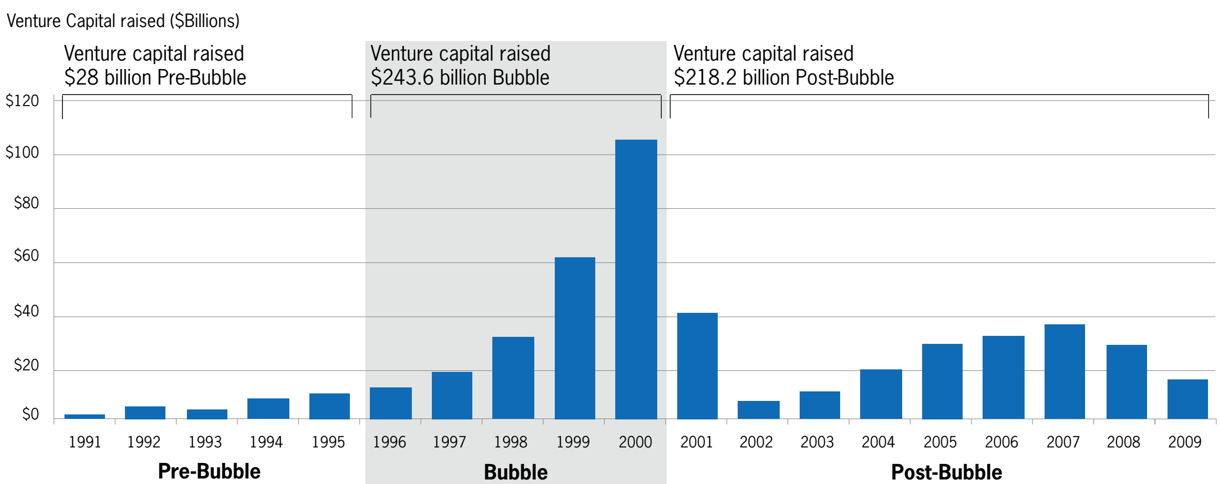
It's no mystery to people who work in the venture capital industry that in order to drive returns for investors in their funds, they've monetized returns by seeking "liquidity events" away from the public markets. While there is an array of liquidity options — including alternative listing venues, such as the NASDAQ Portal, the AIM (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.

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. The young starve for capital before they have the opportunity to reach adulthood, so 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 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 present-day Genentechs likely will never be funded.

Exhibit 3

The number of IPOs is depressed Post-Bubble despite higher levels of 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 that raised pre-1996.



Source: National Venture Capital Association Web site

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.

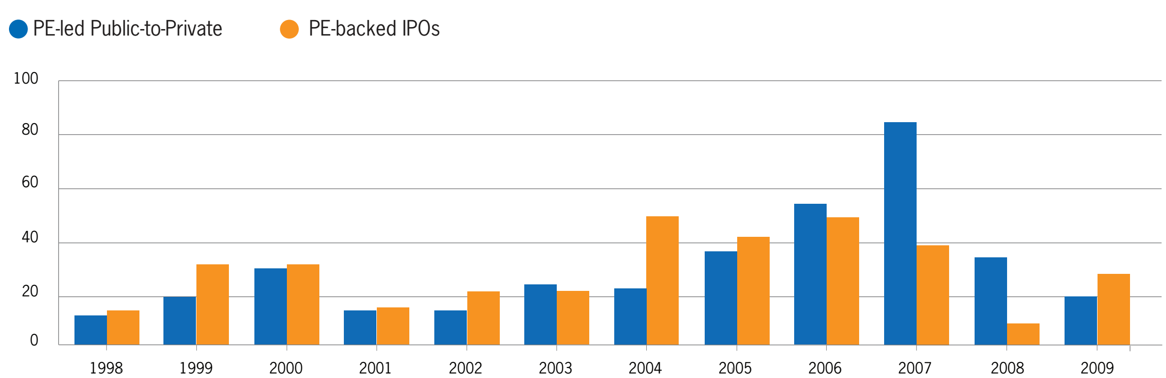
As venture-backed activity has declined, much of what we have seen in the new issue market revolves around private-equity-sponsored IPOs. We believe these transactions, which are larger in size and capitalization and frequently involve well-known brand names, tend to skew the public perception of the health of the IPO market. The IPOs last year of several prominent private-equity-backed companies led many in the popular press to conclude that the markets were again fertile for new issues. The reality, however, is that these larger transactions masked the underlying weakness in the broader IPO market.

