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Statement to the Joint-CFTC-SEC Advisory Committee on Emerging Regulatory Issues

June 22, 2010

Thank you Chairman Schapiro, Chairman Gensler and members of the Committee for the opportunity to participate.

There has been a computer arms race unleashed on Wall Street by changes in regulation and technology and we all need to catch up. This computer arms race is displacing fundamental investing with computer-trading based strategies and has created new forms of systemic risk, a loss of investor confidence, and a disastrous decline in primary (IPO) capital formation and the number of publicly listed companies in the United States.

From 1997 to Year End 2009 there has been a 40% decline in the number of publicly listed (i.e., NYSE, AMEX and NASDAQ) companies in the United States. On a GDP weighted basis, we have seen a more than 55% decline in the number of publicly listed companies. Today's market structure has lost the ability to support small capitalization companies and initial public offerings (IPOs) on the scale necessary to help drive the US economy. The U.S. now annually delists twice as many companies as it lists and this trend has been going on since the advent of electronic trading. For this reason, we have called for an alternative market system to reinvigorate primary capital formation and the fundamentally-oriented ecosystem of research, sales and liquidity provision that is essential to support companies that need capital to build plants, buy equipment and put people to work.

In our way of thinking, the unemployment crisis in the United States has been partly caused by changes to debt and equity capital market structure and the events of May 6 may give us an opportunity to come to grips with the notion that we have entered into an era where trading interests are eclipsing fundamental investment and economic interests.

Fundamental investing, or so-called "information increasing" activities, are being displaced by trading, or so-called "information mining" activities. The growth in indexing and ETFs may be exacerbating this problem.

In addition, stock market structure today is geared for large-capitalization stocks with typically symmetrical order books but disastrous for the vast majority of small-capitalization stocks with asymmetrical order books (where there is not naturally an offsetting buy order to match against a sell order and vice versa). Who is there to create liquidity for the small capitalization stock? The answer is often "no one."

The "Flash Crash" was an example of where even normally liquid securities went to a state of "asymmetry" and price discovery broke down.

What are single-stock electronic circuit breakers other than an admission that trading interests have overshot notions of fundamental value and that we need to hit the "pause" button to allow the slower fundamental investors to catch up and get price discovery back on track?

We applaud the establishment of this joint CFTC-SEC Committee. We also applaud recent moves to create a Consolidated Audit Trail and a Large Trader Reporting System. However, we believe that until all trades, quotes and other messages in all interrelated markets are tagged and traceable to the trading venue, broker and ultimate investor, and disclosed to the market, markets will not be perceived as fair.

As Justice Brandeis said, “Sunlight is said to be the best of disinfectants.” Sunlight is also the best enabler of investor confidence and effective regulation. With full tagging, tracking and reporting and the application of post-trade analysis and test bed techniques such as Agent-Based Models, regulators and market participants will be once and for all be in a position to judge the impact of other participants and to regulate and plan accordingly.

Finally, we ask that you consider a Concept Release devoted to Primary (IPO) Capital Formation.

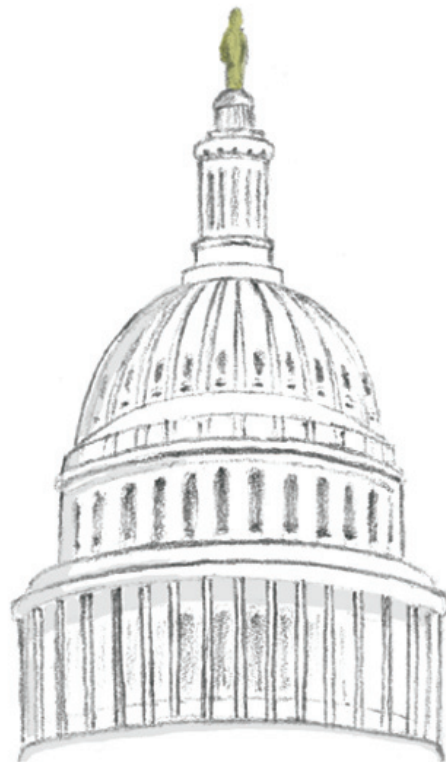
It may be time to admit that what works for large, naturally visible companies, is the antithesis of what is needed by small companies and it is these small companies that are essential to grow our markets, reduce unemployment, restore US competitiveness and drive the US economy.

Thank you.

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 “NVCA¹ 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](http://www.GrantThornton.com/subscribe) and select the Capital Markets Series.



Special thanks go to:

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- Ken Wilcox, president and CEO, SVB Financial Group

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.

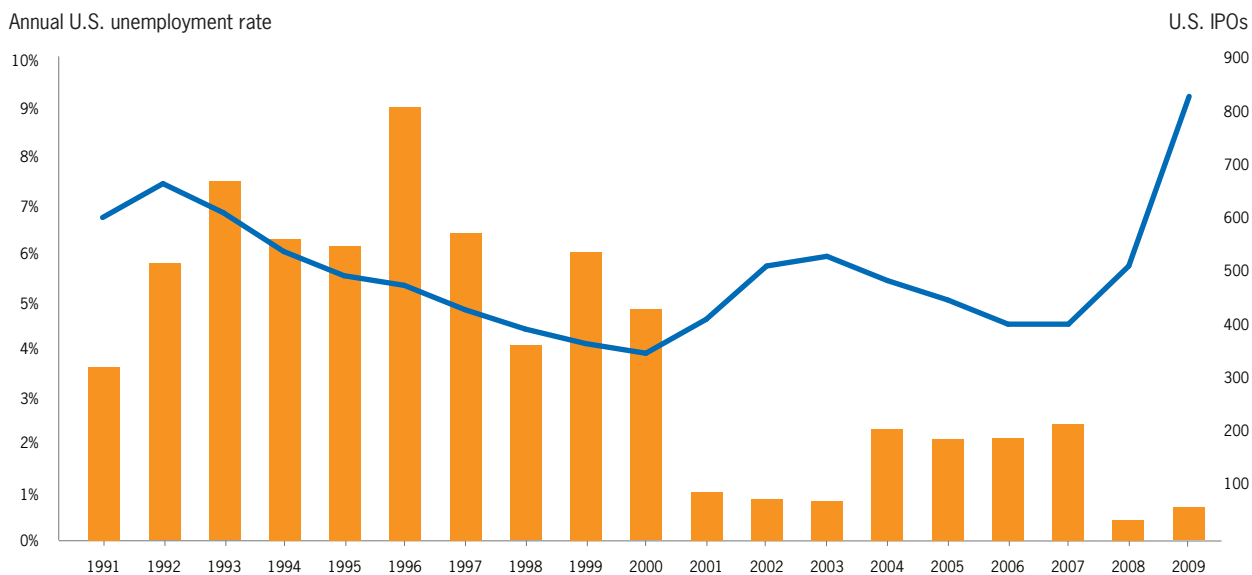
8. A dysfunctional IPO market fuels unemployment —

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.

● U.S. IPOs ● Annual U.S. unemployment rate



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.

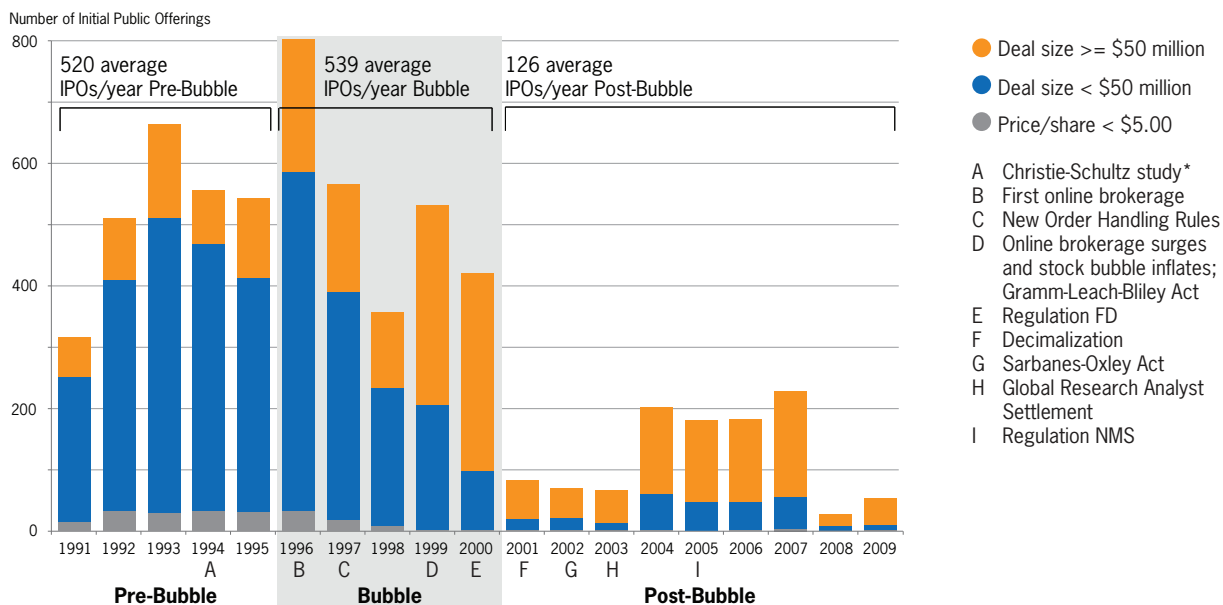
Does the effect of penny stocks alter this view of the IPO landscape?

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

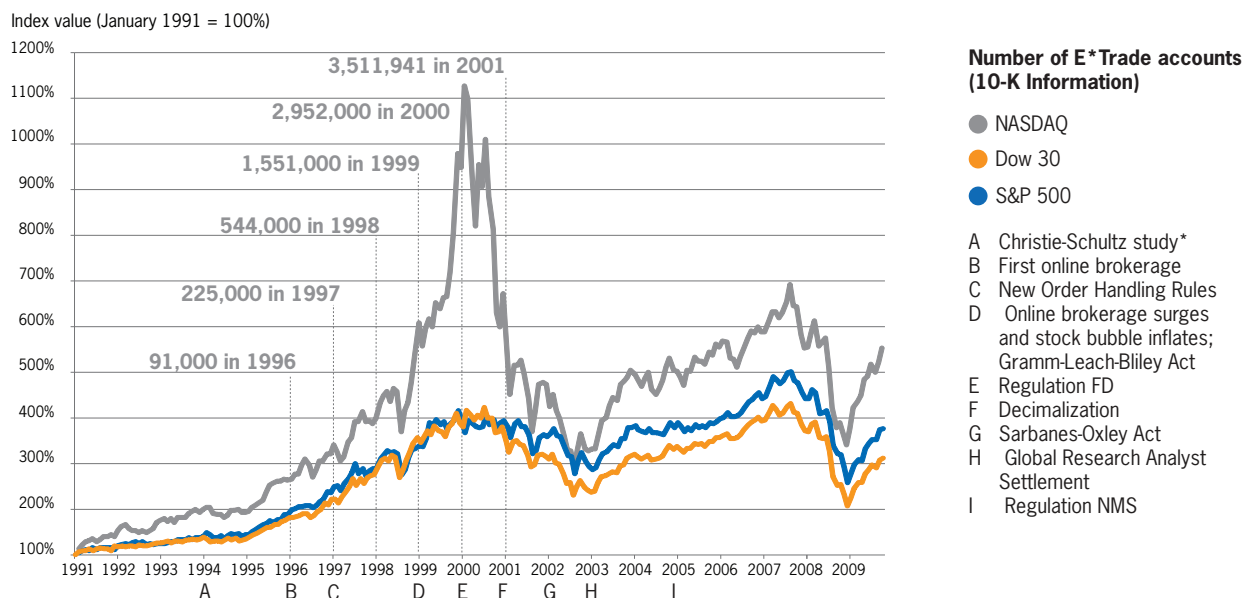
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*Christie, William G., and Schultz, Paul H., "Why do NASDAQ Market Makers Avoid Odd-Eighth Quotes?" *Journal of Finance*, Vol. 49, No. 5, 1994.

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.

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 years³ 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.

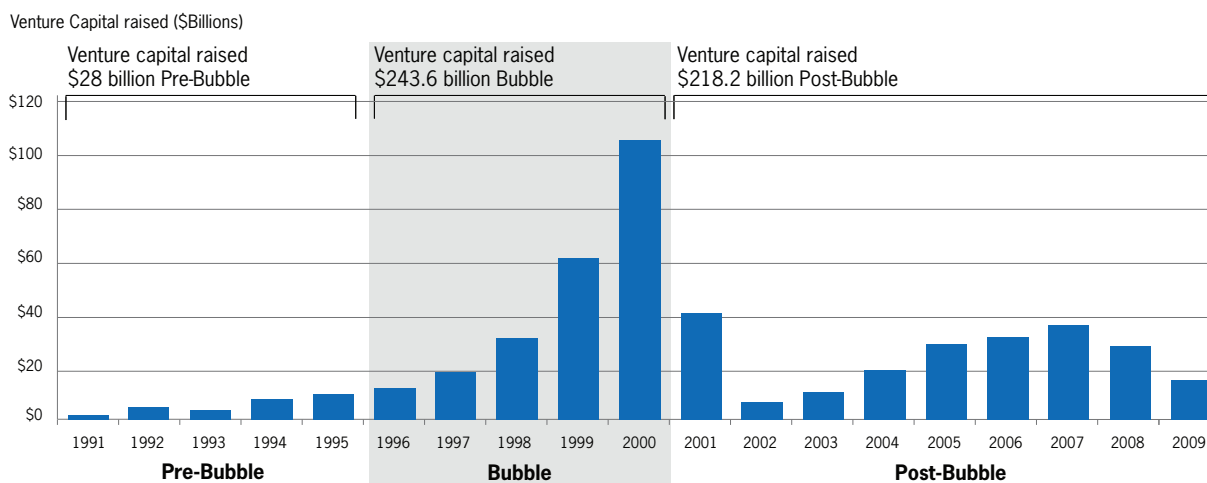
If small companies can be sold to large companies, why should we care about whether or not the IPO market can be fixed? For starters, a structurally compromised IPO market leaves a lot of shareholder return, economic growth and job formation on the table. No crystal ball can predict which companies are 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.

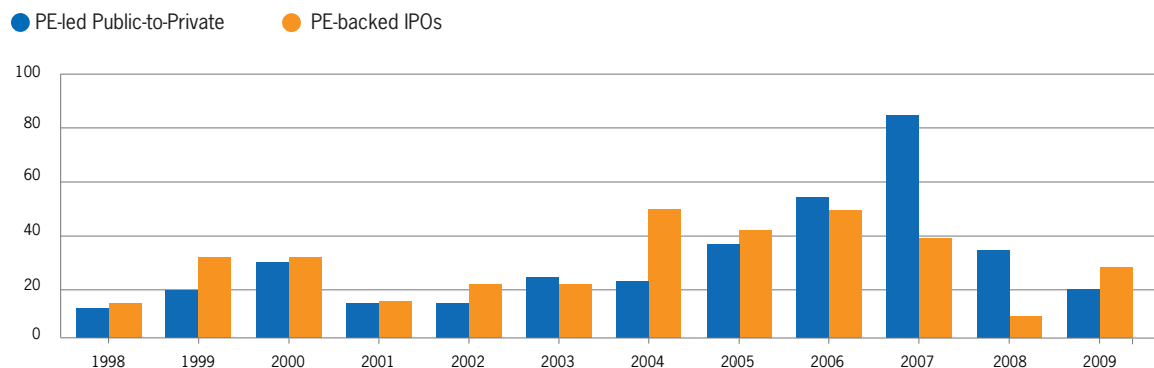
As venture-backed activity has declined, much of what we have seen in the new issue market revolves around private-equity-sponsored IPOs. We believe these transactions, which are larger in size and capitalization and frequently involve well-known brand names, tend to skew the public perception of the 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.

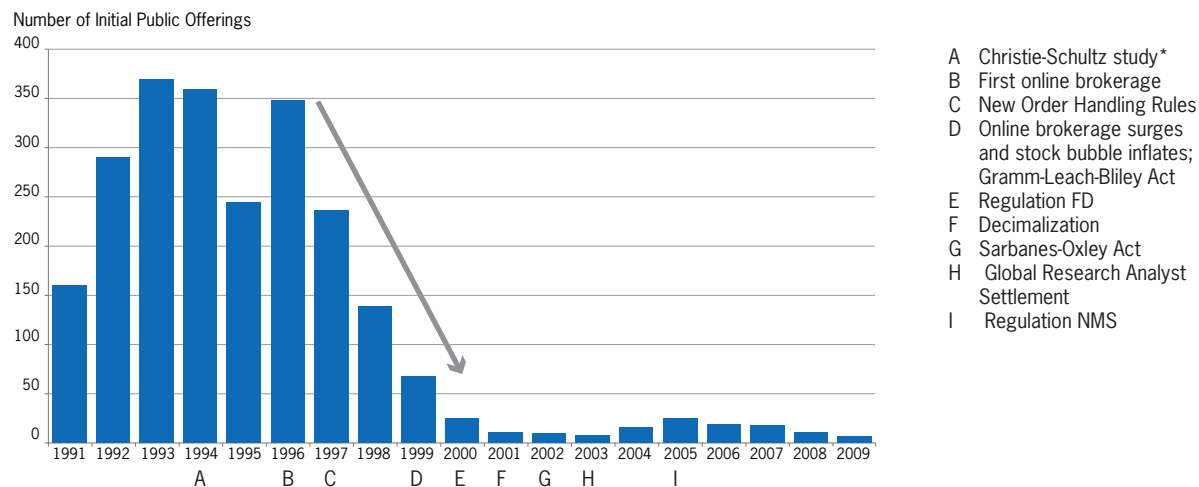
As you can see in Exhibit 5, small IPOs — those under \$25 million in size — suffered a rapid decline from 1996 to 2000. Interestingly, the small IPOs were seeing steady downward pressure at the same time that online brokerage was booming and displacing stockbrokers. Sarbanes-Oxley didn't come into play 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.



