Grant Thornton

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

Acknowledgements

Grant Thornton would like to extend special thanks to:

Mike Halloran, former Deputy Chief of Staff and Counsel to SEC Chairman Christopher Cox and current partner at Kilpatrick Stockton, who believes that our recommendations for a new public market — one that would be parallel to the current stock market while retaining a very different economic model — not only make sense, but also should be politically viable (Mike made a point that had escaped us completely: our recommendation for a new stock market model is one of the few changes the Obama Administration could make that would help the U.S. economy **without** increasing the deficit. In fact, he believes that our market structure recommendations, if implemented, would actually help **decrease** the deficit over time.).

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.

Contents

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 1991 – 2008		Number of Listings		Percent Change Peak Year – 2008	
	1991	2008	Actual	GDP Adjusted	Year	Peak	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

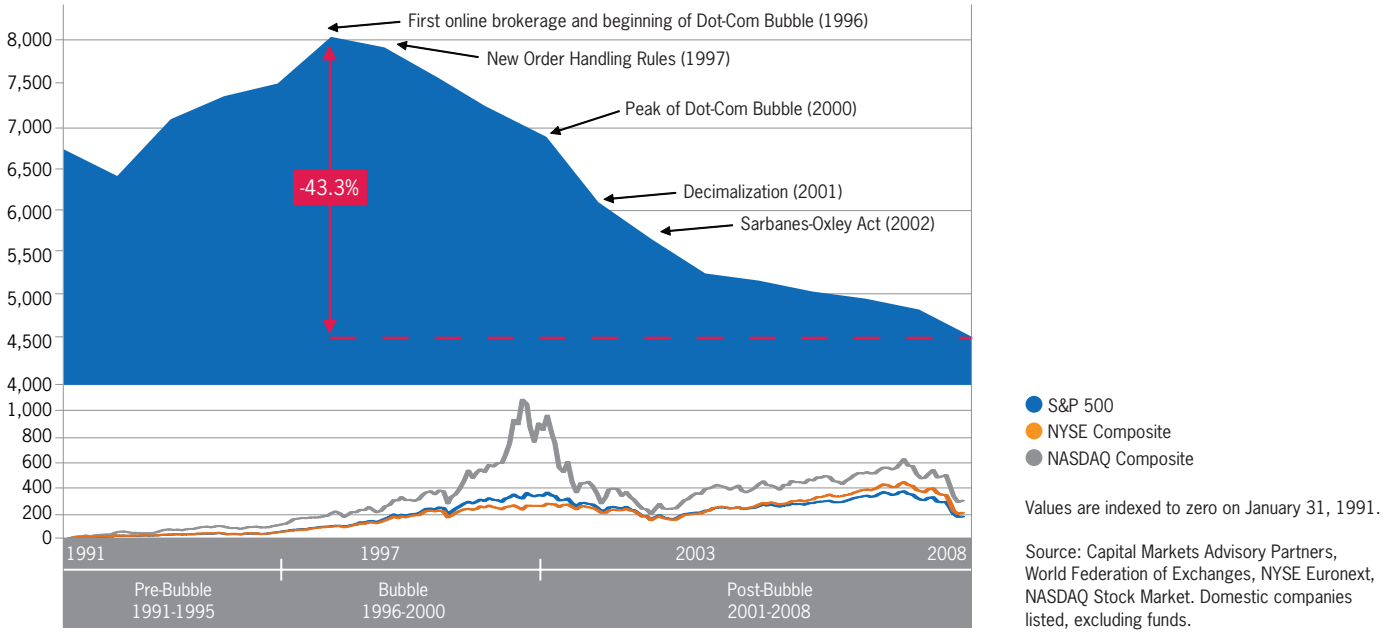
The United States, when compared to other developed nations, has fallen seriously behind in its number of listed[3] companies. It has been in free fall since 1996/1997. Specifically, the number of exchange-listed companies in the United States has declined 22.2% since 1991. This understates the problem, 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 1991[4] (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



Values are indexed to zero on January 31, 1991.