"One big misconception is that the explosive growth in private equity has siphoned off companies from the public markets. While the level of IPO and public-to-private by private equity firms increased from 2004 to 2007, the ratio of IPO to public-to-private activity held fairly constant. Public-to-private transactions by private equity firms account for a minority of delisting activity."

– Edward Kim, Senior Advisor at Grant Thornton LLP, Capital Markets

Exhibit 4

Private equity firms take one company public for every company they take private, maintaining the equilibrium between PE-backed IPO and PE-led public-to-private transactions.



Source: PitchBook Data, Inc.

Decline of the IPO market

Companies stay private

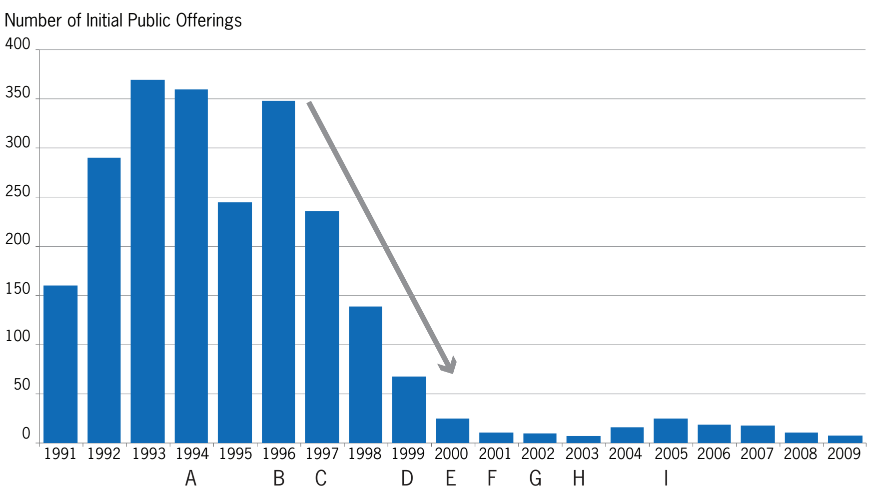
All large companies start small. Many more small companies want to access small amounts of equity capital than do large ones. So, when the small IPO all but disappears, it is fair to say that the market is broken and needs to be fixed.

As you can see in Exhibit 5, 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 stockbrokers. 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.

When the small IPO all but disappears, it is fair to say that the market is broken and needs to be fixed.

Exhibit 5

Online brokerage surges and Order Handling Rules are imposed, causing decline in small IPOs
Online brokerage rages from 1996-1999; Order Handling Rules are imposed in 1997; IPOs raising less than $25 million decline sharply from 1996-2000; Sarbanes-Oxley was not implemented until 2002.