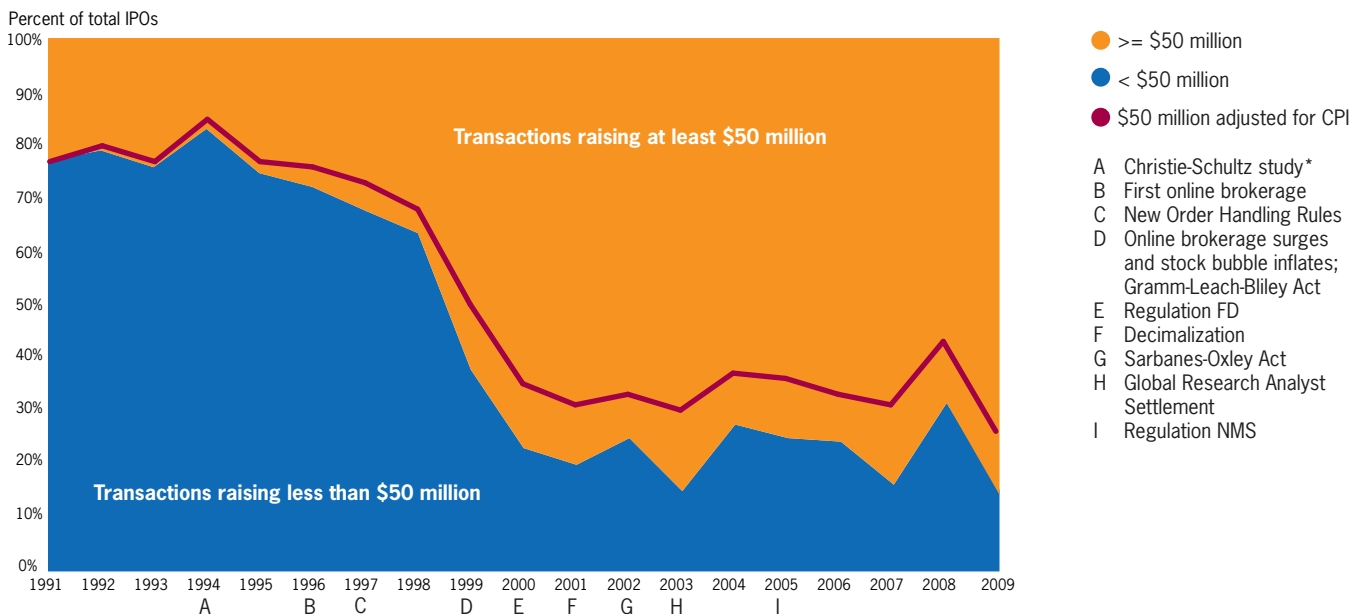
Source: Dealogic, Capital Markets Advisory Partners

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.

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
 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.

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 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 — 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/GrantThorntonThinking/CommentLetters/SECComments.

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.

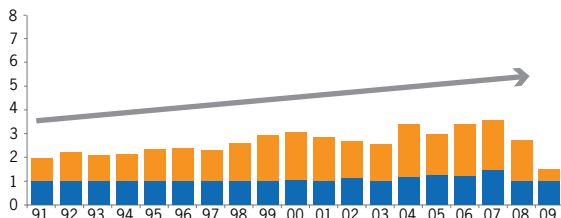
Companies secure research coverage by putting investment banks on cover of IPO prospectus

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

● Lead and co-managers ● Bookrunners

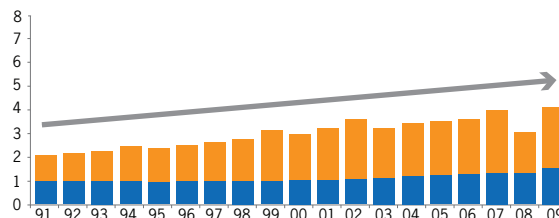
Deal size \$25-50 Million

Average number of managers



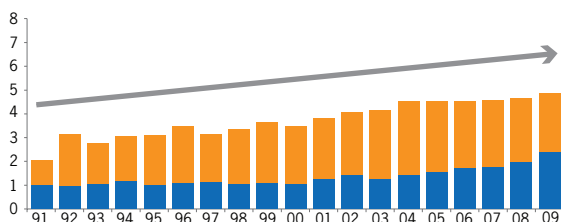
Deal size \$50-100 Million

Average number of managers



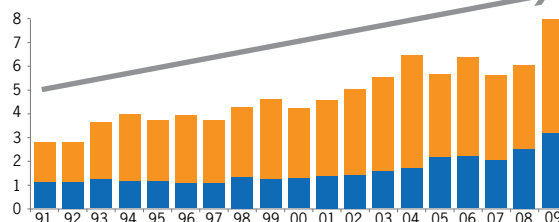
Deal size \$100-200 Million

Average number of managers



Deal size \$200-500 Million

Average number of managers



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 Settlement⁶ 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 Marché⁷ 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 Directs⁸) 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
<p>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 Specialist support helps reduce the cost of capital “Upstairs traders” market stocks 	<p>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” 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
<p>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>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

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 offering⁹ 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 market¹⁰ 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.	<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...” [*] 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.	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.	<p>Intended consequence: To provide level playing field for retail investors and increase transparency broadly.</p> <p>Unintended consequence: Spreads continued to narrow, and the economics to firms continued to erode. Support of stocks decreased dramatically, as did liquidity.</p>
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.	<p>Intended consequence: To protect investors and mitigate concerns they had about ECNs by further increasing transparency.</p> <p>Unintended consequence: The ECN and dark pool market exploded with new entrants, putting immense additional pressure and spreads on firm economics.</p>

* 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 <i>ABA Banking Journal</i> 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.	<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. 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>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.</p>
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.	<p>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.</p> <p>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.</p>
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>Led to a further decline in the equity research coverage and support of small cap stocks.</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 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>Delivered the coup de grace to NYSE specialists and stripped any remaining specialist support for small cap stocks on the Big Board.</p>
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.	<p>Intended consequence: To improve liquidity in shorted stocks and execution quality of short orders.</p> <p>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."</p>

About the authors

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David Weild is a capital markets senior advisor at Grant Thornton LLP, providing strategies and insights into today's global capital markets. He is co-author of *Market structure is causing the IPO crisis* and *A wake-up call for America*, and is a frequent resource to the financial news media on issues relevant to the capital markets.

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Capital Markets Series

A wake-up call for America

By **David Weild and Edward Kim** November 2009



A study of systemic failure in the U.S. stock markets and suggested solutions to drive economic growth

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Pascal Levensohn, Founder of Levensohn Venture Partners and a thought leader on capital markets structure as it impacts the venture capital industry, U.S. competitiveness and national security. Pascal has commented extensively about our earlier study (*Why are IPOs in the ICU? and Market structure is causing the IPO crisis*) – See www.PascalsView.com. Pascal is on the Counsel of Foreign Relations and once worked for First Boston. He is on the Board of Directors of the National Venture Capital Association where he heads their Education Committee.

Both Mike and Pascal provided extensive expertise and input to earlier drafts of this study and prior work by the authors (see *Market structure is causing the IPO crisis*). We deeply appreciate their time and assistance.

There is a depression in U.S. stock markets, evidenced by the precipitous decline in the number of publicly listed companies. This is not a global phenomenon; the United States is seriously lagging other industrialized nations in the formation of such “listed” companies. The culprit is changes to market structure that have inhibited economic recovery, impaired the job market and undermined U.S. competitiveness.

The problem is dire, but solutions are attainable. We can fix market structure to support the IPO and listed markets and to drive growth — and Congress and the SEC can lead the way toward adding billions in tax revenue to the U.S. Treasury without costing taxpayers a dime.

The data used in this report has not, to the best of our knowledge, been compiled previously in this form. It comes from a number of sources, including the World Federation of Exchanges, and from direct interaction with major stock exchanges.

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Executive Summary

This study explores what the authors term “The Great Depression in Listings,” the precipitous decline over the last decade in the number of publicly listed companies in the United States. It discusses the impact of this decline on the U.S. economy and competitiveness, offers solutions, and advocates urgent attention by the Obama Administration, Congress and the U.S. Securities and Exchange Commission (SEC) to improve the functioning of both public and private stock markets so they can once again support U.S. economic growth.

The study is based on a thorough analysis of global stock market listings by authors David Weild and Edward Kim, Capital Markets Advisors at Grant Thornton LLP, using data from a number of sources, including the World Federation of Exchanges, and from direct interaction with major stock exchanges. The data used in this report has not, to the best of the authors’ knowledge, been compiled previously in this form.

The study demonstrates that changes to market structure over the last 10 years have had a severe negative effect on the number of publicly listed companies in the United States.

1. Problems in market structure are undermining the United States’ global competitiveness.

- The United States listed markets are in secular decline (based on declines in the number of listed companies).
 - Since 1991, the number of U.S. exchange-listed companies is down by more than 22% and down a startling 53% when allowing for real (inflation-adjusted) GDP growth.
 - Since 1997 — the peak year for U.S. listings — this number has declined by nearly 39% (55% when allowing for real GDP growth).

Since peaking in the mid-90s, the number of exchange-listed companies has declined dramatically in the U.S., especially when adjusted for real GDP growth.

The Great Depression in U.S. Listings

	Number of Listings		Percent Change		Number of Listings		Percent Change	
	1991	2008	1991	2008	Year	Peak	Peak Year	2008
			Actual	GDP Adjusted			Actual	GDP Adjusted
NASDAQ	4,094	2,952	(27.9)%	(56.2)%	1996	5,556	(46.9)%	(62.2)%
NYSE	1,989	1,963	(1.3)%	(40.1)%	1998	2,592	(24.3)%	(43.0)%
AMEX	860	486	(43.5)%	(65.7)%	1993	889	(45.3)%	(64.8)%
ALL	6,943	5,401	(22.2)%	(52.8)%	1997	8,823	(38.8)%	(54.5)%

Source: Capital Markets Advisory Partners, World Federation of Exchanges, individual stock exchanges, USDA Economic Research Service (GDP in 2005 US\$). Excluding funds.

We urge Congress and the SEC to hold immediate hearings to understand why the U.S. markets have shed listings at a rate faster than any other developed market, and to pursue solutions. Voice your concerns by visiting www.GrantThornton.com/WakeupCall.

2. The number of new listings needed merely to maintain the United States' listed markets is much larger than expected.

- Asia is far outpacing the United States (based on growth rates of listed companies).
 - Asia's growth in listed companies is even *faster* than its GDP growth rate.
 - The number of listed companies in Hong Kong, a gateway to China, has nearly doubled since 1997.
- The United States' capacity to generate new listings is well below replacement needs. Without the action of Congress or the SEC, U.S. listed markets will continue to decline.
 - 360 new listings per year — a number we've not approached since 2000 — are required merely to maintain a steady number of listed companies in the U.S. In fact, we have averaged fewer than 166 IPOs per year since 2001, with only 54 in 2008.
 - 520 new listings per year are required to grow the U.S. listed markets at 3% per annum — roughly in line with GDP growth.

3. The lack of new listings in the United States' markets is threatening the U.S. job market.

- Small business is impacted — 47% of all IPOs historically are neither venture capital nor private equity funded.
- Up to 22 million jobs may have been lost because of our broken IPO market.

Today, capital formation in the U.S. is on life support. Small IPOs from all sources — venture capital, private equity and private enterprise — are all nearly extinct and have been for a decade. Within the venture capital universe, the average time from first venture investment to IPO has more than doubled. Meanwhile, stock market volatility, a measure of risk, has broken all records.¹ Retirement accounts have been laid to waste. The opportunity for millions of potential jobs has been lost, while some in the generation nearing or in retirement are now forced to postpone or come out of retirement.²

The lack of new listings is not a problem that is narrowly confined. Rather, it is a severe dysfunction that affects the macro economy of the U.S. — with grave consequences for current and future generations.

Grant Thornton argues that the root cause of “The Great Depression in Listings” is not Sarbanes-Oxley, as some will suggest. Rather, it is what we call “The Great Delisting Machine,” an array of regulatory changes that were meant to advance low-cost trading, but have had the unintended consequence of stripping economic support for the value components (quality sell-side research, capital commitment and sales) that are needed to support markets, especially for smaller capitalization companies.

Underappreciated a decade ago is the fact that higher transaction costs actually subsidized services that supported investors. Lower transaction costs have accommodated trading interests and fueled the growth of day traders and high-frequency trading, spawning the age of “Casino Capitalism.” The result — investors, issuers and the economy have all been harmed.

The solutions offered will help get the U.S. back on track by creating high-quality jobs, driving economic growth, improving U.S. competitiveness, increasing the tax base, and decreasing the U.S. budget deficit — all while not costing the U.S. taxpayer a dime.

These solutions are easily adopted since they:

- create new capital markets options while preserving current options,
- expand choice for consumers and issuers,
- preserve SEC oversight and disclosure, including Sarbanes-Oxley, in the public market solution, and
- reserve private market participation only to “qualified” investors, thus protecting those investors that need protection.

These solutions would refocus a significant portion of Wall Street on rebuilding the U.S. economy.

Recommendations to restore economic vitality

Grant Thornton makes recommendations for improvements to both public and private stock markets in the United States so those markets once again are capable of supporting capital formation and economic growth. We urge Congress and the SEC to hold immediate hearings to understand why the U.S. markets have shed listings at a rate faster than any other developed market, and to pursue solutions that, together with thoughtful oversight, will advance the U.S. economy, grow jobs, better protect consumers and reduce the deficit — all without major expenditures by the U.S. government:

- **Alternative public market segment:** A public market solution that provides an economic model to support the “value components” (research, sales and capital commitment) in the marketplace. This solution would establish a new, parallel market segment that benefits from a fixed spread and commission structure. It would be subject to traditional SEC registration and reporting oversight (e.g., annual and quarterly reporting, Sarbanes-Oxley compliance).
- **Enhancements to the private market:** A private market solution that enables the creation of a qualified investor marketplace — consisting of both institutional investors and large accredited investors — that allows issuers to defer many of the costs associated with becoming a public company before they are ready for an IPO. This market would serve as an important bridge to an IPO.

¹ See CBOE Volatility Index in Exhibit 24 and the period in late 2008 where Credit Crisis volatility was seen to be twice that of the Dot-Com Bubble and subsequent aftermath. Have computer automation and low-cost execution added to systemic risk and the destruction of portfolio values experienced during the Credit Crisis?

² Healy, Jack, “Back Into the Deep End: Cautiously, Investors Look to Stocks to Rebuild 401(k)’s,” New York Times, September 11, 2009, p. B1. The caption of the photo accompanying the article reads, “Joe Mancini of Fredericksburg, VA, has losses on his portfolio of around 30% and has had to put off his retirement.”

The Great Depression in Listings

The United States, when compared to other developed nations, has fallen seriously behind in its number of listed³ companies. It has been in free fall since 1996/1997. Specifically, the number of exchange-listed companies in the United States has declined 22.2% since 1991. This understates the problem, however, because the economy has grown significantly since then. A larger economy logically should support more, not fewer, public companies. Adjusting for real GDP growth, the true decline in the number of listed companies on U.S. stock markets is 52.8% since 1991⁴ (a measure of listed company “opportunity cost”).

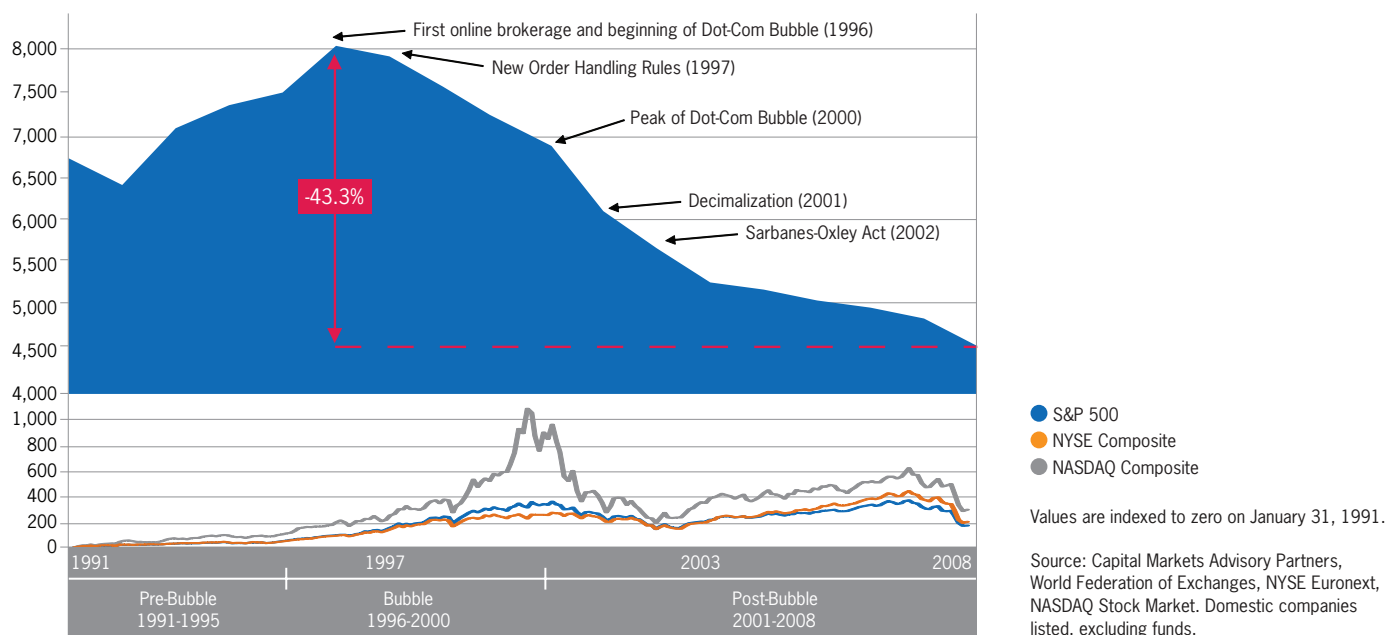
The existence of 5,401 listed companies (excluding funds) in the United States as of December 31, 2008, suggests that — due to changes in market structure — the United States may have

failed to benefit from the economic fruits of nearly 11,000 publicly listed companies.

We call this decline “The Great Depression in Listings,” and we see no sign of its abating.^{5,6} The root cause of The Great Depression in Listings is not Sarbanes-Oxley, as some will suggest. Rather, it is what we call “The Great Delisting Machine,” an array of regulatory changes that were meant to advance low-cost trading, but have had the unintended consequence of stripping economic support for the value components that are needed to support markets, especially for smaller capitalization companies. Domestic listings on all U.S. exchanges experienced a 43% decline in the number of listed companies from the 1996 peak to the 2008 low (Exhibit 1).

Exhibit 1

The Great Depression in Listings began with the advent of online brokerage and the Order Handling Rules. The peak of the Dot-Com Bubble and the adoption of Sarbanes-Oxley came much later.
Companies listed on U.S. stock exchanges



We believe that this decline has cost the U.S. economy many millions of jobs through at least five phenomena:

- value destruction — an accelerated rate of delisting public companies,
- loss of access to equity investment capital — a lowered rate of new listings,
- lowered rate of reinvestment — cash realized from sale of shares and reinvested,
- decreased investment capital allocations by ERISA accounts to investment strategies that target smaller companies, and
- diminished access to debt capital (including bank lines) which may first require access to equity capital to improve creditworthiness — affects small companies' ability to reinvest and fuel expansion.

The decline in the number of U.S. listed companies has cost our economy millions of potential jobs.

If market structure is failing to support the micromarket⁷ for individual listed companies, how can it serve investors? How can it be efficient? How can it facilitate capital formation? It can't.