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

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 micromarket[7] 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 money[14] 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

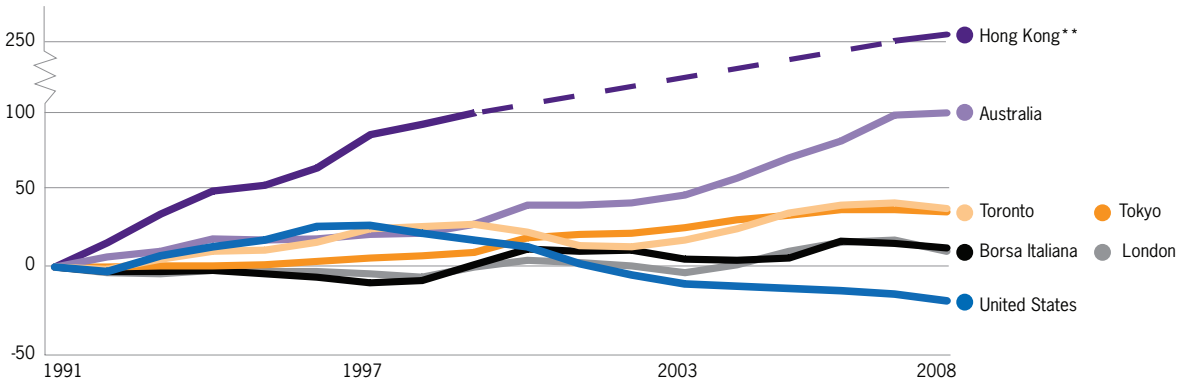
Exhibits 2 and 3 (adjusted for real GDP) are indexed to zero starting in 1991 to illustrate how the world markets changed during the period leading up to the Dot-Com Bubble. Exhibits 4 and 5 (adjusted for real GDP) are indexed to zero starting in 1997 — the peak of U.S. listings — to show the U.S. decline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

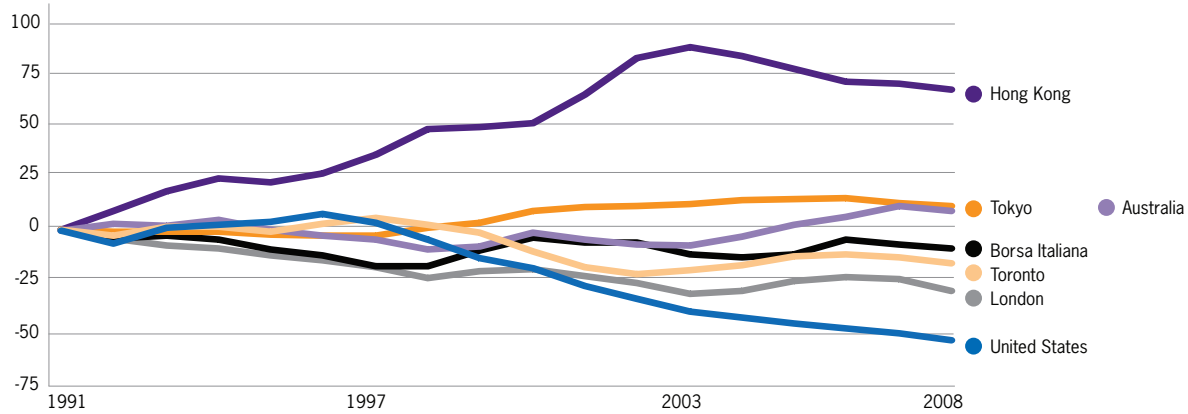
The U.S. markets' last growth phase was *before* the Dot-Com Bubble.
The number of listed companies from global exchanges indexed to 1991*