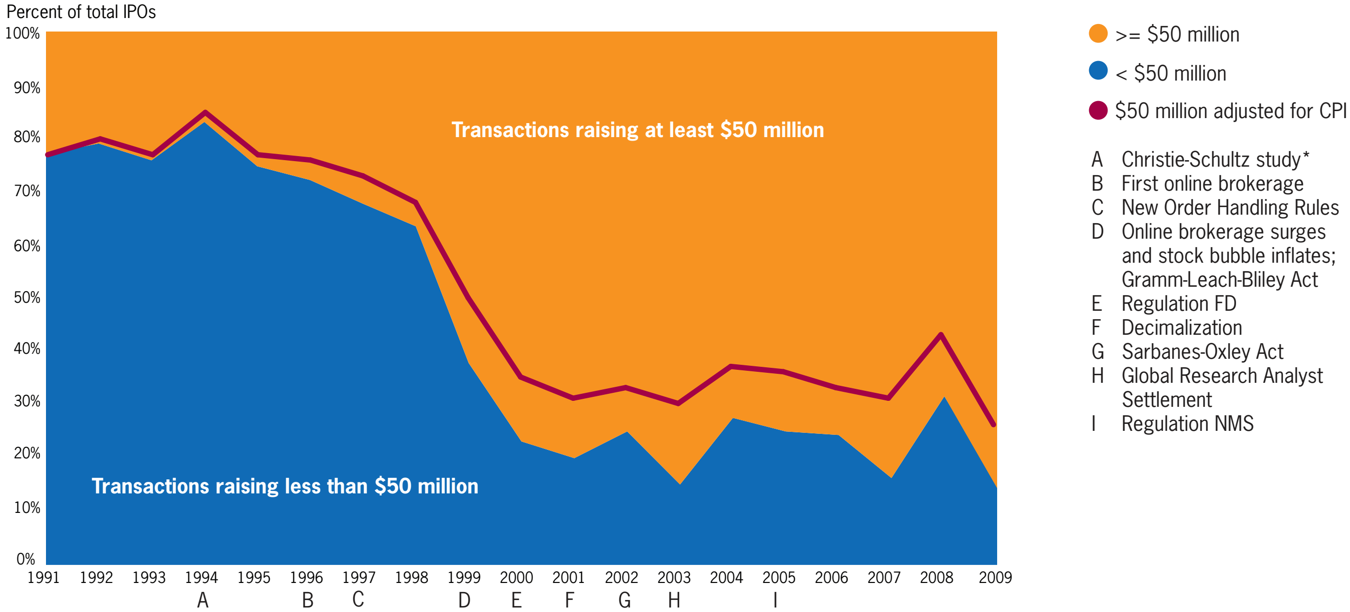


A Christie-Schultz study*
B First online brokerage
C New Order Handling Rules
D Online brokerage surges and stock bubble inflates; Gramm-Leach-Bliley Act
E Regulation FD
F Decimalization
G Sarbanes-Oxley Act
H Global Research Analyst Settlement
I Regulation NMS

Source: Dealogic, Capital Markets Advisory Partners
Data includes corporate IPOs as of December 31, 2009, excluding funds, REITs, SPACs and LPs
*Christie, William G., and Schultz, Paul H., "Why do NASDAQ Market Makers Avoid Odd-Eighth Quotes?" *Journal of Finance*, Vol. 49, No. 5, 1994.

Exhibit 6

Perfect Storm pressures small IPOs as the number of transactions falls markedly
From 1991 to 1997 nearly 80% of IPOs were smaller than $50 million. By 2000 the number of sub-$50 million IPOs had declined to only 20% of the market.



Source: Dealogic, Capital Markets Advisory Partners
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*Christie, William G., and Schultz, Paul H., "Why do NASDAQ Market Makers Avoid Odd-Eighth Quotes?" *Journal of Finance*, Vol. 49, No. 5, 1994.

Inflation-adjusting IPO sizes would paint a rosier small-IPO picture — wouldn't it?

Several readers of our prior studies posited that we had ignored inflation in our discussions. Upon analyzing the impact of inflation, we found that it was not material to the conclusions reached in our studies (Exhibit 6). A $10 million IPO in 1991 would "only" increase to a $15.66 million IPO by the end of 2009 when adjusted for inflation (CPI has grown by 2.52 percent (compounded annual rate) from 1991 to 2009). Similarly, from 1991 to year-end 2009, a $25 million IPO would inflate to $39.15 million, and a $50 million IPO would inflate to $78.30 million. In other words, if investment banks were encouraging minimum IPO sizes of $8 million in 1991 and $75 million in 2009, then the inflation-adjusted minimum IPO size has increased by a factor of 6x. We refer to this as the "market structure effect" of raising the bar to become a public company.

"Another common criticism is that inflation accounts for the demise of the small IPO. This is false. The demise of the small IPO is due to changes in market structure and can be seen even in the inflation-adjusted data."

– David Weild, Senior Advisor at Grant Thornton LLP, Capital Markets

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 continued to champion a pro-consumer agenda that targeted reform of the full-service brokerage firms. Many of these developments compounded the structural problems that enabled an increase in speculative trading and a decrease in long-term investing. (We saw these phenomena 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 $0.10, rather than to 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 great 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, quickly was 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 NMS[5] was implemented in July 2005.

Generally speaking, economists and regulators have maintained that competition, and reduced transaction costs are of great benefit to consumers — but only to a point. When it comes to investments, higher front-end or transaction costs and tax structures that penalize speculative (short-term) behavior can disincent speculative behavior and incent 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 first occurred with the introduction of $25-per-trade online brokerage commissions in 1996 (which later dropped to less than $10 per trade), and then again with decimalization in 2001. Consumers flocked to the markets.

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 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.