The Great Depression in Listings has profound negative economic implications and deserves immediate action from the Administration, Congress, and the U.S. Securities and Exchange Commission (SEC). This crisis contributes to greater U.S. budget deficits. With increased access to equity capital, and market structure that better supports issuers, we would see increased productivity, job growth and capital gains, which drive tax revenue for the U.S. Treasury. Unlike deficit spending, fixing market structure offers material support to U.S. economic growth without adding to budget deficits.

The economic model created by current regulation does not support the necessary ecosystem (e.g., equity research, capital commitment and sales support) to support small capitalization stocks. We issue a “call to action” at the end of this report, offering recommendations for restoring both public and private stock markets in the United States so once again they are capable of supporting capital formation and economic growth.

³ A “listed” company in the United States is an operating company whose primary listing is on The New York Stock Exchange, the American Stock Exchange (acquired by the NYSE in October 2008), or The NASDAQ Stock Market. Companies whose shares are quoted on the Over-the-Counter Bulletin Board (OTCBB) or Pink Sheets are not considered “listed.” The data in this study excludes listed funds.

⁴ Real inflation-adjusted GDP data from U.S. Department of Agriculture, Economic Research Service, based in 2005 US\$.

⁵ In 2009 in the wake of the Credit Crisis and decline in share prices, the NYSE and NASDAQ instituted a moratorium on delisting companies that failed to maintain the \$1 per share minimum price. In addition, the NYSE moved to reduce permanently its minimum market capitalization standards from \$25 million to \$15 million. Press reports have recently concluded that once the moratorium is lifted, there may be as many as 350 additional companies delisted — a further decline of 6.5% in the number of listings — despite the approximately 50% increase in major stock market indices off their recent lows.

⁶ See NYSE Press Release dated February 26, 2009, entitled “NYSE to Extend, Expand Temporary Easing of Continued-Listing Standards, Extends Temporary Lowering of Average Global Market Cap. Standard to \$15mln to June 30, Temporarily Suspends its \$1 Minimum Price Requirement.” (<http://www.nyse.com/press/1235647172819.html>). See also NASDAQ filing on July 13, 2009, of Form 19b-4 with the SEC for their continuation of suspension request of the bid price maintenance rules (<http://www.nasdaq.net/publicpages/assets/SR-NASDAQ-2009-069.pdf>).

⁷ A “micromarket” is the market for an individual security. In the equities markets, the underlying micromarket for a common stock will vary greatly as a function of such factors as: size (market cap and float), industry, index inclusions, ETF inclusions, ownership structure (retail vs. institutional, hedge fund vs. mutual funds, etc.), database exposure (e.g., First Call, Reuters Multex), and coverage by sell-side analysts and, increasingly, by buy-side analysts.

U.S. Markets in Crisis

A decade ago U.S. stock markets were the envy of markets across the globe. President Jiang Zemin of China called NASDAQ “the crown jewel of all that is great about America.”⁸ The Ibbotson study of stock market returns concluded that, for nearly 100 years, someone holding a diverse portfolio of U.S. stocks for any decade earned higher returns than someone holding a portfolio of bonds.⁹

It was a time when the U.S. stock market worked ... when bond ratings were trusted ... when banks competed to lend money. Not so anymore.

Declines in the number of U.S. listed companies are much greater than those of other developed countries. The small IPO, once the mainstay of the new issues market, is now nearly extinct.¹⁰ The venture capital industry is threatened as the number of venture-funded IPOs is at an all-time low, and the average time from first venture investment to IPO has more than doubled.¹¹ Market volatility, a measure of risk, has broken all records.¹² Retirement accounts have been laid to waste, forcing some to postpone or come out of retirement.¹³

Such conditions suggest a failing U.S. stock market that may not:

- adequately serve investors (investors may be losing money¹⁴ unnecessarily),
- maintain efficient markets (share prices more often detaching from fundamentals), and
- facilitate capital formation (the IPO market is crippled).¹⁵

Global markets

Exhibits 2 through 5 document the absolute and real GDP-weighted percent change in the number of listings for markets including:

- United States
- United Kingdom
- Germany
- Italy
- Japan
- Hong Kong
- Australia
- Canada

Exhibits 2 and 3 (adjusted for real GDP) are indexed to zero starting in 1991 to illustrate how the world markets changed during the period leading up to the Dot-Com Bubble. Exhibits 4 and 5 (adjusted for real GDP) are indexed to zero starting in 1997 — the peak of U.S. listings — to show the U.S. decline since the peak.

Prior to 1997, the United States was performing in line with other developed markets. Subsequent to 1997, the United States demonstrates a precipitous decline (38.8%) in population of listed companies relative to other developed markets (e.g., Hong Kong increased 91.6%). The decline for the United States (52.8%) is particularly dramatic when weighted for changes in real GDP (Exhibit 5) over this time period (1991 to 2008).

⁸ Cox, J., “U.S. Success Draws Envy,” USA Today, August 3, 2000.

⁹ Ibbotson & Associates, “Stocks, Bonds, Bills and Inflation 2000 Yearbook.”

¹⁰ “Market structure is causing the IPO crisis” by David Weild and Edward Kim, published by Grant Thornton LLP.

¹¹ According to the National Venture Capital Association’s “NVCA 4-Pillar Plan to Restore Liquidity in the U.S. Venture Capital Industry,” dated April 29/30 2009 and authored by Dixon Doll and Mark Heesen, the median age of a venture-funded IPO in 1998 was 4.5 years, and this “gestation period” had elongated to 9.6 years by 2008. See also Dow Jones VentureSource.

¹² See CBOE Volatility Index in Exhibit 24 and the period in late 2008 where Credit Crisis volatility was seen to be twice that of the Dot-Com Bubble and subsequent aftermath. Have computer automation and low-cost execution added to systemic risk and the destruction of portfolio values experienced during the Credit Crisis?

¹³ Healy, Jack, “Back Into the Deep End: Cautiously, Investors Look to Stocks to Rebuild 401(k)’s,” New York Times, September 11, 2009, p. B. The caption of the photo accompanying the article reads, “Joe Mancini of Fredericksburg, Va, has losses on his portfolio of around 30% and has had to put off his retirement.”

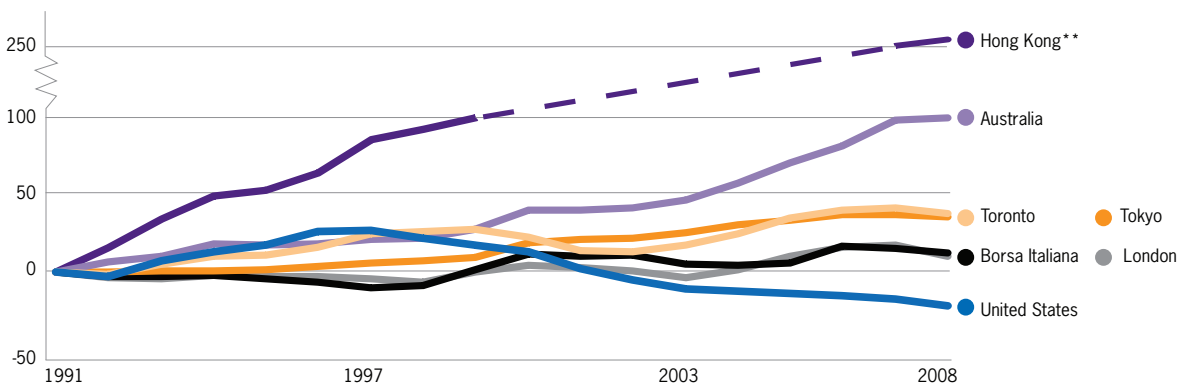
¹⁴ The rate of delistings of small companies continues to be high and there has been an expansion in use of forms of finance, especially PIPEs (private investments in public equity), that can be dilutive and exclude retail investor participation. In addition, institutional portfolio managers have commented to us that small and microcap stocks may trade at larger discounts than they once did due in part to insufficient research attention, both by institutional investors and Wall Street, on small capitalization and micro capitalization stocks.

¹⁵ Paraphrased from the mission statement of the SEC which can be found at <http://www.sec.gov/about/whatwedo.shtml> and reads, “The mission of the U.S. Securities and Exchange Commission is to protect investors, maintain fair, orderly, and efficient markets, and facilitate capital formation.”

Exhibit 2

The U.S. markets' last growth phase was before the Dot-Com Bubble.

The number of listed companies from global exchanges indexed to 1991 *



*Deutsche Börse data is unavailable prior to 1997.

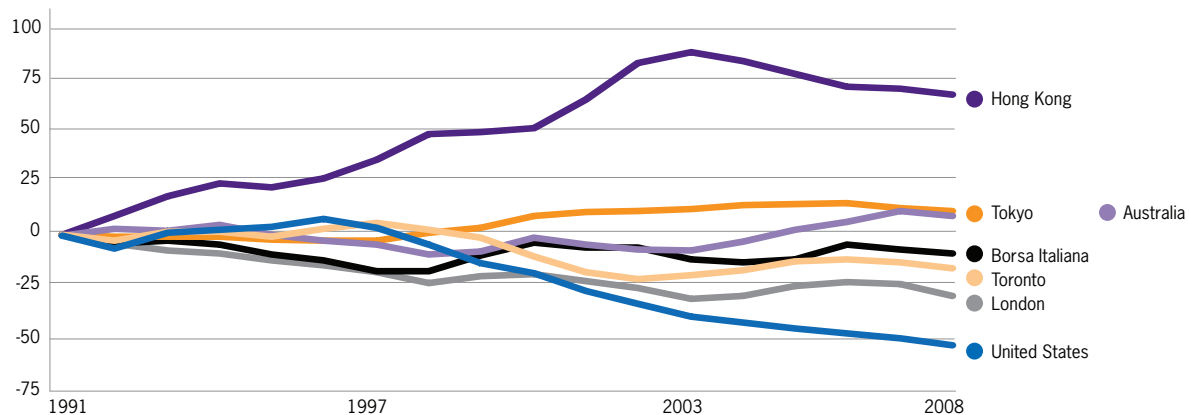
**Y axis and plotted line adjusted for Hong Kong's tremendous growth.

Source: Capital Markets Advisory Partners, World Federation of Exchanges, individual stock exchanges. Excluding funds.

Exhibit 3

The U.S. lags far behind other global markets. Asian markets are growing even faster than GDP.

The number of listed companies from global exchanges, adjusted for real GDP and indexed to 1991 *



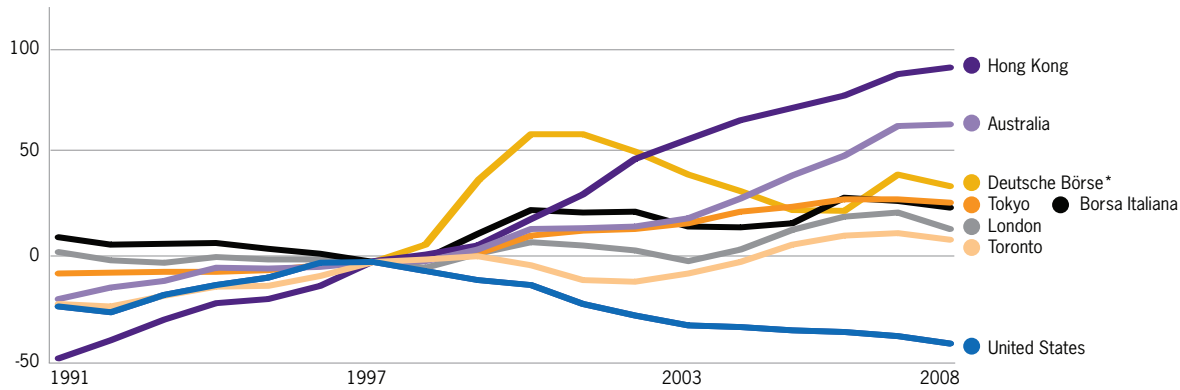
*Deutsche Börse data is unavailable prior to 1997.

Source: Capital Markets Advisory Partners, World Federation of Exchanges, individual stock exchanges, USDA Economic Research Service. Real GDP measured in 2005 US\$. Excluding funds.

Exhibit 4

The U.S. listed markets — unlike other developed markets — have been in steady decline, with no rebound, since 1997.

The number of listed companies from global exchanges indexed to 1997



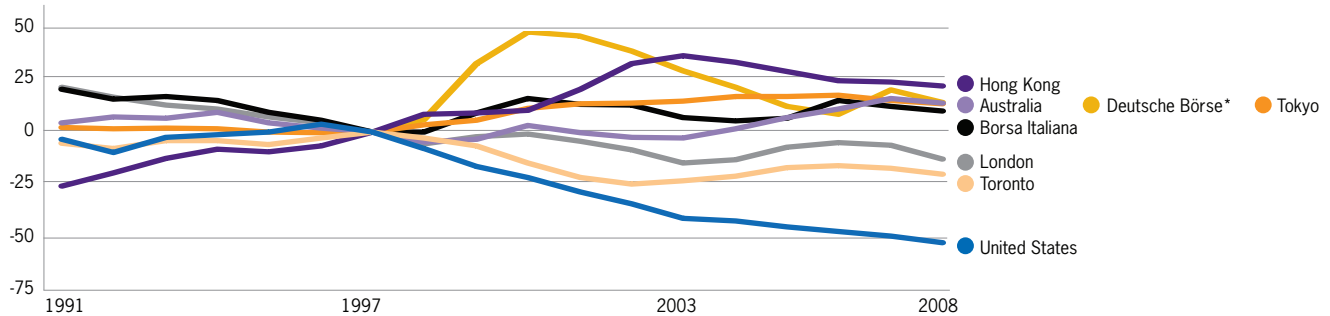
*Deutsche Börse data is unavailable prior to 1997.

Source: Capital Markets Advisory Partners, World Federation of Exchanges, individual stock exchanges. Excluding funds.

Exhibit 5

The U.S. should have twice the number of listed companies it currently has.

The number of listed companies from global exchanges, adjusted for real GDP and indexed to 1997



*Deutsche Börse data is unavailable prior to 1997.

Source: Capital Markets Advisory Partners, World Federation of Exchanges, individual stock exchanges, USDA Economic Research Service. Real GDP measured in 2005 US\$. Excluding funds.

Global market indices

Exhibit 6 examines the possibility that the U.S. listing decline may be attributable to poor stock price performance specific to the United States. We compare the stock price indices of eight developed markets and observe that U.S. stock prices were performing in the middle of the range of these developed countries. As a result of that observation, we believe that the degradation of the listed markets in the United States is due to the series of regulatory changes that have induced structural changes to the market. Further, we believe that those structural changes have disproportionately harmed smaller capitalization companies (the source of most delistings) and destroyed the small IPO market (the source of most initial listings).

- S&P 500 (United States)
- FTSE 100 (United Kingdom)
- DAX (Germany)
- MIBTel (Italy)
- Nikkei 225 (Japan)
- Hang Seng (Hong Kong)
- All Ordinaries (Australia)
- TSX (Canada)

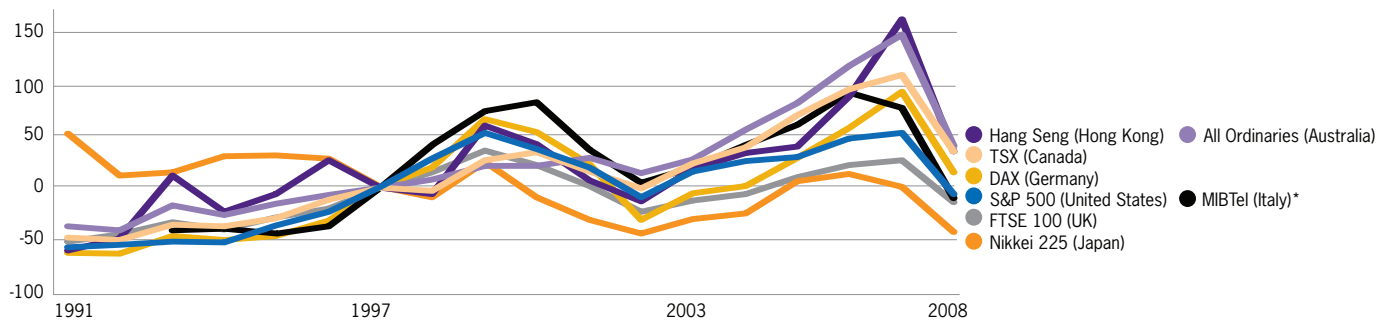
There is no correlation between the decline in listings in the U.S. and U.S. market performance relative to other countries. Note that these indices generally are made up of large capitalization stocks and are market weighted. Clearly, while market structure in the United States may be working for large capitalization companies, it is systematically degrading the value of small capitalization companies.

There is no correlation between the decline in listings in the U.S. and U.S. market performance relative to other countries.

Exhibit 6

Market performance has masked the U.S. stock markets' failure to attract, retain and nurture listed companies.

Performance of global stock indices, indexed to 1997



*MIBTel (Italy) data is unavailable prior to 1993.

Source: Capital Markets Advisory Partners, Yahoo Finance, individual stock exchanges.

Faltering U.S. Stock Market

The number of listings declines on the U.S. exchanges

All listed markets in the United States have experienced a listings decline. If we consolidate the numbers for all three major exchanges, we determine that The Great Depression in Listings began sometime around 1997 — before the height of the Dot-Com Bubble in 2000 and fully five years before the implementation of the Sarbanes-Oxley Act of 2002. Of the three markets (AMEX, NASDAQ and NYSE), AMEX listed the smallest companies on average, followed by NASDAQ, and then the NYSE. The number of listings on AMEX peaked in 1993 (Exhibit 7), whereas the number of NASDAQ listings peaked in 1996 (Exhibit 8), and the NYSE listings number peaked in 1998¹⁶ (Exhibit 9). Our discussions with regulators and operators of the exchanges (who were active during this period) indicate that the exodus from AMEX was in part precipitated by the solicitation of listings (takeaways) by NASDAQ and the NYSE. The NYSE's peak in listings occurred last due in part to the fact that it relaxed its listing standards during the Dot-Com Bubble in order to compete more effectively against NASDAQ. As a result, it attracted a number of IPO listings that previously may have migrated to other markets. The NYSE also was highly successful in attracting switches from NASDAQ by companies seeking to position themselves more as traditional “bricks and mortar” entities versus simply as the “clicks and bricks” of the Dot-Com Bubble.

The data in Exhibits 7 through 9 demonstrate that the decline in listings appears to have begun at the exchange with the smallest listed companies, AMEX, followed then by NASDAQ, and ending at the exchange with the largest listed companies, NYSE. This observation is consistent with the thesis that market structure changes began to erode support for small cap stocks. It is also consistent with the thesis that the combined weight of a series of changes eventually may work its way up to damage the support for larger companies.