*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

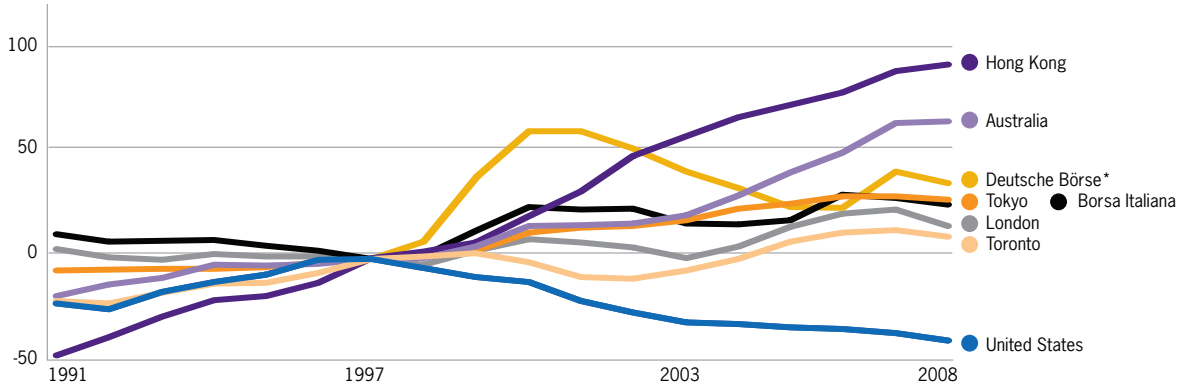
The U.S. lags far behind other global markets. Asian markets are growing even faster than GDP.
The number of listed companies from global exchanges, adjusted for real GDP and indexed to 1991*



*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

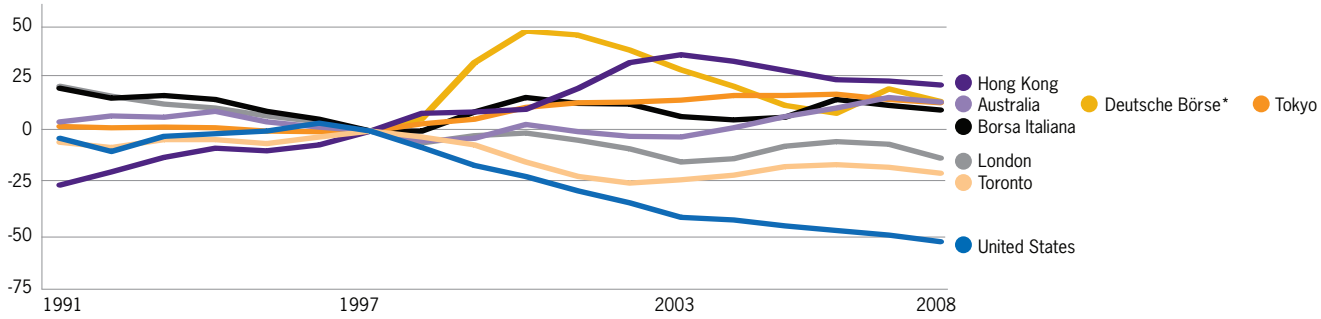
The U.S. listed markets — unlike other developed markets — have been in steady decline, with no rebound, since 1997.
The number of listed companies from global exchanges indexed to 1997



*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).

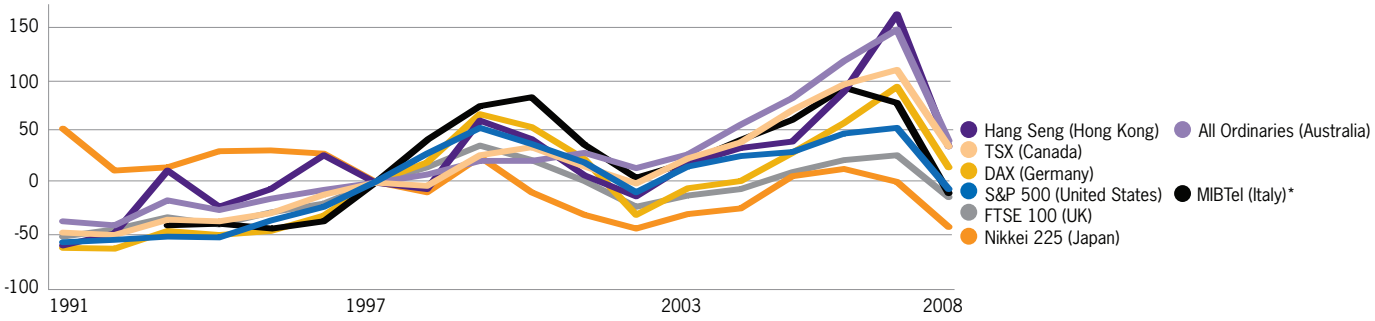
- S&P 500 (United States)
- FTSE 100 (United Kingdom)
- DAX (Germany)
- MIBTel (Italy)
- Nikkei 225 (Japan)
- Hang Seng (Hong Kong)
- All Ordinaries (Australia)
- TSX (Canada)

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 1998[16] (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.