Regulatory and legislative action

A series of uncoordinated, though well-intended, changes aimed at leveling the playing field for "mom and pop" investors may unwittingly have done them a tremendous disservice by enabling traders to hijack the markets for speculation. The large Wall Street firms have witnessed this phenomenon through the displacement of their top 10 (by revenue) institutional investors — which only a decade ago were "long-only" mutual funds such as Fidelity and Alliance — by hyper-trading long-short hedge funds.

A detailed timeline (The Perfect Storm) of these regulatory and legislative changes is provided at the end of this paper, but key events are highlighted in the table.

SEC recognizes that the market has changed dramatically

SEC to assess whether market structure serves long-term investors and promotes capital formation

The Securities and Exchange Commission has moved forward with a broad review of equity market structure. In doing so, it seeks to ensure that the current market structure serves the interests of long-term investors who are willing to accept the risk of equity ownership over time and are essential for capital formation.

In January 2010, the Commission sought public comment on its concept release to assess:

- how individual and institutional investors — small, medium, and large — are faring in the current market structure
- whether the current market structure promotes capital formation in companies with varying levels of market capitalization

Grant Thornton LLP has submitted its comments, focusing primarily on capital formation and investor liquidity.

Review the SEC's Concept Release on Equity Market Structure at sec.gov/rules/concept/2010/34-61358.pdf.

Grant Thornton's comments on the concept release may be viewed at GrantThornton.com/Grant Thornton Thinking/Comment Letters/SEC Comments.

Is this what Congress *really* intended?

Winners	Losers
Speculators	Issuers
Hedge funds	Mutual funds
Trading-oriented institutions	Long-term institutions
Day traders	Mom and pop investors
Electronic trading	Stockbrokers (advice)
Electronic trading	Market makers (NASDAQ)
Volatility	Liquidity*
"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

* Chakravarty, S.; Wood, R.A.; and Van Ness, R.A., "Decimals and Liquidity: A Study of the NYSE," *Journal of Financial Research*, Vol. 27, No. 1, March 2004, pp. 75-94. "The results indicate that decimalization has led to a significant increase in volatility…"

Manning Rule and new Order Handling Rules

In 1996, the NASD, now FINRA, adopted an order precedence rule — commonly known as the Manning Rule after a legal case against Charles Schwab — prohibiting broker-dealers from trading before their customers at the same price. The following year, the SEC imposed new Order Handling Rules requiring broker-dealers to expose all of the public orders they held when these orders were the best bid or offer in the marketplace. These changes, applauded at the time, clearly were intended to increase transparency and create an even playing field for retail investors. The market impact, unforeseen as it may have been, was devastating. Stock spreads narrowed, and the economics to broker-dealers continued to erode.

The resulting increased concentration in the financial services industry, however, created conglomerates that effectively served to decrease competition and increase systemic risk.

Gramm-Leach-Bliley and the end of Glass-Steagall

The Financial Services Modernization Act, commonly known as the Gramm-Leach-Bliley Act, effectively ended a decades-long battle to repeal part of the Glass-Steagall Act of 1933 by formally allowing the combination of commercial banks, securities firms and insurance companies. While Glass-Steagall had steadily been eroded by Congress over the years, the merger of Travelers Group and Citibank was the impetus for its ultimate demise.

The repeal of Glass-Steagall had been sought for decades by the largest financial institutions in the U.S. as a means of competing on a global basis with foreign financial giants. The resulting increased concentration in the financial services industry, however, created conglomerates that effectively served to decrease competition and increase systemic risk.

In anticipation of, and with special permission prior to, the passage of Gramm-Leach-Bliley, the four primary boutique investment banks that supported venture-funded companies were swallowed by commercial banks. Between 1997 and 1999, Alex. Brown (by Bankers Trust), Montgomery Securities (by Nationsbank), Robertson Stephens (by BankAmerica) and Hambrecht & Quist (by Chase Manhattan Bank) all disappeared. The death of the "Four Horsemen" left a void where the financing of venture-backed companies had once flourished.