Both the AMEX (Exhibit 7) and NASDAQ (Exhibit 8) composite stock indices peaked well after the exchanges' listings declines were fully underway. Clearly, The Great Depression in Listings is not caused by a bear market. We have had bull markets since 1997 in which the pick-up in IPO activity has been inadequate to cover the higher delisting rate at U.S. stock markets (this, despite the fact that the exchanges have relaxed maintenance standards to stem the tide in delistings).

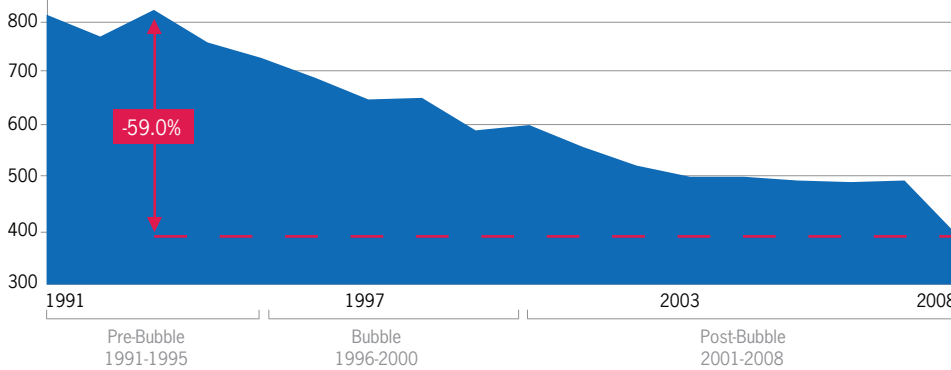
Market structure changes began to erode support for small cap stocks and eventually worked their way up to damage the support for larger companies.

¹⁶ The NYSE delayed the onset of its listings decline by modifying its listing standards in June 1998 to better compete for NASDAQ listings. See Wall Street Journal article dated June 5, 1998, entitled “The Big Board Overhauls Standards for Stock Listings” and Philadelphia Enquirer p. D3 appearing June 6, 1998, entitled “NYSE Seeks to Change Rules, Partly to Lure NASDAQ Firms.”

Exhibit 7

AMEX began its decline in 1994, due in part to increasing competition from NYSE and NASDAQ.

Number of Amex-listed companies

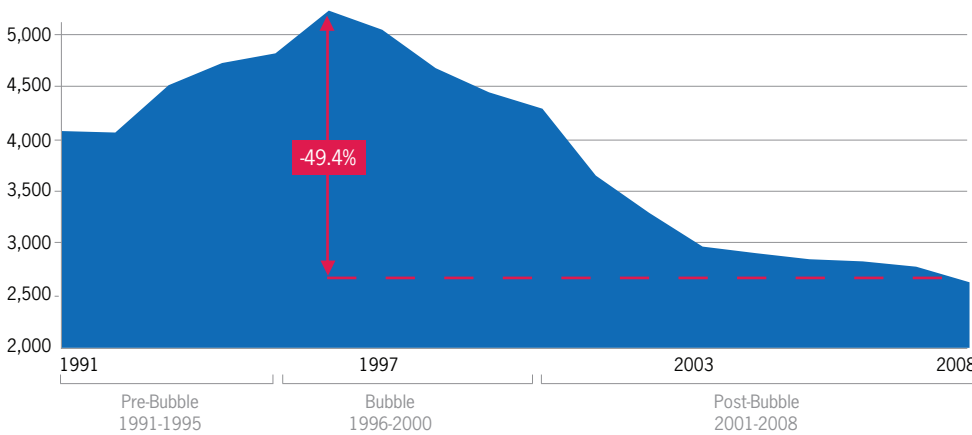


Source: Capital Markets Advisory Partners, World Federation of Exchanges, NYSE Euronext. Domestic companies listed, excluding funds.

Exhibit 8

NASDAQ's decline began in 1997, due to the one-two punch of online brokerage and the Order Handling Rules.

Number of NASDAQ-listed companies

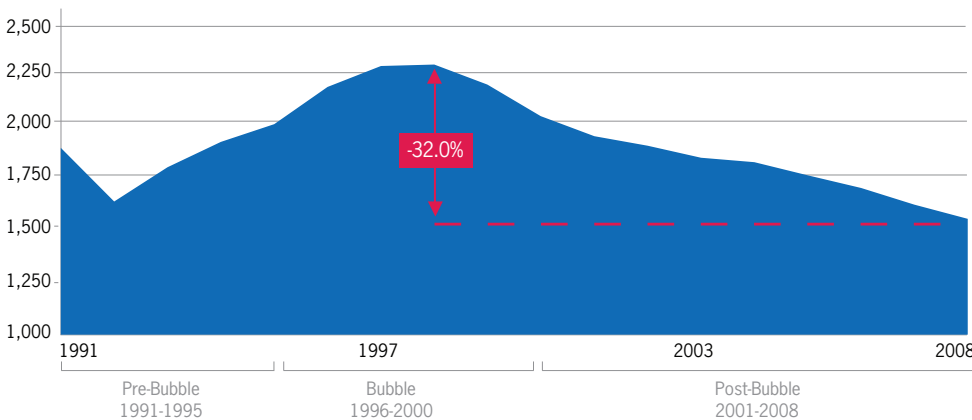


Source: Capital Markets Advisory Partners, World Federation of Exchanges, The NASDAQ Stock Market. Domestic companies listed, excluding funds.

Exhibit 9

The NYSE began to decline in 1999, delayed in part by the June 1998 NYSE listing standards modifications, allowing NYSE to better compete for NASDAQ's listings.

Number of NYSE-listed companies



Source: Capital Markets Advisory Partners, World Federation of Exchanges, NYSE Euronext. Domestic companies listed, excluding funds.

U.S. markets fall below replacement level

We define “replacement” level as the level at which the stock exchanges maintain equilibrium — the same number of listings from year to year. To exemplify:

In 2008, while there were 54 IPOs,¹⁷ there were 303 net listings lost on the AMEX, NASDAQ and NYSE.¹⁸ To maintain the same number of listings from the prior year (replacement level), 303 additional new listings — a total of 357 new listings¹⁹ (mostly IPOs) — would have been required. The replacement level, or level of equilibrium, has averaged 360 new listings per year since 2004 (Exhibit 10).²⁰

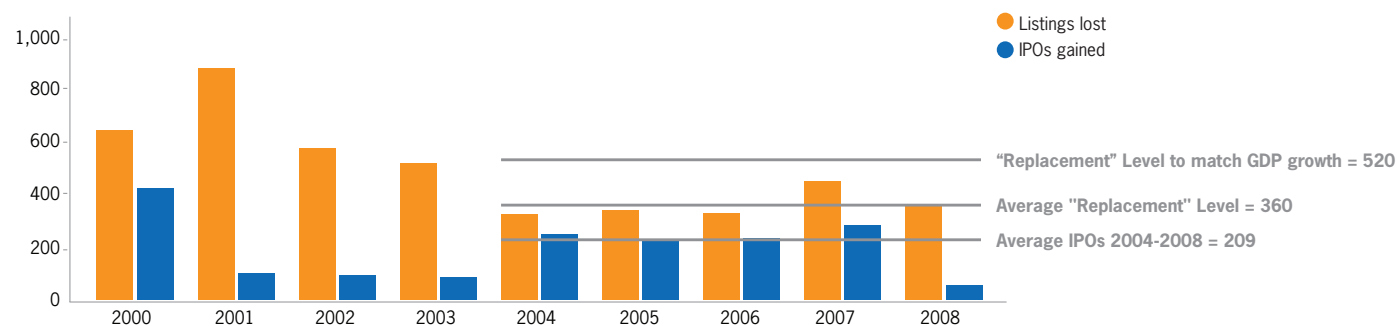
We have calculated “replacement” needs for the AMEX, NASDAQ and NYSE to reach equilibrium in numbers of listings. Today, the AMEX — were it still an independent exchange — would need at least 38 IPOs (Exhibit 11) per year to avoid further declines, while NASDAQ would require 189 IPOs (Exhibit 12), and the NYSE would require 133 IPOs (Exhibit 13). The NYSE acquired AMEX and Arca, thus actively expanding its “total addressable market” of IPOs by broadening its listing standards. “Replacement” needs for NASDAQ and the NYSE are relatively similar — a surprising result because the NYSE’s listing standards are perceptibly higher. Under current market structure, we see nothing to prevent continued shrinkage of the United States equities markets by at least 300 companies in 2009 and by at least 100 companies per year for the next decade.

Under current market structure, we see nothing to prevent continued shrinkage of the United States equities markets by at least 300 companies in 2009 and by at least 100 companies per year for the next decade.

Exhibit 10

U.S. stock markets need 360 new listings per year just to tread water, and 520 per year to keep pace with 3% annual GDP growth — levels we have not realized in nearly a decade.

Number of new listings required to maintain “replacement” levels on all U.S. stock markets



Source: Capital Markets Advisory Partners, World Federation of Exchanges, Dealogic, NYSE Euronext, The NASDAQ Stock Market. Excludes funds.

¹⁷ Source: Dealogic. Number of IPOs excluding closed-end funds.

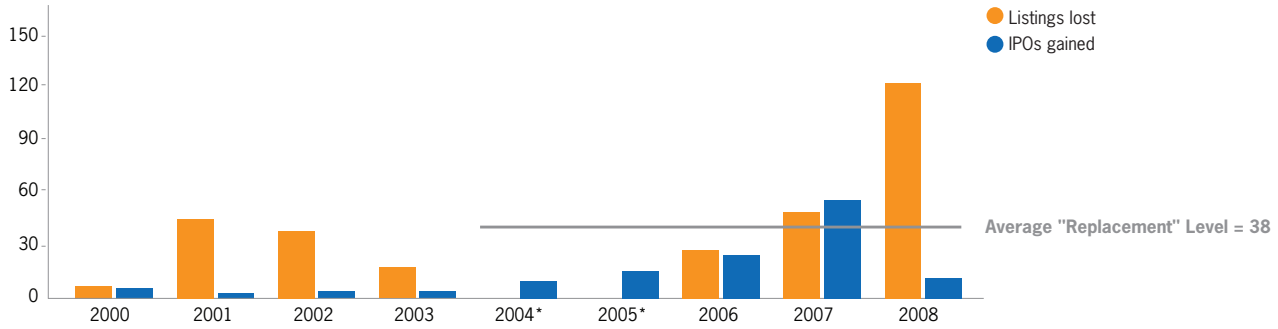
¹⁸ Source: World Federation of Exchanges, NYSE Euronext, NASDAQ Stock Market. Includes stock listings. Excludes closed-end funds.

¹⁹ “New listings” are derived from several sources including: (1) IPOs (by far the largest segment), (2) listings that move from one exchange to another (typically a zero sum game within the United States), (3) from spinouts of larger corporations (although many of these also include a capital raise and show up as IPOs), and (4) from public companies that list from the bulletin board or over-the-counter markets. The overwhelming majority of “new listings” historically have come from the IPO market. “Delistings” also come from a number of sources including (1) forced delisting for failure to maintain listing standards (such as the \$1 minimum price rule), and (2) mergers and acquisitions.

²⁰ The reader should note that the “replacement level” number of new listings will vary with the size of the market. A larger market requires more listings every year to maintain equilibrium. A smaller market requires fewer listings. For example, in the most extreme case where the size of the listed market was 0 (zero) listings, zero new listings would be required to maintain the size of the market at zero.

Exhibit 11

If AMEX were still an independent exchange, it would need 38 new listings per year to maintain equilibrium.



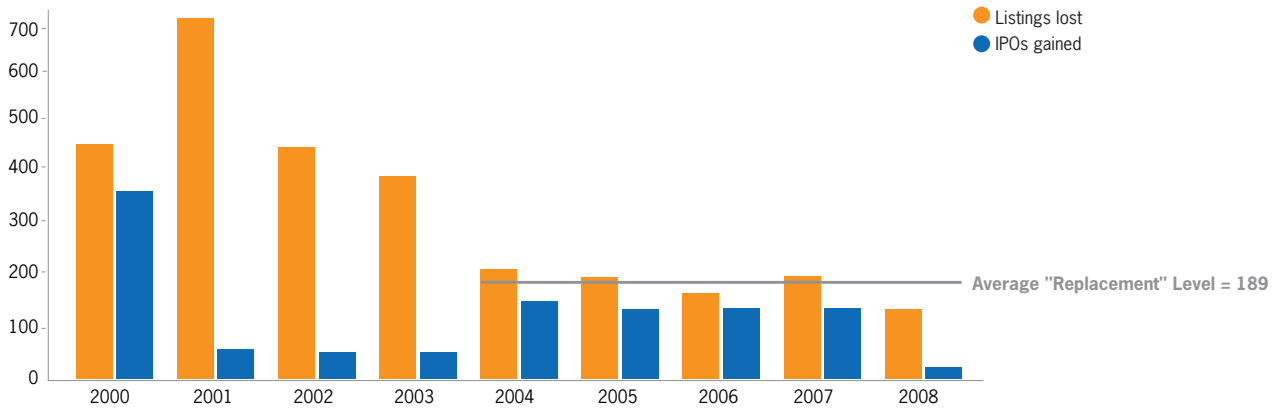
*In 2004 and 2005, AMEX gained listings.

Source: Capital Markets Advisory Partners, World Federation of Exchanges, Dealogic. Historical AMEX listings provided by NYSE Euronext. Excludes funds.

Exhibit 12

NASDAQ needs 189 new listings per year to maintain equilibrium from year to year.

Number of new listings required to maintain NASDAQ "replacement" levels

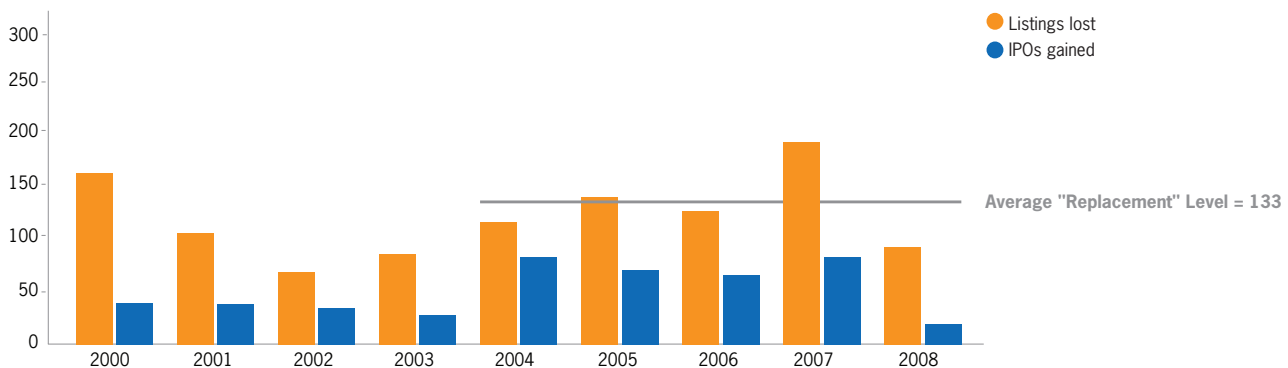


Source: Capital Markets Advisory Partners, World Federation of Exchanges, Dealogic, The NASDAQ Stock Market. Excludes funds.

Exhibit 13

The NYSE needs 133 new listings annually to maintain equilibrium from year to year.

Number of new listings required to maintain "replacement" levels on the NYSE



Source: Capital Markets Advisory Partners, World Federation of Exchanges, Dealogic, NYSE Euronext. Excludes funds.

U.S. Compared to Other Developed Nations

Exhibit 14

The United States is falling behind foreign countries. U.S. corporate listings have declined in the face of expansion by global markets — and the decline is even more dramatic when adjusted for real GDP growth.

	Number of Listings		Percent Change		Number of Listings		Percent Change	
	1991	2008	1991	2008	1997	2008	1997	2008
US	6,943	5,401	(22.2)%	(52.8)%	8,823	5,401	(38.8)%	(54.5)%
London	2,808	3,096	10.3%	(29.0)%	2,683	3,096	15.4%	(13.4)%
Deutsche Börse	NA	832	NA	NA	613	832	35.7%	14.6%
Borsa Italiana	267	300	12.4%	(8.9)%	239	300	25.5%	10.2%
Tokyo	1,764	2,390	35.5%	11.3%	1,865	2,390	28.2%	14.1%
Hong Kong	357	1,261	253.2%	67.1%	658	1,261	91.6%	22.7%
Australia	1,005	2,009	99.9%	9.4%	1,219	2,009	64.8%	14.4%
Toronto	1,138	1,570	38.0%	(15.9)%	1,420	1,570	10.6%	(20.6)%

Source: Capital Markets Advisory Partners, World Federation of Exchanges, individual stock exchanges, USDA Economic Research Service (GDP in 2005 US\$).

The United States is undergoing a secular decline in its population of listed companies — a decline that decidedly is worse than in any other developed country for which reliable data was available (Exhibit 14).

This is at once a wake-up call for the United States and a cautionary tale to foreign stock markets that the U.S. model of high-speed, low-cost trading and automation may undermine the public market feeder system (small IPOs) that supports economic growth and the growth of stock markets.

The following provides a summary for North America, Europe and Asia. These charts are indexed to 1991; charts indexed to 1997 are presented in Appendix 1.

Listings in the U.S. peaked in 1997 and have been in steady decline each year thereafter. In absolute terms, U.S. listings are down 38.8% since 1997, or 54.5% on a GDP-adjusted basis.

North America

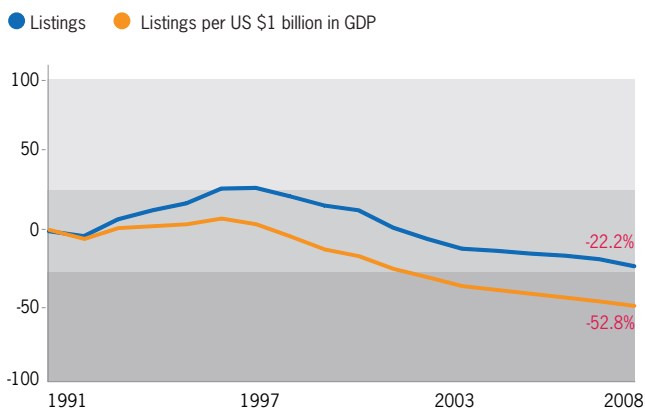
Exhibit 15 shows that among the study group, the **United States**, since 1991, has posted the worst net decline — down 22.2% — in its total population of listed companies. In effect, we gave back the entire listing boom²¹ of the Dot-Com Bubble and more. Considering that the U.S. economy has grown significantly since 1991 and, thus, the population of listed companies also should have grown, we calculate a 52.8% decline in real (inflation adjusted) GDP-weighted listings. The case can be made, then, that had market structure remained constant since 1991, the United States listed markets should have increased by approximately 5,500 operating companies, yielding twice the total number it does currently!