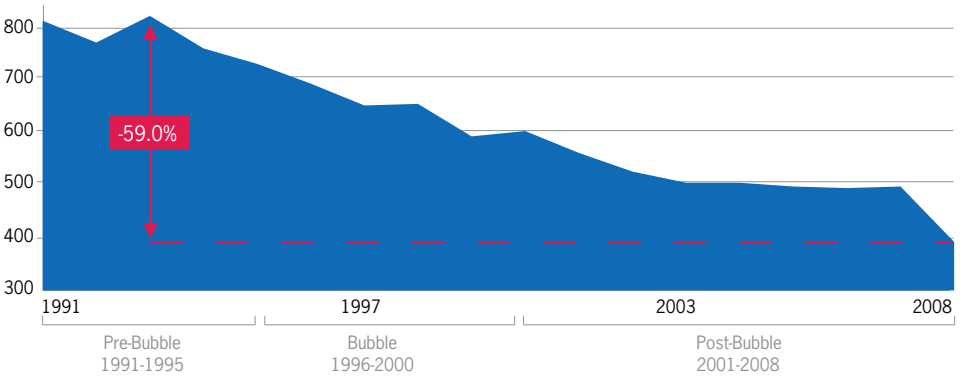
Both the AMEX (Exhibit 7) and NASDAQ (Exhibit 8) composite stock indices peaked well after the exchanges' listings declines were fully underway. Clearly, The Great Depression in Listings is not caused by a bear market. We have had bull markets since 1997 in which the pick-up in IPO activity has been 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

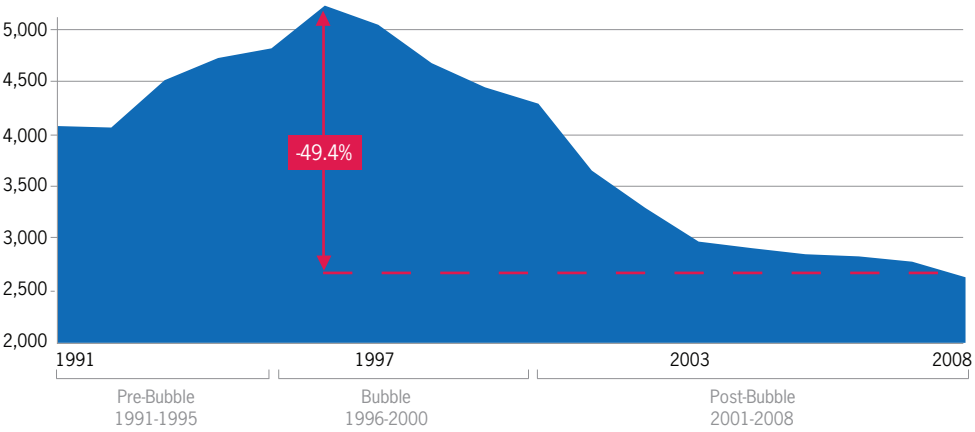
AMEX began its decline in 1994, due in part to increasing competition from NYSE and NASDAQ.
Number of Amex-listed companies