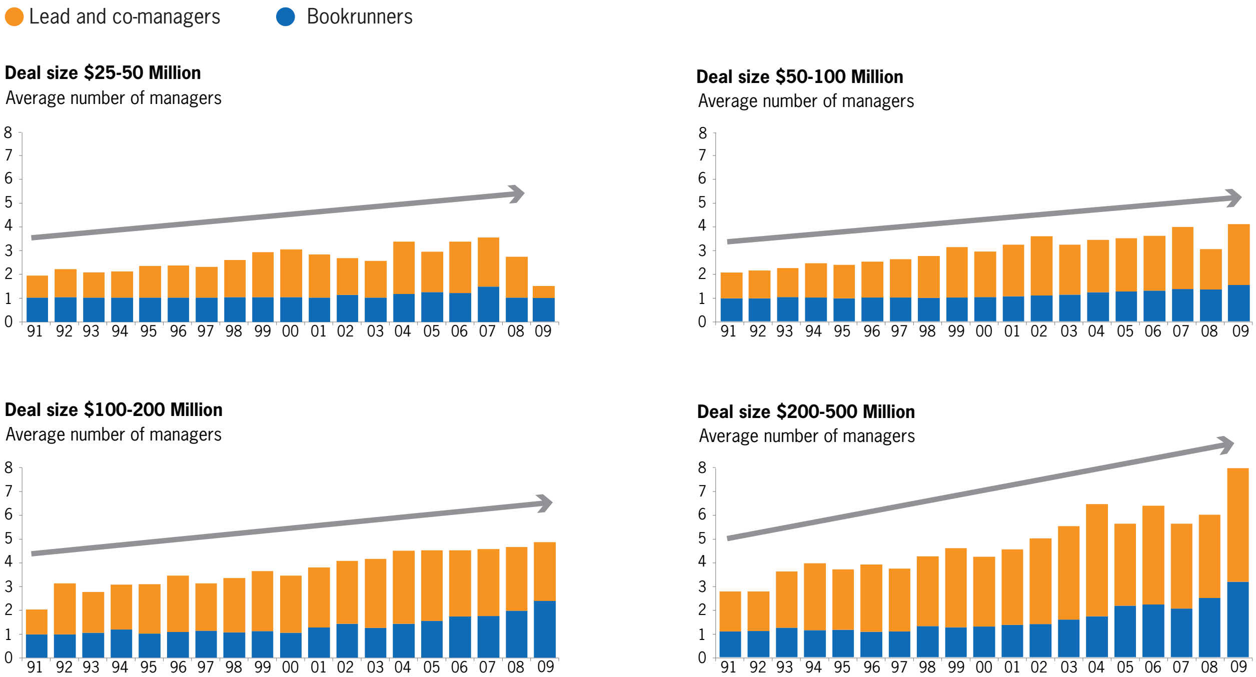
Regulation Fair Disclosure devalued stock research

Institutions stopped paying a premium for research. Research was diminished on the retail side of the business, and stockbrokers were unable to earn a proper commission. 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.

Exhibit 7

Companies secure research coverage by putting investment banks on cover of IPO prospectus

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



Source: Dealogic, Capital Markets Advisory Partners

Data includes corporate IPOs as of December 31, 2009, excluding funds, REITs, SPACs and LPs

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 Settlement[6] ruling. The economics to support equity research — trading and commissions — have been so eroded that the only significant economics left come from investment banking. A Capital Markets Advisory Partners study (see Exhibit 7) 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 generally were 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.

The IPO now pays for more equity research than before the Global Settlement, as measured by the number of managers per IPO.

[6] 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.

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 time frame currently exceeds 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 for 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 the governments have 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 France in the then-emerging biotechnology industry, launched the Second Marché[7] in 1983 as a feeder to the Paris Bourse.

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

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 Directs[8]) by placing discount-priced shares exclusively with institutional investors.

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.

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

[8] 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.

Regulation backfires on the U.S. IPO market

NYSE	NASDAQ
Before decimals and Regulation NMS • Specialists provide and commit capital to support especially less liquid (small cap) stocks • Capital commitments reduce volatility • Specialist support helps reduce the cost of capital • "Upstairs traders" market stocks	**Before decimals** • Market makers buy blocks of stock at the "bid" side of the market, and brokers and sales traders sell it on the "ask" side 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
After decimals and Regulation NMS • 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	**After decimals** • 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

Issuers need to "get real" — In a hyper-efficient market, where trading spreads and commissions are approaching zero, a 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, to a large degree, were 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 operations.

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) 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. The equity would be issued to qualified institutional buyers (QIBs) and accredited investors that are subject to a Regulation D exemption from registration and a 144A safe harbor for aftermarket trading. Wall Street refers to these offerings 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 it was the market share leader.