Compare this to the **TMX Group (Toronto)** (Exhibit 16), which experienced substantial absolute growth of 38% in the number of listings²² from 1991 to 2008 and a decline of 15.9%, adjusted for real GDP.

Exhibit 15

All U.S. exchanges combined

The number of corporate listings indexed to 1991 values, absolute and adjusted for real GDP

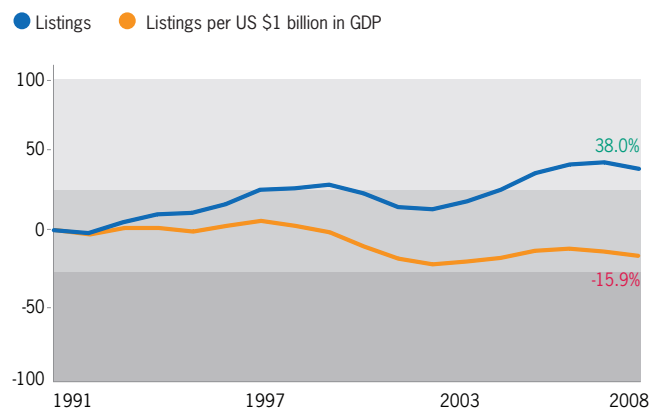


Source: Capital Markets Advisory Partners, World Federation of Exchanges, individual stock markets, USDA Economic Research Service (GDP in 2005 US\$)

Exhibit 16

TMX Group (Toronto)

The number of corporate listings indexed to 1991 values, absolute and adjusted for real GDP



Source: Capital Markets Advisory Partners, World Federation of Exchanges, individual stock exchanges, USDA Economic Research Service (GDP in 2005 US\$)

²¹ See "Market structure is causing the IPO crisis" by David Weild and Edward Kim, October 2009.

²² Please note that while the Toronto Stock Exchange acquired the Canadian Venture Exchange in 2001, which was then renamed the TSX Venture Exchange, these listings numbers and trends do not include companies listed on the TSX Venture Exchange.

Europe

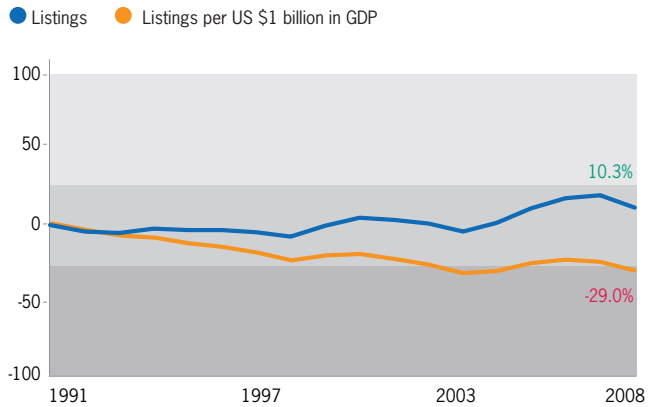
The number of European listings has grown since 1991, presenting a sharp contrast to the declines experienced in the United States. Our sample includes data from the London Stock Exchange Group (LSE), Deutsche Börse and Borsa Italiana, which merged recently with the LSE. (We do not present data from other Western European countries because merger activity in Spain, and the consolidations to Euronext of exchanges in France, Belgium and the Netherlands, have hampered our attempts to assemble reliable historical corporate listings data for those countries.)

The **LSE** (Exhibit 17) shows 10.3% absolute growth in the number of listed companies since 1991, though it shows a 29% decline on a GDP-weighted basis. This contrasts markedly with the United States, where the decline since 1991 was 22% in absolute terms and 52.8% when weighted for changes to real GDP. LSE numbers include the Alternative Investment Market (AIM), and while there is likely some benefit from companies listing in London that historically (prior to Sarbanes-Oxley) might have preferred the United States, our review suggests that the UK market was much closer to maximizing its listing potential than other markets.

Exhibit 17

London Stock Exchange Group

The number of corporate listings indexed to 1991 values, absolute and adjusted for real GDP



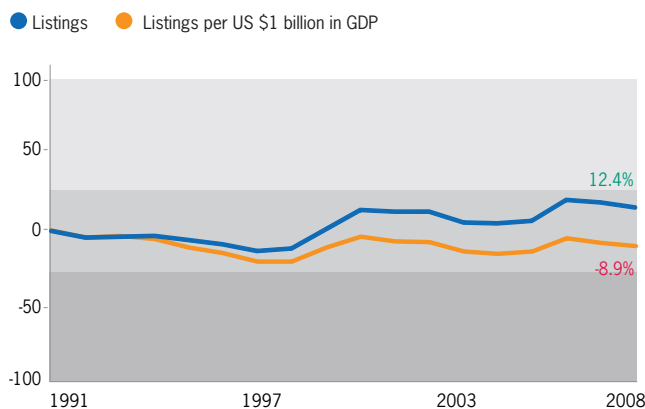
Source: Capital Markets Advisory Partners, World Federation of Exchanges, individual stock exchanges, USDA Economic Research Service (GDP in 2005 US\$)

The **Borsa Italiana** sustained a steady growth trajectory since 1991 (up 12.4%), but when adjusted for GDP, fell to 8.9% (Exhibit 18). Borsa Italiana was acquired by the LSE in 2007, but listings data is still available separately. At the end of 2008, Borsa Italiana launched AIM Italia with the help of the LSE. As a result, and assuming this market takes root, we expect to see continued accelerated growth in the number of listings (and the economy) in Italy over the next decade.

Exhibit 18

Borsa Italiana

The number of corporate listings indexed to 1991 values, absolute and adjusted for real GDP



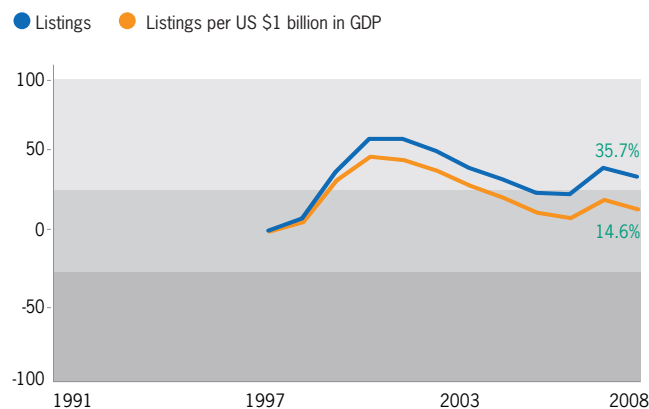
Source: Capital Markets Advisory Partners, World Federation of Exchanges, individual stock exchanges, USDA Economic Research Service (GDP in 2005 US\$)

Our **Deutsche Börse** data sample goes back only to 1997 (during the Dot-Com Bubble), yet despite being indexed to 1997 at an expected already-elevated base, Deutsche Börse's listings base posted growth in both absolute (up 35.7%) and real-GDP adjusted terms (up 14.6%). (See Exhibit 19.) Interestingly, the Deutsche Börse opened and closed the Neuer Markt (the German entry to compete for earlier staged listings against LSE's AIM) over this period. Even with the loss of that lower-standard market, it was able to end the decade with gains.

Exhibit 19

Deutsche Börse*

The number of corporate listings indexed to 1997 values, absolute and adjusted for real GDP



*Deutsche Börse data is unavailable prior to 1997.
Source: Capital Markets Advisory Partners, World Federation of Exchanges, individual stock exchanges, USDA Economic Research Service (GDP in 2005 US\$)

Asia

Listed markets in Asia are growing everywhere. We confined our analysis to more developed markets (Tokyo, Australia and Hong Kong). We expected to see a lack of growth in listings on the **Tokyo Stock Exchange Group**, and instead saw growth in the number of listings that would be the envy of markets here in the United States — growth in both absolute numbers, up 35.5%, and adjusted for real GDP, up 11.3% (Exhibit 20). Not resting on its laurels, The Tokyo Stock Exchange Group has partnered with the London Stock Exchange Group to launch Tokyo AIM, “a new market for growing companies.” Tokyo AIM received its license to operate from the Japanese Financial Services Agency on May 29, 2009, so we expect the aggregate number of listings in Tokyo to see accelerated growth.

The number of listings on the **Hong Kong Stock Exchange and Clearing** has more than tripled since 1991 (up 253.2%), and growth in listings during this period has even exceeded real growth in GDP by more than two-thirds (up 67%). (See Exhibit 21.) Much of this growth is attributable to the large number of state-sponsored enterprises that would never have listed on an exchange outside of Hong Kong or China.

The **Australian Securities Exchange** has experienced strong absolute growth (up 99.9%), but modest growth when weighted for real growth in GDP (up 9.4%) (Exhibit 22).

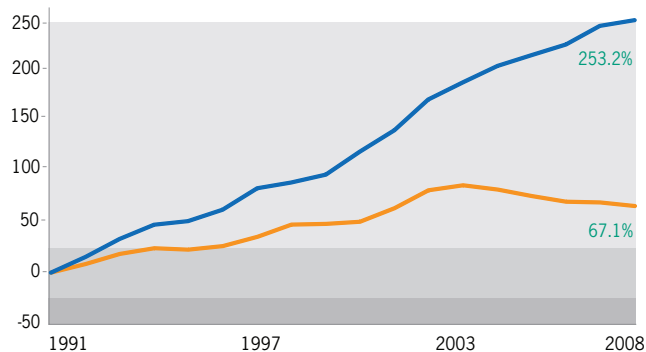
Undoubtedly, these governments, markets and their regulators are pursuing strategies that are intended to support economic growth.

Exhibit 21

Hong Kong Exchanges and Clearing

The number of corporate listings indexed to 1991 values, absolute and adjusted for real GDP

● Listings ● Listings per US \$1 billion in GDP



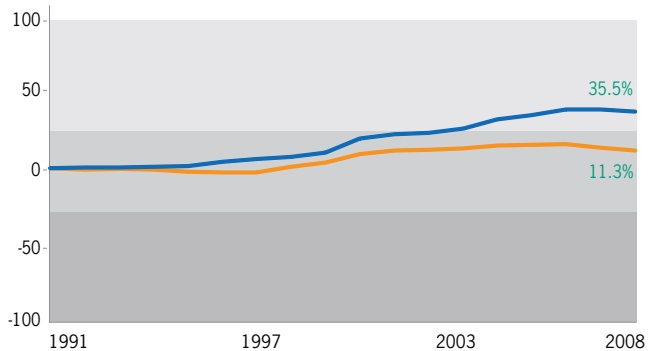
Source: Capital Markets Advisory Partners, World Federation of Exchanges, individual stock exchanges, USDA Economic Research Service (GDP in 2005 US\$)

Exhibit 20

Tokyo Stock Exchange Group

The number of corporate listings indexed to 1991 values, absolute and adjusted for real GDP

● Listings ● Listings per US \$1 billion in GDP



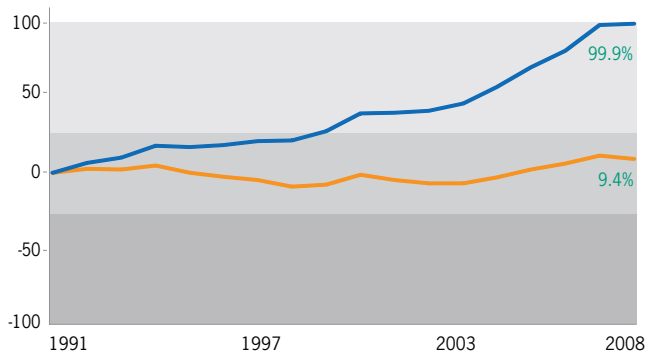
Source: Capital Markets Advisory Partners, World Federation of Exchanges, individual stock exchanges, USDA Economic Research Service (GDP in 2005 US\$)

Exhibit 22

Australian Securities Exchange

The number of corporate listings indexed to 1991 values, absolute and adjusted for real GDP

● Listings ● Listings per US \$1 billion in GDP



Source: Capital Markets Advisory Partners, World Federation of Exchanges, individual stock exchanges, USDA Economic Research Service (GDP in 2005 US\$)

The Great Delisting Machine

The United States has been engaged in a longstanding experiment to cut commission and trading costs. What is lacking in this process is the understanding that higher transaction costs actually subsidized services that supported investors. Lower transaction costs have ushered in the age of “Casino Capitalism” by accommodating trading interests and enabling the growth of day traders and high-frequency trading.

The Great Depression in Listings was caused by a confluence of technological, legislative and regulatory events — termed The Great Delisting Machine — that started in 1996, before the 1997 peak year for U.S. listings. We believe cost-cutting advocates have gone overboard in a misguided attempt to benefit investors. The result — investors, issuers and the economy have all been harmed.

The Great Delisting Machine Timeline

The Root Cause

Two phenomena are the root cause of The Great Depression in Listings that began in 1997:²³

Online Brokerage — 1996

The advent of Online Brokerage which disintermediated the retail broker who bought and sold small cap stocks. Retail salesmen, once the mainstay story-telling engine driving small cap stocks, had been chased from the business by the introduction of unbundled trading. (Unbundled trades separated commissions into discrete payments for research and trade execution, and online brokerage.)

Order Handling Rules — 1997

The advent of new Order Handling Rules by which ECNs were required to link with a registered exchange or the NASD, allowing exchange or NASD members to execute their trades against ECN orders inside the public bid and offer, thus eroding the economics that enabled capital commitment, sales and research support.

Compounding Factors

A number of other factors compounded the IPO Crisis and listings market decline, but each came after 1997, and thus did not precipitate The Great Depression in Listings:

Decimalization — 2001

While the conversion of trading spreads from quarter and eighth fractions to pennies may not have triggered the decline, it certainly exacerbated it by ensuring that the U.S. listings market would not offer adequate trading spread to compensate firms to provide the market making, sales and research support.

Passage of Sarbanes-Oxley — 2002

Given its timing well after the onset of the listings decline, SOX clearly is not the precipitating factor in the Great Depression in Listings and the IPO Crisis. However, public companies have incurred significant incremental costs in establishing, testing and certifying internal controls due to its passage and implementation. These costs likely have fueled some delistings and served to dissuade some companies from going public. However, since its passage, SOX compliance costs have declined and should continue to decline.²⁴

Global Research Settlement — 2003

Given that small capitalization stock coverage became unprofitable, the separation of research from banking eliminated banking compensation for analysts that was the last revenue source used to offset the opportunity cost analysts incur by covering fewer large capitalization stocks. Large capitalizations stocks are by definition held by many times more investors than small capitalization stocks. More investors per stock leads to greater demand and reputation for the analyst. Thus, the loss of investment banking-derived compensation for analysts contributed to declines in small capitalization stock coverage, IPOs and new listings.

²³ See “Market structure is causing the IPO crisis” by David Weild and Edward Kim, October 2009.

²⁴ See Financial Executives International (FEI) survey News Release dated April 30, 2008, which states, “Companies reported requiring an average of 11,100 people hours internally to comply with Section 404 in 2007, representing a decrease of 8.6% from the previous year” and “Auditor attestation fees paid by accelerated filers...representing a 5.4% decrease from 2006.”

As these events took shape, the managements of several investment banks that had catered to small public companies and specialized in IPOs anticipated the erosion of their economic model. They quickly sold to commercial banks, pending passage in 1999 of Gramm-Leach-Bliley, which ended the separation between commercial and investment banking.

The Last of the Four Horsemen

In June 1997, Robertson Stephens was sold to BankAmerica for \$540 million. The combined firm would operate as BancAmerica Robertson Stephens for 11 months. That same year, NationsBank Corporation acquired Montgomery Securities, and Alex. Brown & Sons was bought by Bankers Trust. By the end of 1997, three of the Four Horsemen were absorbed into commercial banks at precisely the time that the number of NASDAQ listed companies began a secular decline. The last of the Four Horsemen, Hambrecht & Quist, was sold to Chase Manhattan Bank in September 1999.

David Weild recalls a meeting of NASDAQ's operating committee when he was its Vice Chairman:

"It was in the immediate aftermath of the Internet bubble, and NASDAQ's issuer services group had been advocating lower listing maintenance standards to save hundreds, maybe thousands, of public companies from certain delisting. We suspected that certain hedge funds were naked shorting stocks to depress their price below the minimum price they needed to maintain to stay listed. It was clear to us that the transition to penny spread increments had stripped market makers of their ability to commit capital and remarket shares, thus eliminating sorely needed support."

Products of the Great Delisting Machine

In an epic case of unintended consequences, one-size-fits-all market structure added liquidity to large cap stocks, but ushered in an age of "Casino Capitalism" and created a black hole for small cap listed companies. In addition, public companies find themselves in a market environment with a lack of research support, greater systemic risk and volatility, and structural impediments that block them from going private.

Casino Capitalism

Issuer transparency through SEC-mandated disclosure is the very foundation of investor confidence. Unfortunately, transparency does not extend to all corners of the public markets. Different standards apply to brokerage firms and '40 Act Companies, and hedge funds have no compliance standards. With the onslaught of new products and venues, opaqueness and risk have amplified for citizens, and short-term, high-frequency traders have replaced long-term, quality investors for companies — all through the proliferation of:

- **Black pools** (opaque, anonymous trade execution venues used by institutions away from traditional exchanges) — Approximately 40 black pools are said to be operating in the United States.
- **Hedge funds** — An estimated 8,800 hedge funds are responsible for 30% of stock trading volume in the United States,²⁵ yet they are not required to disclose anything, including trading activity or use of leverage.
- **Naked shorts** — In June 2008, a report by JP Morgan²⁶ indicated that 22 billion shares of stock had "failed to deliver." Most of these shares were likely the work of "naked short" sellers. The SEC has focused considerable attention on bringing harmful short-selling activity under control since the Credit Crisis accelerated in the fall of 2008.
- **Predatory shorts** — Short sellers that target vulnerable new-issue activity, they may short ahead of a marketed follow-on stock offering and cover in the open market after trading (legal), or they may trade on inside information and short ahead of PIPEs and registered direct offerings (illegal). They may take short positions in companies and then disclose false negative publicity about them, aiming to cover their positions at a profit (illegal). These behaviors cost issuers hundreds of millions, if not billions, of dollars in lost proceeds every year. To date, the SEC has not vigorously pursued these short-sellers.

²⁵ "Testimony Concerning the Regulation of Hedge Funds" by SEC Chairman Christopher Cox, July 25, 2006 before the Senate Committee on Banking, Housing and Urban Affairs. See <http://www.sec.gov/news/testimony/2006/ts072506cc.htm>.

²⁶ JP Morgan Report Dated September 19, 2008, "SEC restrictions will curb some short sales."