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

Exhibit 8

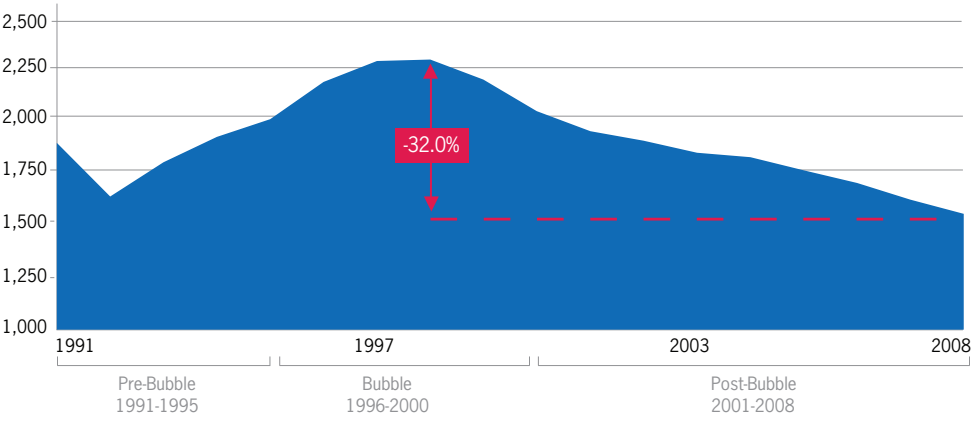
NASDAQ's decline began in 1997, due to the one-two punch of online brokerage and the Order Handling Rules.
Number of NASDAQ-listed companies



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:

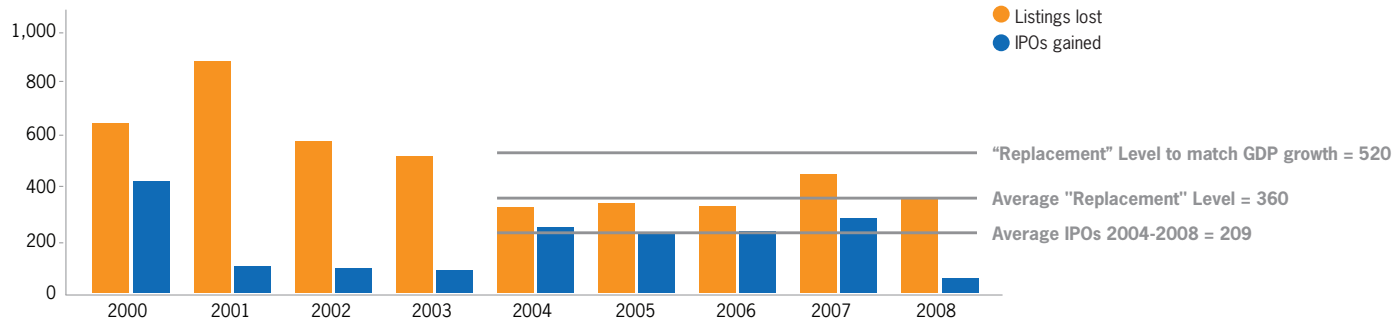
In 2008, while there were 54 IPOs,[17] there were 303 net listings lost on the AMEX, NASDAQ and NYSE.[18] To maintain the same number of listings from the prior year (replacement level), 303 additional new listings — a total of 357 new listings[19] (mostly IPOs) — would have been required. The replacement 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

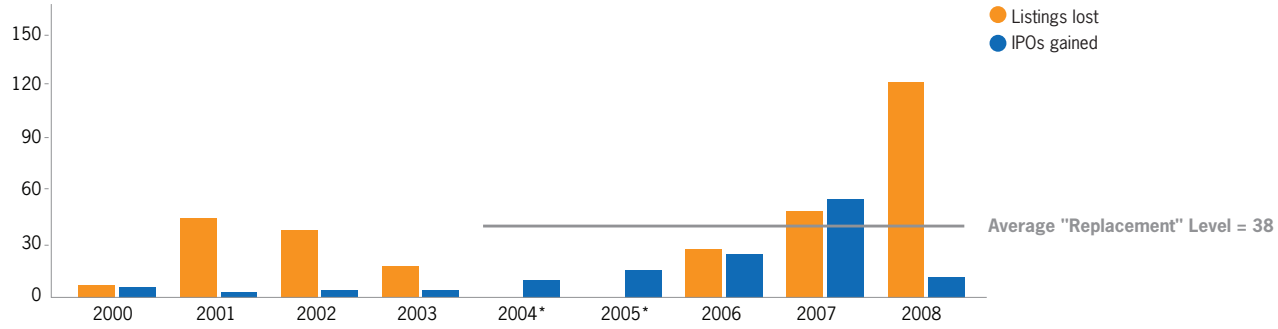


Source: Capital Markets Advisory Partners, World Federation of Exchanges, Dealogic, NYSE Euronext, The NASDAQ Stock Market. Excludes funds.