These so-called 144A markets will come to the aid of some companies, but not most companies. The reason is simple: the number and type of investor is restricted. There is little liquidity. In fact, even the $880 million Oaktree offering[9] 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 the 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.

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

– Edward Kim, Senior Advisor at Grant Thornton LLP, Capital Markets

9 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

Alternative public market segment

The United States needs an issuer and investor opt-in capital market that provides the same structure that served the nation in good stead for so many years. This market would make use of full SEC oversight and disclosure, and could be run as a separate segment of NYSE or NASDAQ, or as a new market entrant. It would have these attributes:

- **Opt-in/freedom of choice** – Issuers would have the freedom to choose whether to list in the alternative marketplace or in the traditional marketplace. Issuers could choose to move from their current market segment into the alternative market segment (we suspect that many small companies would make this selection, while large cap companies would not). Investors would have the freedom to buy and sell stocks from either market. This is a "let-the-best-solution-win" approach that will re-grow the ecosystem to support small cap stocks and IPOs.
- **Public** – Unlike the 144A market, this market would be open to all investors. Thus, brokerage accounts and equity research could be processed to keep costs under control and to leverage currently available infrastructure.
- **Regulated** – The market would be subject to the same SEC corporate disclosure, oversight and enforcement as existing markets. However, market rules would be tailored to preserve the economics necessary to support quality research, liquidity (capital commitment) and sales support, thus favoring investors over high-frequency and day trading. Traditional public (SEC) reporting and oversight would be in place, including Sarbanes-Oxley.
- **Quote driven** – The market would be a telephone market[10] supported by market makers or specialists, much like the markets of a decade ago. These individuals would commit capital and could not be disintermediated by electronic communication networks (ECNs), which could not interact with the book.
- **Minimum quote increments (spreads) at $0.10 and $0.20 and minimum commissions** – $0.10 increments (spreads) for stocks under $5.00 per share, and $0.20 increments for stocks $5.00 per share and greater, as opposed to today's penny spread market. The increments could be reviewed annually by the market and the SEC. These measures would bring sales support back to stocks and provide the economics to support equity research independent of investment banking.
- **Broker intermediated** – Investors could not execute direct electronic trades in this market; buying stock would require a call or electronic indication to a brokerage firm. Brokers once again would earn commissions and be incented to phone and present stocks to potential investors. These measures would discourage day trading.
- **Research requirement** – Firms making markets in these securities would be required to provide equity research coverage that meets minimum standards, such as a thorough initial report, quarterly reports (typically a minimum of 1-2 pages) and forecasts.

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) and would rejuvenate investment activity and innovation.

[10] 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.	**Intended consequence:** Allow market competition to dictate commission levels. **Unintended consequence:** Ushered in birth of discount brokerage and triggered dramatic increase in the number of individual investors entering the stock market.
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…"* As part of NASDAQ's settlement of these antitrust charges, NASDAQ adopted new Order Handling Rules that integrated ECNs.	**Intended consequence:** Eliminate tacit collusion among market makers and reduce trading costs for investors. **Unintended consequence:** Began cutting into economic incentive for market-making firms to provide liquidity and support of stocks.
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.	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?
1996 – 1997	Manning Rule and Order Handling Rules	In 1996, the NASD, now FINRA, adopted an order precedence rule — commonly known as the Manning Rule after a legal case against Charles Schwab — prohibiting dealers from trading before their customers at the same price. In 1997, the SEC, led by Arthur Levitt, imposed new Order Handling Rules requiring dealers to expose all public orders they hold when these orders are the best bid or offer.	**Intended consequence:** To provide level playing field for retail investors and increase transparency broadly. **Unintended consequence:** Spreads continued to narrow, and the economics to firms continued to erode. Support of stocks decreased dramatically, as did liquidity.
1998	Regulation ATS	Regulation Alternative Trading System provided for the integration of ECNs, crossing networks and the like, into the National Market System. ATSs registered as broker-dealers were required to (i) link with a registered exchange or the NASD, (ii) publicly display their best priced orders for those securities in which they had at least 5 percent of the trading volume, and (iii) allow exchange and NASD members to execute against those orders.	**Intended consequence:** To protect investors and mitigate concerns they had about ECNs by further increasing transparency. **Unintended consequence:** The ECN and dark pool market exploded with new entrants, putting immense additional pressure and spreads on firm economics.