- **High-frequency trading firms** — These firms generate order flow that is computer driven and not supported by individuals making fundamental buy and sell decisions (Exhibit 23). They include proprietary trading firms (e.g., GETCO and Tradebot), statistical arbitrage hedge funds (e.g., Millennium and DE Shaw), and automated market makers (e.g., Citadel, Goldman Sachs and Knight Securities). The SEC currently is examining the impact of high-frequency trading.
- **OTC derivatives and credit-default swaps** — These products may depend on offsetting transactions in traditional equity, debt and options markets. Systemic risk elevates significantly due to lack of a single regulator and central clearing party to oversee all related-market transactions.
- **Credit surrogates** — When security complexity made it impossible for investors to conduct their own analysis, they relied on ratings from ratings agencies and insurers. The ratings proved to be overly optimistic — especially those of CDOs of ABSs and CDOs of CDOs (CDO-squared) whose complexity exceeded the analytical and risk management capabilities of the most sophisticated market participants.

Can the SEC regulate hedge funds?

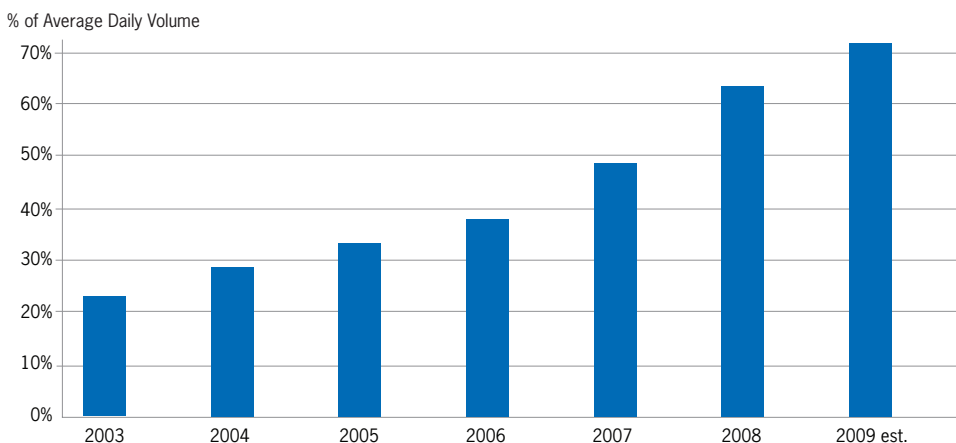
The SEC lost a celebrated court case in *Goldstein v SEC* in which the SEC previously had tried to assert over private hedge funds jurisdiction of the Investment Advisors Act of 1940.²⁷ In 2006 in the wake of this loss, then-SEC Chairman Christopher Cox testified before the Senate Banking Committee about the burgeoning risks posed by the growth in both credit default swaps and hedge funds.²⁸

The Administration and some on Capitol Hill are legislating for Investment Advisor Act registration. This act does not provide for affirmation regulation, such as control of leverage and trading practices or disclosure of counterparty names and positions.

The results of low transaction-cost Casino Capitalism are that short-term, high-frequency traders are squeezing out long-term investors, the listed market for public companies is in decline, and this decline is taking the U.S. economy with it.

Exhibit 23

High-frequency trading firms account for more than 70% of average daily volume in U.S. equities.



Source: Capital Markets Advisory Partners, AITE Group

²⁷ *Goldstein v. SEC*, 451 F.3d 873 (D.C. Cir. 2006)

²⁸ "Testimony Concerning the Regulation of Hedge Funds" by SEC Chairman Christopher Cox, July 25, 2006, before the Senate Committee on Banking, Housing and Urban Affairs. See <http://www.sec.gov/news/testimony/2006/ts072506cc.htm>.

Hotel California (for small capitalization companies)

We believe stock valuations in the microcap segment would be depressed systemically relative to larger capitalization segments of the stock market. This niche would thus lend itself to “going private transactions” where control could be purchased at attractive prices.

Professionals working in the microcap (sub-\$250 million market cap) niche confirmed²⁹ that microcap valuations are often “depressed” and significantly lower than even private market valuations, and that the opportunity to eliminate public company expenses made these depressed microcap companies extreme “bargains” on paper. They also confirmed that serious structural impediments in this market thwart genuine efforts to take these companies private (and thus begin the clean-up of what has become a comparable valuation³⁰ nightmare for other companies considering an IPO).

In larger capitalization segments of the market, arbitrageurs accumulate stock from shareholders at or near the tender price of a proposed acquisition. These arbitrageurs do not have long-term investment interest and thus will vote for such a transaction. Arbitrage activity, therefore, is seen as a key enabler to a successful “going private” transaction. However, the professional arbitrage funds generally do not participate in sub-\$250 million public-to-private transactions because of their small size (these transactions are not large enough to add significant return to their portfolios) and the risk perceived due to the lower liquidity in the shares of smaller companies.

Thus, the small and micro cap markets have in many ways become a “Hotel California” — companies check in but they can’t check out by going private (except through delisting, bankruptcy or acquisition), providing yet another disincentive to going public.

The “brain drain” of equity research

As the stock market’s economic model (discussed herein) changed and high-frequency trading exploded, the Great Delisting Machine caused the “brain drain”³¹ in equity research. The best sell-side analysts fled to the buy-side in search of better compensation. Today, institutional investors consider Wall Street research analysts to be far inferior to their own research analysts. High-quality investment research — widely available to investors at one time — has deteriorated significantly, and as a result, smaller, harder-to-analyze companies (e.g., tech, biotech) have suffered disproportionately.

This cliché is particularly apt for small capitalization stocks: “Stocks are sold, they are not bought.” As the industry sheds “stock sellers” (retail stockbrokers, research analysts and institutional sales-traders), it comes as no surprise that the markets are destroying, rather than adding, value. The market structure that might work well for a large cap stock simultaneously causes erosion in the value of small-cap stocks.

One of this study’s reviewers asked, “If investors would be better off with retail brokers in the middle, why wouldn’t the free market still provide a mechanism for them? It seems that a retail salesman, doing his homework and creating value for his clients, would have a sustainable business.”

Unfortunately, during the Dot-Com Bubble, online brokerage shattered the integrity of the high-touch retail brokerage model in much the same way that Napster shattered the pricing model for the music industry. Individual investors would take the advice of retail brokers, but not pay for it — instead, they would execute their recommendations through a discount online brokerage firm. In this way, online brokerage destroyed the economic model for the broker-intermediated retail investment business. While Intel and General Electric — because of their size — never lack attention, most small stocks need research, sales and capital support to sustain reasonable valuations and liquidity.

The small and micro cap markets have in many ways become a Hotel California – companies check in but they can’t check out by going private (except through delisting, bankruptcy or acquisition).

²⁹ Discussions held with portfolio managers in March and April 2009.

³⁰ Initial Public Offerings typically are marketed and priced at a valuation discount to “comparable” companies. Thus, when small and microcap stocks trade at discounted valuations to companies in the private market (which is usually the case), the low-priced microcaps — serving as comparables for pricing purposes — seriously dilute IPO prices.

³¹ In 2006 Steven Buell, then-Director of the Research Committee for the SIA (Securities Industry Association, known currently as SIFMA), used the term “brain drain” to describe this phenomenon.

An increasingly hostile environment

The Great Delisting Machine has created a market environment unfavorable to small public companies and capital formation. It may have exacerbated volatility and separated many stocks from their fundamental investment value. Without an economic model to compensate firms for providing research, sales and trading support, many small cap stocks are left without the capital commitment required to ensure a liquid and orderly market.

Volatility and, thus, risk have increased

The Credit Crisis ushered in record-breaking levels of volatility (see Exhibit 24), a measure of the market's assessment of all risks combined (risk to companies, within industries, within markets — thus, systemic risk). Volatility and, thus, risk peaked at roughly twice the previous peaks, which occurred during the Dot-Com Bubble and the Long-Term Capital Management crisis of 1998.

You will recall that, in 1998, Long-Term Capital Management, a highly leveraged hedge fund — \$125 billion borrowed on less than \$5 billion in equity — nearly collapsed the U.S. system. The Federal Reserve organized a rescue that included many of the investment banks. One might think

that Congress would have acted years ago to put the Fed and the SEC in a position to better control for these risks.

The question that is troubling many is, “Do extreme low-cost automated (algorithmic) markets increase systemic risk?” We believe they do increase systemic risk.

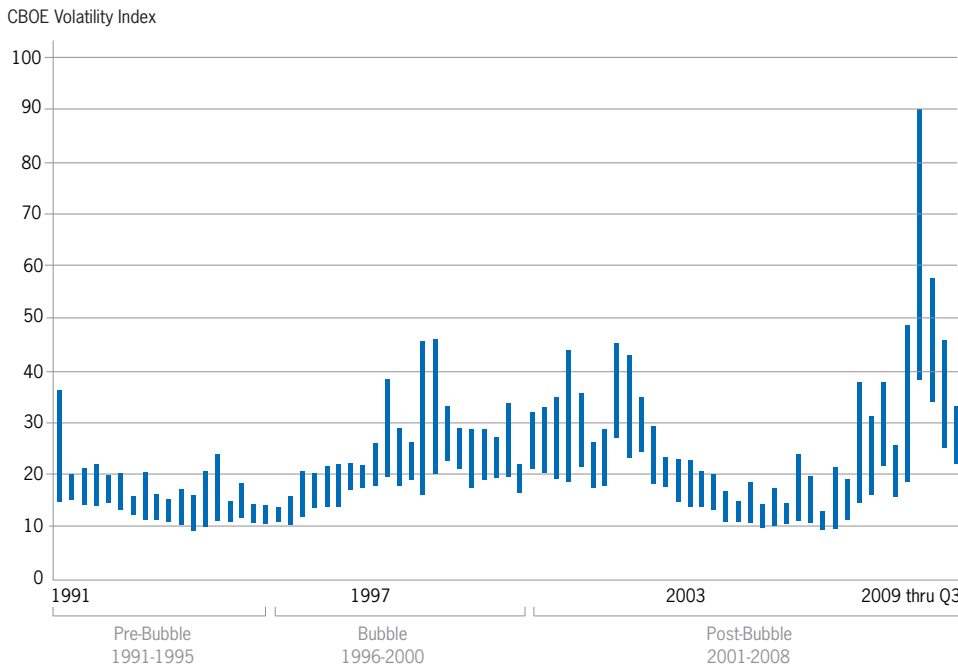
Volatility may have outpaced liquidity³²

A great misconception is that liquidity in the stock market is significantly higher because share volumes are higher. While it is clear that stock trading volumes have ballooned over the last decade, liquidity may not have increased, especially for small capitalization stocks, because volatility may have increased even faster than share volumes. In fact, volatility in the S&P 500, as measured by the CBOE Volatility Index (Exhibit 24) during the recent Credit Crisis, was twice the highest level of the extremely volatile Dot-Com Bubble and subsequent correction.

The market has become two-tiered. Exchange traded funds and the high-frequency trading community may avoid small- and micro-capitalization stocks,³³ which has the effect of structurally diverting at least some investment capital away from this sector.

Exhibit 24

Volatility during the Credit Crisis vastly exceeded even Dot-Com Bubble levels.



Source: Capital Markets Advisory Partners, Google Finance

We now have so many computers buying and selling stocks, one has to wonder if anyone — other than management — remains to tell company stories to investors. This is an unintended consequence of the compensation-crushing trifecta of:

- online brokerage (commission compression),
- order-handling rules and decimalization (spread compression), and
- best execution (legislated “cheapest” execution of trades as opposed to “best value for money” execution).

Factors negatively impacting liquidity

- Small following among investors (need to find a buyer)
- Lack of capital commitment (someone, usually a market maker, standing ready to buy or sell when a natural buyer or seller isn't available)
- Cost to transact (commissions and spread)
- Lack of information flow (opaqueness)
- Information asymmetry (certain investors have more or less information than other investors)
- Fragmentation (investors buy and sell in multiple venues that are not linked and consolidated — sometimes referenced as “The Balkanization of markets”)

Liquidity is best defined by Amivest (FactSet). It asks, “How much of this security can an investor buy or sell in a defined period of time before that investor moves the security more than 1% in price?”

Have the U.S. stock markets served investors well?

It is ironic that the U.S. stock markets have created structures that elevate trading interests and that are biased against fundamental investors.

We have seen:

- Growth of proprietary research (created by institutions for their own use), creating an increasing chasm between institutional “haves” and small-institution and individual-investor “have nots.”
- The loss of an economic model that would support critical mass amounts of high-quality research coverage of small- and micro-capitalization stocks by *either* the sell-side (Wall Street) or the buy-side (institutional investors).
- Increased numbers of high-frequency traders who may exacerbate volatility and use algorithms to decipher and get in front of the order flow of other investors, and whose algorithms generally ignore the fundamental investment value in stocks.
- Market impediments that discourage companies from going public.
- The potential for hedge funds to usher in an age of increasingly hard-to-detect market manipulation (as a class, hedge funds are opaque compared to mutual funds and other entities reporting as part of the Investment Company Act of 1940).
- Best intentions give rise to decreased liquidity, increased volatility and risk.

The Great Delisting Machine has given us the exclusion of long-term investors, the decline in the listed market for public companies, and the decline in the U.S. economy.

The need for improved stock markets has never been greater. Bridging the widening gap between small cap and large cap issuer needs should be a national imperative.

³² “Liquidity” is a function of both volume and volatility. Liquidity is positively correlated to volume and negatively correlated to volatility. A stock is said to be liquid if an investor can move a high volume without moving the price of that stock materially. If the stock price moves in response to the purchase or sale of shares, the stock is said to be illiquid and the higher price movement is evidence of higher stock price volatility.

³³ Rogow, Geoffrey, “Small-Caps Are Missing Out On High-Frequency Trading Benefits,” Wall Street Journal Online, September 16, 2009 (<http://online.wsj.com/article/SB125306075442314147.html>).

Harm to the U.S. Economy

Management productivity drain

Recently, the founder of Integrity Research, a firm that tracks over 2,000 research providers, shared with us his belief that, between firm consolidations and layoffs, 40% of sell-side research analysts lost their jobs in 2008.³⁴ FactSet Research Systems recently reported, for the eight-and-a-half month period ended in May 2009, 2,200 cases of analysts formally dropping coverage of a company.³⁵ More than one quarter (25.7%) of all sell-side research reports on small cap companies announced that a sell-side analyst formally was dropping coverage of the company.³⁶ This is the continuation of a long trend: Studies have reported other declines in the research coverage of small capitalization companies dating back to 2000.³⁷

The net result is that productivity of public company managements is increasingly drained:

- Management must take over the burden of meeting with investors.
- Increased stock price volatility distracts employees.
- Investors may be unhappy and agitating for management change.

Market structure depresses a broad cross-section of the U.S. economy

The ramifications of this structural breakdown extend beyond venture capital-backed companies. Data from Professor Jay Ritter shows the historical composition of the IPO market (Exhibit 25).

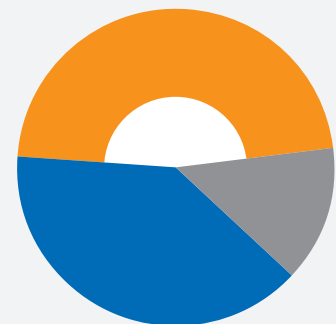
The IPO market serves all quarters of American business. A full 47% of all IPOs is neither venture capital nor private equity funded. Of this 47%, many businesses are family owned and, in the current market structure, simply can't go public. How many of these businesses are forced to close or face serious succession issues in the absence of a viable IPO market? The lack of a viable IPO market is thus depressing a broad cross-section of the U.S. economy, not just the venture-capital industry.

Exhibit 25

The IPO crisis hurts all small businesses, extending far beyond venture capital and private equity.

IPOs 1991-2008

- Venture capital backed **39%**
- Private equity backed **14%**
- Other **47%**



Source: Capital Markets Advisory Partners, Ritter, Jay, "Some Factoids About the 2008 IPO Market," May 11, 2009. Excludes IPOs below \$5.00 per share, unit offers, ADRs, closed-end funds, LPs, SPACs, REITs, banks and S&Ls.

³⁴ Conversations with Michael Mayhew, Chairman and Founder of Integrity Research.

³⁵ Wall Street Journal article by Jeff D. Opdyke and Annelena Lobb entitled "MIA Analysts Give Companies Worries," dated May 26, 2008.

³⁶ Mayhew, Mike, "The Incredible Shrinking Research Coverage!", Integrity Research Associates, June 1, 2009 Blog.

³⁷ Taub, Stephen, CFO.com, "Analyst (Un)coverage Hurting Small Firms," July 16, 2004.

Loss of high-quality jobs

When companies are delisted from the exchanges, their ability to raise equity (and, often, debt capital) is significantly impaired, which in turn may cause these companies to shed jobs.

Similarly, when market structure stunts the number of companies going public, limiting access to equity (and debt capital) necessary to fuel growth, an opportunity for job creation is lost.

When one considers the steady growth in GDP in the U.S., the decline in the number of IPOs is all the more striking. If the IPO market merely kept pace with GDP growth since 1996 (using 568 as the baseline, the average number of IPOs from 1991 through 1996), 798 IPOs per year would have been executed — approximately the same number as in 1996, the peak year.

In its “4-Pillar Plan to Restore Liquidity in the U.S. Venture Capital Industry,” released in April 2009, the National Venture Capital Association stressed the critical connection between a healthy IPO market and job creation, citing a study by Global Insight stating that 92% of job growth occurs after a company goes public.

We analyzed the Global Insight data and learned the following:

- The study captured 136 selected IPOs since 1970, including 25 since 1996, the peak year for U.S. IPOs.
- For each IPO, Global Insight listed employee headcount at IPO and in “latest year available” from public filings.
- These 25 IPOs had median employee CAGR of 17.8% (we assumed conservatively that Global Insight’s data for “headcount in latest year available” is drawn from 2008 data) and median employees at IPO of 1,372.

We applied these numbers to the “lost IPOs” each year since 1997, defining “lost” as the difference between the number of corporate IPOs in 1996 (peak) and the number of corporate IPOs in each year since 1996 (Exhibit 26).