[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

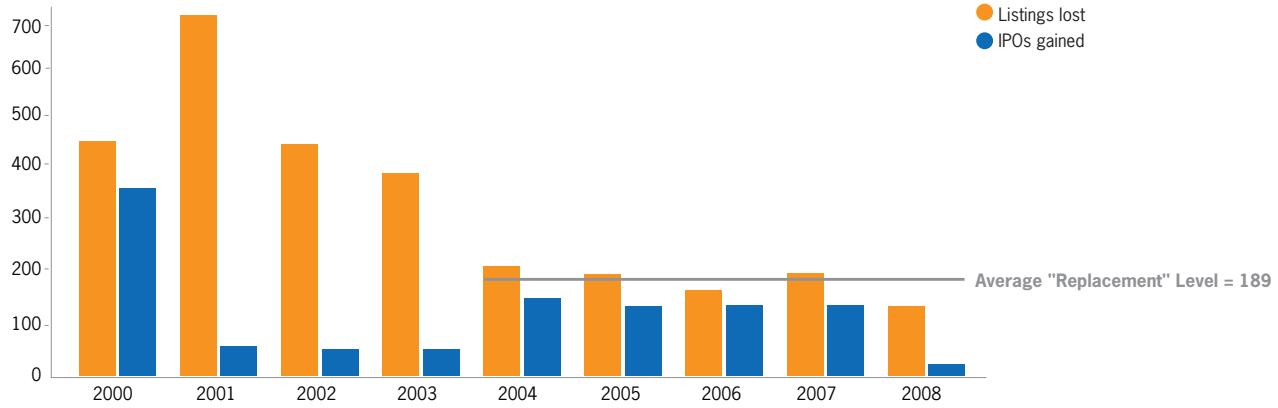
If AMEX were still an independent exchange, it would need 38 new listings per year to maintain equilibrium.



*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

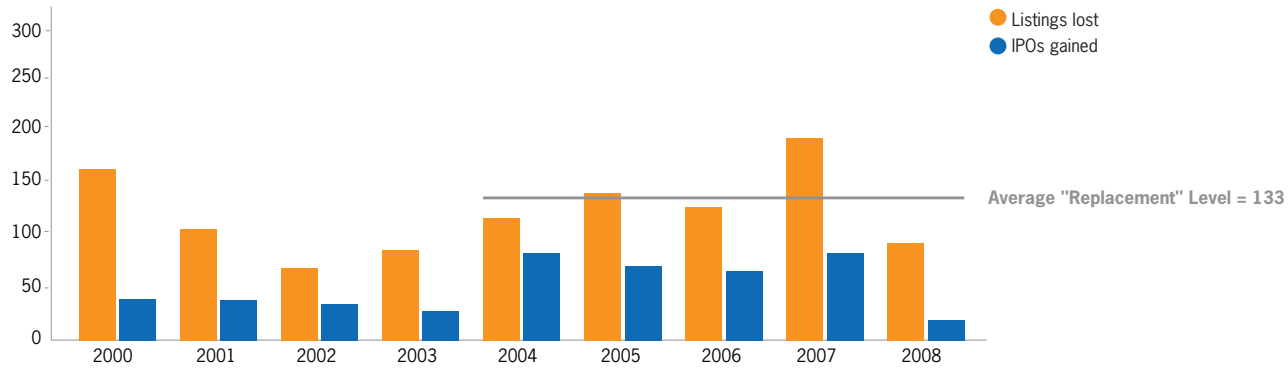
NASDAQ needs 189 new listings per year to maintain equilibrium from year to year.
Number of new listings required to maintain NASDAQ "replacement" levels



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 1991 – 2008		Number of Listings		Percent Change 1997 – 2008	
	1991	2008	Actual	GDP Adjusted	1997	2008	Actual	GDP Adjusted
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.