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

Date	Event	Description	Impact
1997 – 1999	End of the Four Horsemen	In anticipation of and with special permission prior to the passage of Gramm-Leach-Bliley (see below), the four primary boutique investment banks that supported venture-funded companies were swallowed by commercial banks.	**Alex. Brown** (Bankers Trust), **Montgomery Securities** (Nationsbank), **Robertson Stephens** (BankAmerica) and **Hambrecht & Quist** (Chase Manhattan Bank) disappeared, leaving a void where venture-backed companies had once flourished.
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 *ABA Banking Journal* article, "Online Brokerage, the New Core Account?"**	**Intended consequence:** Provide inexpensive online brokerage to individual investors. **Unintended consequence:** Encouraged trading at the expense of advice-based and long-term stock investing. Retail investors embrace cheap trades and discard the expense (stockbrokers) of anyone that might talk sense into them. Financial media programs fan the flames.
November 1999	Gramm-Leach-Bliley Act (Financial Services Modernization Act of 1999)	On November 12, 1999, Congress passed Gramm-Leach-Bliley, which effectively ended a decades-long battle to repeal part of the Glass-Steagall Act of 1933. Gramm-Leach-Bliley permitted the combination of commercial banks, securities firms and insurance companies. While Glass-Steagall had been steadily eroded by Congress over the years, the merger of Travelers Group and Citibank was the impetus for its ultimate demise.	**Intended consequence:** The repeal of Glass-Steagall had been sought by the largest financial institutions in the U.S. for decades as a means of competing on a global basis with foreign financial giants. **Unintended consequence:** Led to increased concentration in the financial services industry, creating conglomerates that served to decrease competition and increase systemic risk.
October 2000	Regulation Fair Disclosure Stock bubble bursts	Fair Disclosure mandated that all public companies must disclose material information at the same time.	**Intended consequence:** Level the information playing field for all investors. **Unintended consequence:** Caused a wholesale deterioration in the depth and breadth of company research coverage available to investors. May actually have 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.
2001	Decimalization	SEC phases in decimal pricing for stocks and options, eliminating the historical fractional spreads.	**Intended consequence:** Lower trading costs and make it easier for the average investor to understand. **Unintended consequence:** As spreads disappeared, so 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. Traders stop supporting small cap stocks once trading spreads decline by 96 percent. The last bit of economics left for retail stockbrokers 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.

** Levinsohn, Alan, "Online Brokerage, the New Core Account?" *ABA Banking Journal*, Vol. 91, No. 9, September 1999.

Date	Event	Description	Impact
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 or enhanced standards for all SEC issuers, their boards, management and an oversight board for public accounting firms.	**Intended consequence:** Restore public confidence in the nation's capital markets by, among other things, strengthening public accounting controls. **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. 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). 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.
2003 – 2004	Mutual fund scandals	A series of scandals emerge involving some of the largest fund complexes in the country. At the root are documented cases of late trading and market timing.	The SEC institutes a broad series of reforms. Beyond simply addressing late trading and market timing abuses, the reform package includes new governance provisions, expanded disclosure around fees and costs, and significant narrowing of the scope of soft-dollar brokerage. Mutual funds undergo a wholesale examination of the fees paid to Wall Street, rationalizing payments and focusing them to the bulge bracket firms with the deepest execution capabilities. The pressure continues unabated on firms that support small caps.
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).	**Intended consequence:** Separate equity research from investment banking. **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. Led to a further decline in the equity research coverage and support of small cap stocks.
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 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.	**Intended consequence:** Modernize the regulatory structure of the markets and provide all investors with equal access to the best prices. **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. Delivered the coup de grace to NYSE specialists and stripped any remaining specialist support for small cap stocks on the Big Board.
July 2007	Amendment to Rule 201 of Regulation SHO	The SEC eliminated the uptick rule on short sales — which had stood in place for nearly 70 years — thus permitting short sales at any price with no regard for the previously traded price.	**Intended consequence:** To improve liquidity in shorted stocks and execution quality of short orders. **Unintended consequence:** Led to dramatically increased volatility, record levels of short-selling and a loss of investor confidence. Gave speculators free reign to pressure stocks downward on "short raids."

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