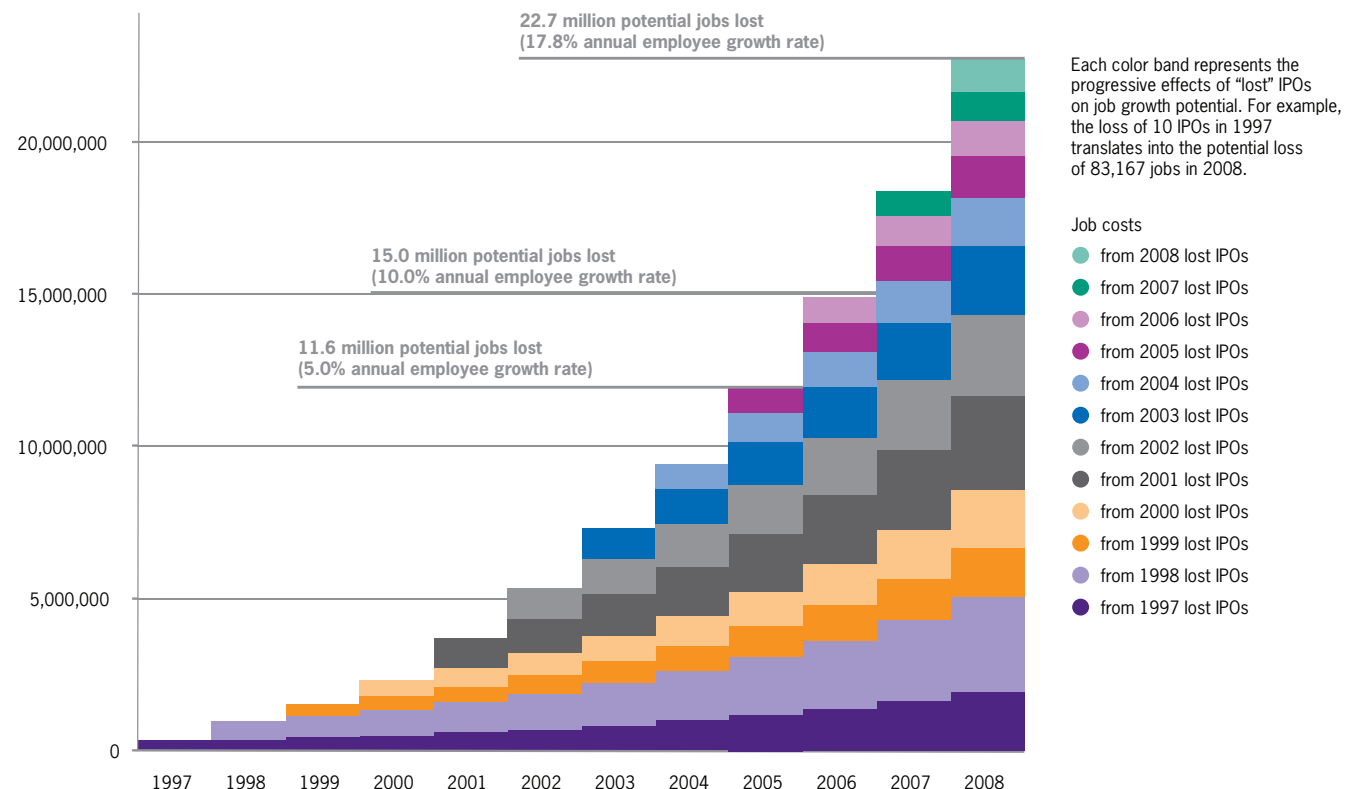
For example, in 1997:

- 569 IPOs, or 234 “lost” from the 1996 peak of 803 IPOs
- $(234) \times (1,372 \text{ employees growing at } 17.8\% \text{ for } 11 \text{ years}) = 1,946,113 \text{ potential jobs lost}$

Exhibit 26

The lack of a functional IPO market may have cost the United States 22 million jobs over the last decade.

Calculations based on actual 1996 IPO levels of 803 and number of employees at IPO of 1,372.



Source: Capital Markets Advisory Partners, Global Insight (study cited by NVCA in its “4-Pillar Plan to Restore Liquidity in the US Venture Capital Industry”)

Millions of jobs would have been created if we had maintained even modest IPO levels.

Annual employee growth rate	Number of employees at IPO	Historical IPO levels		
		361 IPOs (1998 actual)	568 IPOs (1991-1996 average)	803 IPOs (1996 actual)
5.0%	500	1,092,104	2,378,822	4,248,229
	750	1,638,156	3,568,232	6,372,343
	1,000	2,184,208	4,757,643	8,496,458
	1,372	2,996,733	6,527,487	11,657,140
10.0%	500	1,322,139	2,964,342	5,475,569
	750	1,983,209	4,446,514	8,213,354
	1,000	2,644,278	5,928,685	10,951,138
	1,372	3,627,950	8,134,155	15,024,962
17.8%	500	1,790,494	4,231,626	8,282,176
	750	2,685,741	6,347,439	12,423,265
	1,000	3,580,989	8,463,252	16,564,353
	1,372	4,913,116	11,611,582	22,726,292

Source: Capital Markets Advisory Partners, Dealogic, Global Insight. IPOs exclude funds, REITs, SPACs and LPs.

We extrapolated that, at these rates, as many as 22 million jobs may have been “lost” since 1997 because of the lack of IPOs. Note that this is a “gross” number before any related job losses or substitution. Though 22 million may seem to be a staggering number on its own, we believe it is a reasonable estimate in the context of long-term historical employment growth in this country.

In the 1970s, the U.S. had net employment growth of over 21 million jobs. Successive decades witnessed similar levels: 18 million net jobs created in the 1980s and 17 million created in the 1990s.³⁸ Note that much larger gross employment growth numbers would have been required to support net employment growth at these levels.

In the 2000s, however, employment growth has fallen to approximately 5 million jobs. This decline in job formation by the U.S. economy is coincident with the current age of Casino Capitalism, trading-oriented (as opposed to investment-oriented) market structure, and the loss of the small IPO market feeder system.

We evaluated different baseline numbers of IPOs, employees and job growth rates. Even at dramatically reduced baseline assumptions, the results translate into several million jobs lost (Exhibit 27). For example, growing at 5% annually, the results show over 11 million jobs lost, while growing at 10% annually, the results show that more than 15 million jobs may have been lost because of the absence of those IPOs.

Economists are calling increasingly for a jobless recovery out of the current recession.³⁹ Thus, even at the low end of our estimates, there is much to be gained by improving the state of our capital markets. It should be noted that our estimates do not take into account incremental job growth that a vibrant IPO market would bring by:

- reversing the trend of pension funds cutting allocations to venture capital,
- providing excitement and incentive for entrepreneurs to take entrepreneurial risk, and
- providing more capital to small business from the reinvestment of capital returns from the IPO market.

This analysis may even understate the impact on jobs. For example, no attempt has been made to account for a “multiplier effect” on job formation (illustrated in Exhibit 28):

- when issuers go public and capital is freed up for reinvestment in private enterprise,
- when sales prices of private enterprises (M&A) increase and more money is made available to reinvest,
- when returns increase on small- and medium-enterprise investments, and
- when pension funds allocate more capital to small and medium enterprise.

³⁸ U.S. Bureau of Labor Statistics.

³⁹ Gongloff, Mark, “The Job Market Needs to Hold Up Its End,” The Wall Street Journal, Sept. 4, 2009, p. C1.

To reiterate, this is not just an IPO problem. It is a severe dysfunction that affects the macroeconomy of the U.S. and that has grave consequences for current and future generations.

- Companies that can secure public equity capital will invest that capital to support growth and development, thereby creating jobs. Notably, the venture-funded industries are more technology and health care oriented, and yield higher-quality jobs. In the context of our analysis, the higher-quality jobs are disappearing.
- Once companies can secure public equity capital, they find it easier to attract credit. This combination of equity attracting debt to fuel expansion likely further compounds the job formation effect.

- When shareholders sell their stock and receive cash — whether that cash goes to VCs, PE funds, or Angel investors — equity capital is freed up for reinvestment in other, generally smaller, businesses. We conclude, then, that the lack of an IPO market is curtailing investment in small to medium-sized private businesses and impeding their already-limited access to credit (Exhibit 28).

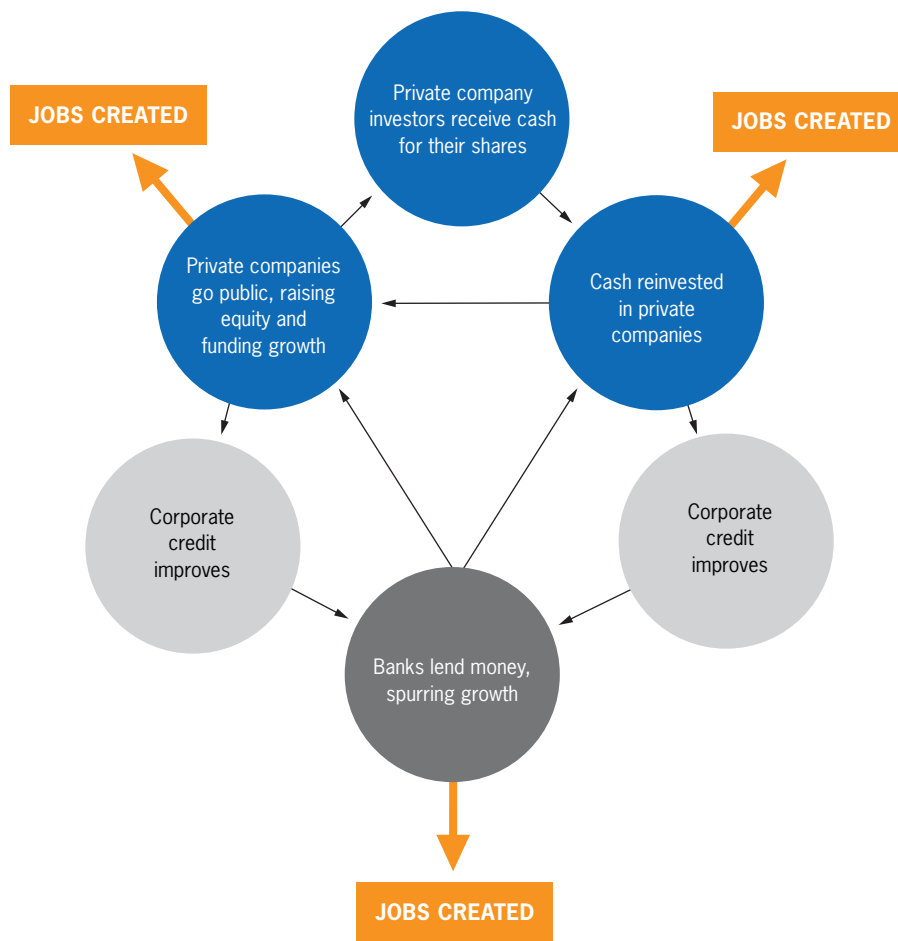
Has too much damage been done?

Is the United States destined to years of lost opportunity because of its IPO and public company deficits? Is the next generation left with an obstacle too large to overcome?

Even if we could fix market structure today and get back on track with 500 IPOs per year, has the foundation for new jobs and new companies been so rocked that only a decade of gutting and restoring will position us for rebuilding?

Exhibit 28

A robust IPO market will drive capital into the private market.



Companies that secure public equity capital will invest it to support growth and development, which create jobs. Notably, in the venture-funded industries that are more technology and health care oriented, the jobs are of a higher quality — and the higher-quality jobs are disappearing.

Recommended Solutions

We introduced a New Public Market proposal in our white papers, “Why are IPOs in the ICU?” and “Market structure is causing the IPO crisis.” Feedback subsequent to the publication of those papers leads us to believe the recommendations are on target and address the fact that there are no longer economic incentives for market participants’ support of small capitalization stocks. We have enhanced that proposal to reflect the feedback we received and have renamed that proposal, “Alternative public market segment.” The “Private market enhancements” are novel and have not been published previously.

Yes, we can fix the U.S. stock market and drive growth.

We urge Congress and the SEC to hold immediate hearings to understand why the U.S. listed markets have shed listings at a rate faster than any other developed market for which we have data.

We also urge them to pursue parallel solutions that, together with thoughtful oversight, will fix the “feeder system” to the public markets that is so important to advance our economy, grow jobs, better serve consumers, and reduce the deficit with no major expenditures by the U.S. government:

- **Alternative public market segment:** A public market solution that provides an economic model that supports the “value components” (research, sales and capital commitment) in the marketplace. It would establish a new, parallel market segment that benefits from a fixed spread and commission structure.
- **Enhancements to the private market:** A private market solution that enables the creation of a qualified investor marketplace — consisting of both institutional investors and large accredited investors — that allows issuers to defer many of the costs of accessing private capital as a precursor to becoming a public company. This market would serve as an important bridge to an IPO, notably in improving the market for 144A PIPO (pre-IPO) transactions that require an issuer to list publicly in the future.

Alternative public market segment

The United States needs an issuer and investor opt-in capital market that provides the same structure that served the United States in good stead for so many years. This market would be subject to 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 be:

- **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 market⁴⁰ 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.

⁴⁰ The market would use electronic quotations to advertise indicative prices, but market makers (including “specialists”) would be left to negotiate actual buys and sells.

- **Minimum commissions and minimum quote increments (spreads) at 10 cents and 20 cents** — 10 cents for stocks under \$5.00 per share, and 20 cents 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.
- **Broker intermediated** — This would be a broker-intermediated market enabled by electronics and phone. Automatic computer execution would not be permitted. Orders would be placed with (directly or through an agent) brokerage firms, acting as market makers or specialists, who would earn higher commissions and spreads on transactions while committing research, sales and capital.
- **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.

Enhancements to the private market

The United States private (unregistered) equity markets need a complete overhaul in the form of an alternative private marketplace. In their current state, they lack the liquidity and accessibility required to be meaningful for the companies and investors who could and should be the active core of private capital formation.

Companies must be able to reach the broadest possible qualified investor base — both institutional and accredited retail — so we must resist the temptation to raise the standard too high for accredited investors. The status quo (144A market) has inherent hurdles that are insurmountable for all but the largest companies and unattractive for all but the largest institutional investors.

The building blocks of this enhanced private marketplace include:

- **Free companies to market their securities more broadly** — We must create an environment that better supports companies wishing to raise private equity capital. A necessary first step: create a safe harbor for publicly marketing unregistered securities. Market participants often are paralyzed by the fear that written materials for unregistered securities will fall into the hands of retail, non-accredited investors, rendering the offerees illegal. Management mustn’t get mired in the process of the pitch; instead, it must be free to focus on (and the law and SEC regulations should focus only on) the end game — the investor.

Eliminate SEC or statutory restrictions on “general solicitation” or “general advertising,” provided the ultimate purchasers are “qualified” investors. Permit companies and analysts to have media discussions of company performance and news; permit companies to issue publicly their earnings releases and specific offering-related news.

Finally, allow investment companies and ERISA accounts to invest a larger portion of their assets in unregistered securities.

- **Overhaul verification of QIBs and accredited investors** — The burden of verifying accreditation or QIB status historically has been placed on issuers and broker-dealers, creating friction, cost, loss of liquidity, and avoidance of these markets by potential market makers. Rather than requiring the company or private placement agent to verify, shift the burden to the investor to self-qualify (subject to liability for misstatements) for the new private placement market. Use an opt-in, check-box format whereby the institution or individual declares that the investor in question meets qualifying criteria and either is accredited or is a QIB (based on stated definition).
- **Exempt companies from SEC registration** — Permit holding of companies’ shares by an unlimited number of qualified shareholders (eliminating the 500-shareholder and the 100-accredited-investor limitations). Define “qualified” shareholders to include large accredited and institutional investors with no SEC registration requirement under the Securities Exchange Act of 1934, but with appropriate disclosure.
- **Self-regulate trading spreads** — To attract capital and promote liquidity, this new market must create and preserve economic incentive for its constituents. Allow the market to set minimum quoted spreads and commissions.

To be clear, we are not advocating “Wild West” anarchy and imbalance of power (we know what can happen when the economics are sucked out of a balanced system, e.g., public equity markets before penny spreads). On the contrary, we propose a structured system with adequate economics to support remarketing (through traditional research, salesmen and sales-traders) of smaller capitalization stocks that otherwise would wither from inattention.
- **Exempt market participants from holding period** — Exempt new market participants from holding period restrictions, and remove the obstacle requiring market participants to purchase unregistered securities with “investment intent.” The “investment intent” requirement hinders the development of private markets, and is unclear and at odds with the very notion of what a market participant is supposed to do. Create a safe harbor for market participants to commit capital and create/preserve liquidity.

- **Encourage centralized information, control and custody systems** — Companies should seek out marketplaces that provide systems to support the management and delivery of appropriate disclosure information, and that facilitate the tracking and delivery of shares.
- **Research permitted to work with banking** — As a market for “qualified investors,” research analysts would be permitted to work with investment banking and be compensated on investment banking business, rather than be barred by FINRA Rule 2711 and the Global Research Settlement.

The solutions outlined above cost nothing. All Sarbanes-Oxley and SEC enforcement regulations stay in force to prevent fraud and to require internal controls. Public and private, they would lead to investment and growth in the types of investment banks — the “ecosystem” — that once supported the IPO market in the United States (e.g., Alex. Brown & Sons, Hambrecht & Quist, L.F. Rothschild & Company, Montgomery Securities, Robertson Stephens), **triggering rejuvenated investment activity, innovation, job growth, increased tax receipts and a lower U.S. budget deficit.**

Your support makes a difference

Show your support and urge Congress to address the systemic failure in the U.S. stock markets. Visit www.GrantThornton.com/WakeupCall.

A call to action

Large populations of public small capitalization companies — missing now for most of the last decade — are necessary to recreate the feeder system to sustain and grow listed markets, replenish capital into private markets, drive job growth, and support the U.S. economy overall. However, there are tradeoffs. If we bring back commission-based salesmen, we must expect higher rates of deceptive sales practices. Rates of fraud are likely to increase. Consequently, the role of FINRA and the SEC — to ensure necessary supervision — will be critical.

The cost of such tradeoffs pales when compared to the returns to the average taxpayer of reinvigorated economic growth, innovation, jobs and taxes. The cost also pales when compared to the much higher risks exposed in the large cap area of the stock market. Consider this: Nearly doubling the size of our listed markets by adding 5,000 public companies, at a \$100 million per company market value, represents \$500 billion in aggregate value. Nearly \$1 trillion in value was lost when 29 of the largest financial firms collapsed from the stock markets peak on October 7, 2007.⁴¹ Indeed, individual large cap companies have wreaked more havoc than the entire population of small capitalization companies ever could — WorldCom had a value of \$181 billion at its peak; AIG had a value of \$240 billion at its peak; Fannie Mae was at \$90 billion; Global Crossing was at more than \$80 billion; and Enron was at \$66 billion.

Suffice it to say that Congress and the SEC would do U.S. taxpayers an enormous service by creating a capital markets ecosystem that favors fundamental investing, discourages Casino Capitalism, and supports the small capitalization feeder system that is essential to creating the industries and jobs of tomorrow — a system that would not cost taxpayers a dime, but that would create jobs and tax revenues to restore the American Dream.

Today’s unknown innovator has the potential to be tomorrow’s global leader. The U.S. must enable the next generation of small companies to access public markets, or it will continue to face the consequences of America’s long-term global decline.

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⁴¹ The New York Times, Sunday, September 13, 2009, “Financial Crisis, One Year Later” page 6, SundayBusiness.

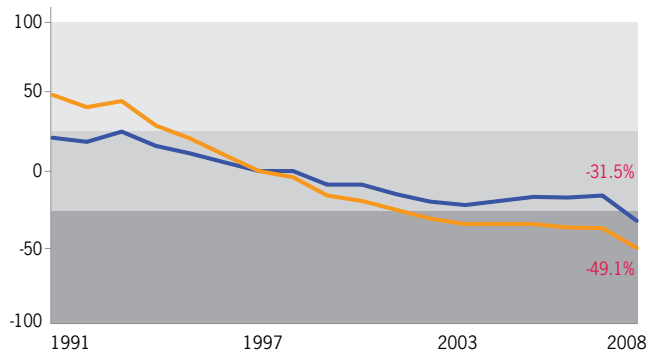
Appendix 1

United States

The American Stock Exchange

The number of corporate listings indexed to 1997 values, absolute and adjusted for real GDP

● Listings ● Listings per US \$1 billion in GDP

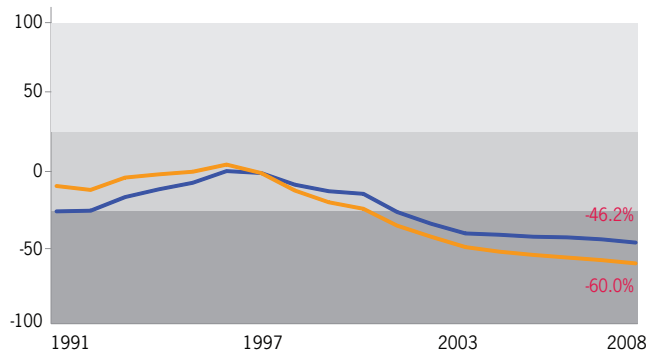


Source: Capital Markets Advisory Partners, World Federation of Exchanges, AMEX, USDA Economic Research Service (GDP in 2005 US\$)

NASDAQ Stock Market

The number of corporate listings indexed to 1997 values, absolute and adjusted for real GDP

● Listings ● Listings per US \$1 billion in GDP

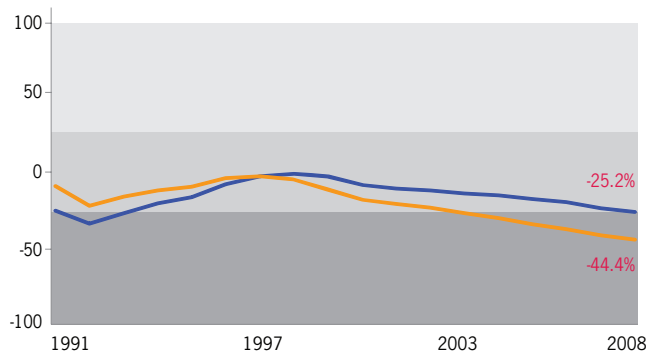


Source: Capital Markets Advisory Partners, World Federation of Exchanges, NASDAQ, USDA Economic Research Service (GDP in 2005 US\$)

The New York Stock Exchange

The number of corporate listings indexed to 1997 values, absolute and adjusted for real GDP

● Listings ● Listings per US \$1 billion in GDP



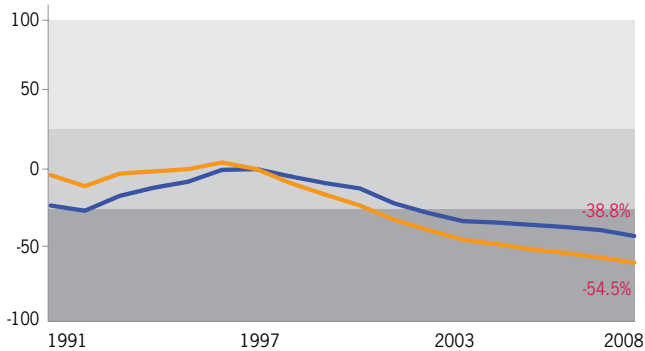
Source: Capital Markets Advisory Partners, World Federation of Exchanges, NYSE, USDA Economic Research Service (GDP in 2005 US\$)

North America

All U.S. Exchanges Combined

The number of corporate listings indexed to 1997 values, absolute and adjusted for real GDP

● Listings ● Listings per US \$1 billion in GDP

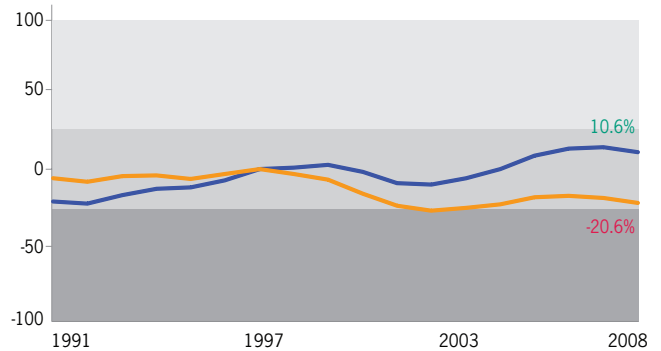


Source: Capital Markets Advisory Partners, World Federation of Exchanges, individual stock markets, USDA Economic Research Service (GDP in 2005 US\$)

TMX Group (Toronto)

The number of corporate listings indexed to 1997 values, absolute and adjusted for real GDP

● Listings ● Listings per US \$1 billion in GDP



Source: Capital Markets Advisory Partners, World Federation of Exchanges, individual stock exchanges, USDA Economic Research Service (GDP in 2005 US\$)

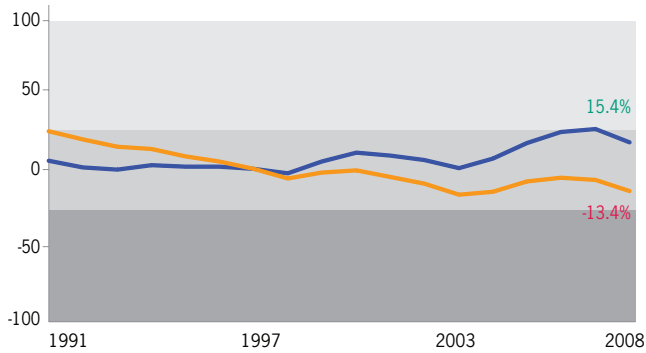
The degradation of the listed markets in the United States is due to structural changes that have disproportionately harmed smaller capitalization companies.

Europe

London Stock Exchange Group

The number of corporate listings indexed to 1997 values, absolute and adjusted for real GDP

● Listings ● Listings per US \$1 billion in GDP

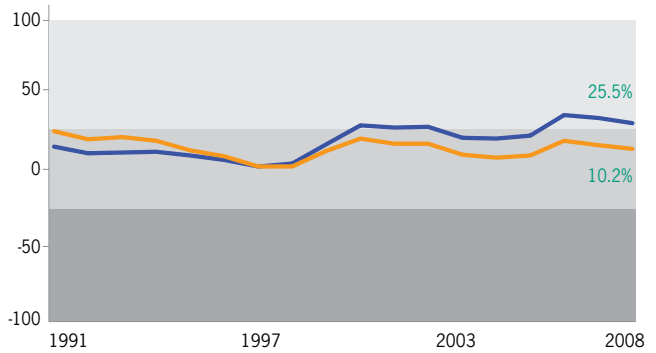


Source: Capital Markets Advisory Partners, World Federation of Exchanges, individual stock exchanges, USDA Economic Research Service (GDP in 2005 US\$)

Borsa Italiana

The number of corporate listings indexed to 1997 values, absolute and adjusted for real GDP

● Listings ● Listings per US \$1 billion in GDP

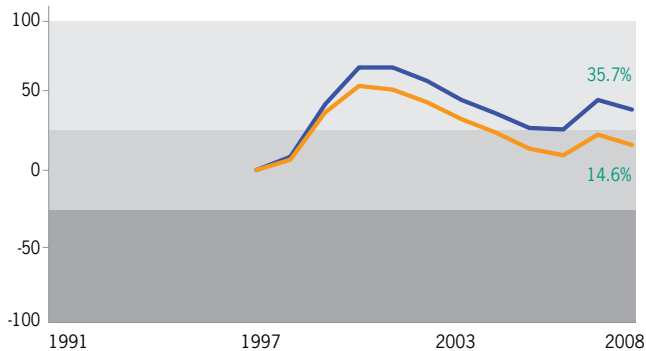


Source: Capital Markets Advisory Partners, World Federation of Exchanges, individual stock exchanges, USDA Economic Research Service (GDP in 2005 US\$)

Deutsche Börse*

The number of corporate listings indexed to 1997 values, absolute and adjusted for real GDP

● Listings ● Listings per US \$1 billion in GDP



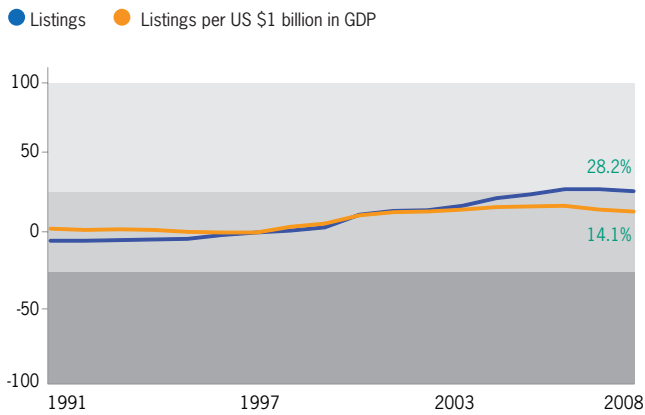
*Deutsche Börse data is unavailable prior to 1997.

Source: Capital Markets Advisory Partners, World Federation of Exchanges, individual stock exchanges, USDA Economic Research Service (GDP in 2005 US\$)

Asia

Tokyo Stock Exchange Group

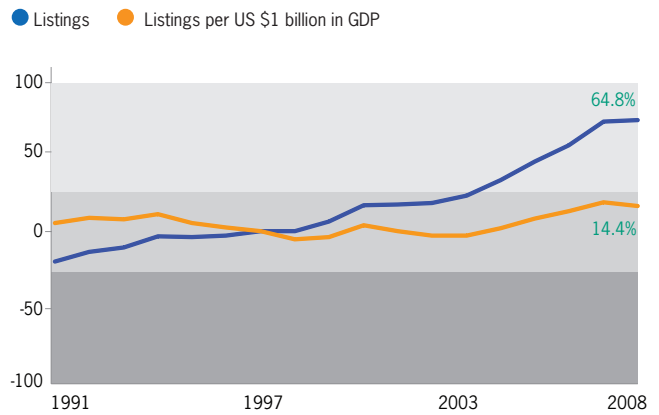
The number of corporate listings indexed to 1997 values, absolute and adjusted for real GDP



Source: Capital Markets Advisory Partners, World Federation of Exchanges, individual stock exchanges, USDA Economic Research Service (GDP in 2005 US\$)

Australian Securities Exchange

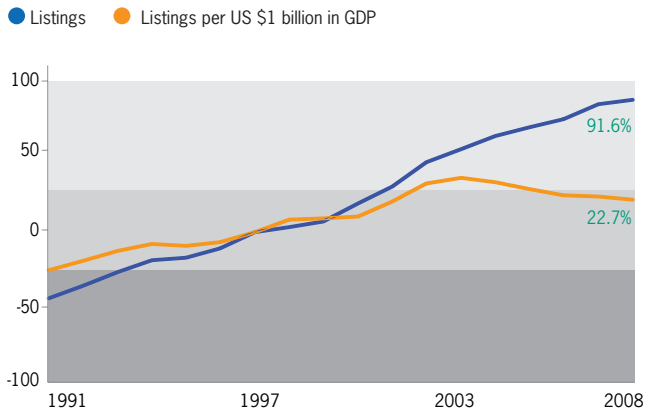
The number of corporate listings indexed to 1997 values, absolute and adjusted for real GDP



Source: Capital Markets Advisory Partners, World Federation of Exchanges, individual stock exchanges, USDA Economic Research Service (GDP in 2005 US\$)

Hong Kong Exchanges and Clearing

The number of corporate listings indexed to 1997 values, absolute and adjusted for real GDP



Source: Capital Markets Advisory Partners, World Federation of Exchanges, individual stock exchanges, USDA Economic Research Service (GDP in 2005 US\$)

Appendix 2

Innovators⁴²

The following is a list of entrants that are focused on the market opportunity in helping small capitalization public and private companies. The fact that no dominant solution has yet to emerge may be a sign of obstacles that require the attention of Congress and the regulators.

Company	Approach	Status
AIM (London Stock Exchange's Alternative Investment Market) www.londonstockexchange.com	Market targeted at small-cap growth companies internationally, with lower listing standards and regulatory burdens.	Launched in 1995. 2,900 historical listings, 1,500 current. £34 billion raised for issuers. Has targeted U.S. companies with some success to come to list in London.
Entrex www.entrex.net	TIGRCubs – Top Line Income Generation Rights Certificates – novel security structure by which investors receive a fixed % of an issuer's revenues for a defined period.	Institutions have raised capital earmarked for investment via TIGRCubs. Significant issuer interest, no closed transactions
Knight Capital www.knight.com	Leading source of off-exchange liquidity for U.S. equities. Other assets include fixed income, foreign exchange and derivatives	Trading more volume in U.S. equities than NYSE or NASDAQ.
PORTAL Alliance www.portalalliancemarket.com	Open platform for trading and collecting information on privately placed 144A securities formed by NASDAQ and leading investment banks	NASDAQ's PORTAL Market was spun off and relaunched in November 2008 as the PORTAL Alliance
NYPPEX Private Markets www.nyppe.com	Secondary private market advisory, execution, processing and research services. Focus on partnerships, private company securities and credit claims	Founded in 1998. Launched private market platform in 2007. 465 secondary private transactions to date.
NYSE Arca www.nyse.com	NYSE's electronic exchange for small-cap growth companies and ETFs. Designed as a feeder to the big board. NYSE also acquired the American Stock Exchange. Combined, NYSE now can qualify most of what qualified to list on NASDAQ.	Increased total addressable market to compete head to head with NASDAQ. Despite growth in high quality listed market venues, not reignited IPO market.
The Receivables Exchange www.receivablesxchange.com	Online auction marketplace for accounts receivable, targeted at small and medium sized businesses. Lenders are hedge funds, banks and asset-based lenders.	Launched in November 2008. 200 customers. \$7.5 billion in listed invoices, \$15 billion in available capital.
SecondMarket www.secondmarket.com	Largest centralized marketplace for multiple classes of illiquid assets, including auction-rate securities, bankruptcy claims, CDOs, mortgage-backed securities, LP interests and private company securities.	3,000 participants. Over \$1 billion in notional value of assets traded. Winner of 2009 AlwaysOn East 100. Purchased InsideVenture (a competitor that focused on venture equity).
SharesPost www.sharespost.com	Building platform for trading private company shares. Founders include founder of Brighthouse (incubator) and Wilson Sonsini attorneys	Business plan completed. Posting research. Adding subscribers. Has made effort to match buyers and sellers but to avoid being in the securities business per se.
TSX Venture Exchange www.tmx.com	Exchange headquartered just North of the U.S. border in Canada that consolidated the Vancouver Stock Exchange and has attracted some listings from the United States.	Active in listing mostly Canadian companies although some U.S. companies have chosen to list dually in London and Canada.
XChange www.xchanged.com	Platform for trading private company shares. Company intends to qualify as both a broker/dealer and ATS (Alternative trading system). Founded by Tim Draper.	Launched Spring '09. Currently marketing.

⁴² Capital Markets Advisory Partners (www.cmpartners.com) and SecondMarket (www.secondmarket.com) provided information for this exhibit.

Appendix 3

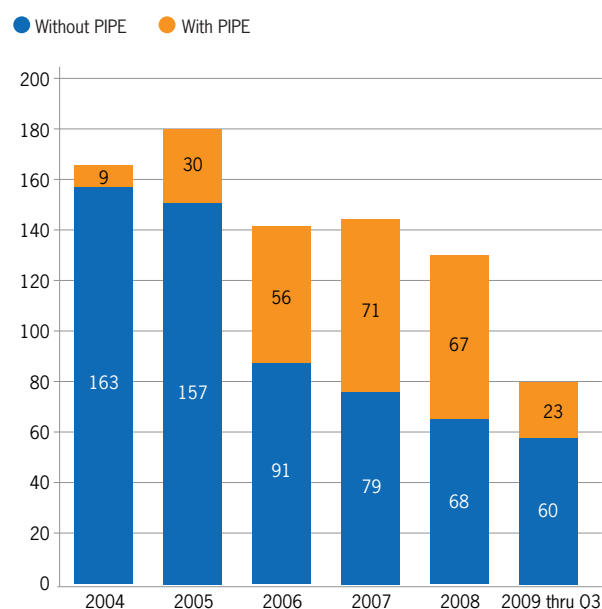
Recent developments in the small and micro-cap capital markets world have paved the way for VC backed companies to consider other alternatives to exit. One interesting option is the use of so-called “virgin shells.” In contrast to a traditional reverse merger, where a company merges into the dormant remains of a failed public company, virgin shell transactions (aka Form 10 Shells) are created from scratch. This type of transaction is less expensive than a traditional reverse merger, and also removes the possibility of any unknown legacy liabilities affecting a company once it merges into a dormant shell.⁴³ It allows a company to start fresh. With the advent of Form 10 Shells, the reverse merger transaction is now a great alternative for a smaller private company to go public. Several innovative structures, created by groups such as Keating Capital of Denver, and WestPark Capital in Los Angeles, take advantage of this virgin shell concept to bring small private companies directly to the public markets without the use of an IPO.

However, more research needs to be done into the aftermarket support (or lack thereof) for these companies. To date, the niche is not of the scale necessary to replace the shortfall in IPOs and the majority of reverse mergers never make it to a listed market (they trade on the bulletin board). In addition, the same market structure challenges that are causing small cap stocks to be delisted (lack of economics to support research, sales and trading support) are challenges for small reverse mergers.

There is a case to be made that a closed alternative market that preserves the aftermarket economics (spread and commissions) to pay for the value-components of aftermarket support (research, sales and capital commitment), would be welcome by entrepreneurs and investors.

Market structure challenges U.S. reverse mergers.

Number of transactions



Source: Capital Markets Advisory Partners, DealFlow Media

⁴³ “Virgin Shells: Cleaner, Cheaper, Better?” The Reverse Merger Report, Second Quarter 2006.

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David Weild is a Capital Markets Advisor at Grant Thornton LLP, providing strategies and insights into today's global capital markets. He is co-author of *Market structure is causing the IPO crisis* and a frequent resource to the financial news media on issues relevant to the capital markets.

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⁴² January 2004-December 2008. By number of U.S. bookrun equity transactions (excluding SPACs and funds), Dealogic and SEC's EDGAR. Used with permission, Capital Markets Advisory Partners LLC, *Which Auditors Are Accepted By Wall Street? A Reference Guide*.

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