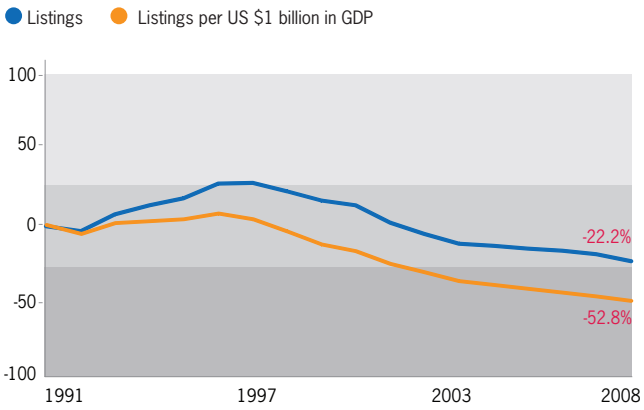
North America

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 boom[21] 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 listings[22] from 1991 to 2008 and a decline of 15.9%, adjusted for real GDP.

Exhibit 15

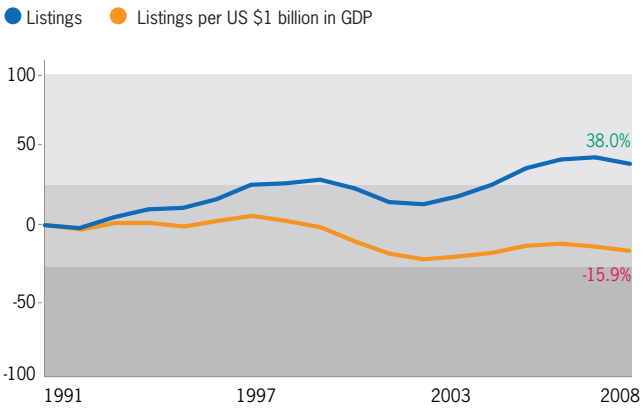
All U.S. exchanges combined
The number of corporate listings indexed to 1991 values, absolute and adjusted for real GDP



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.

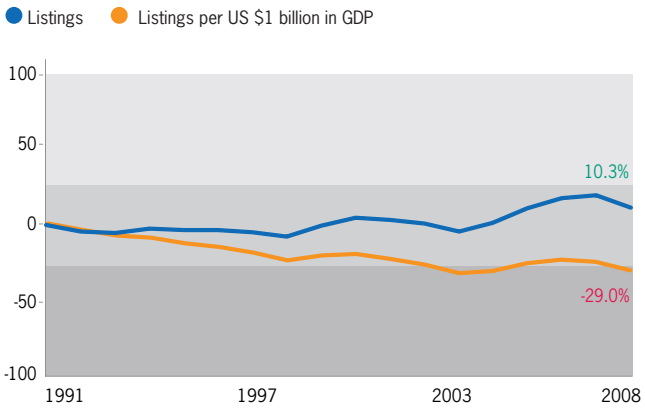
Europe

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



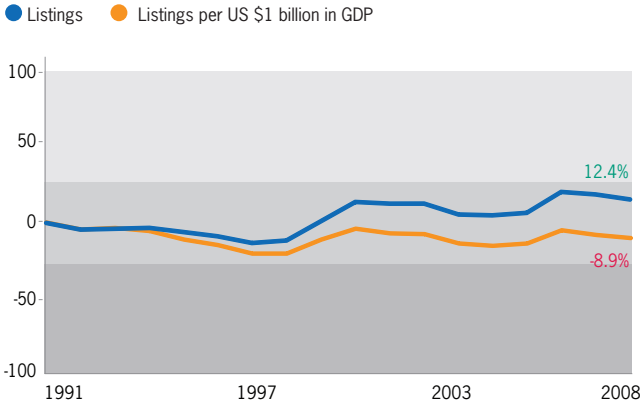
Source: Capital Markets Advisory Partners, World Federation of Exchanges, individual stock exchanges, USDA Economic Research Service (GDP in 2005 US$)

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.

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 18

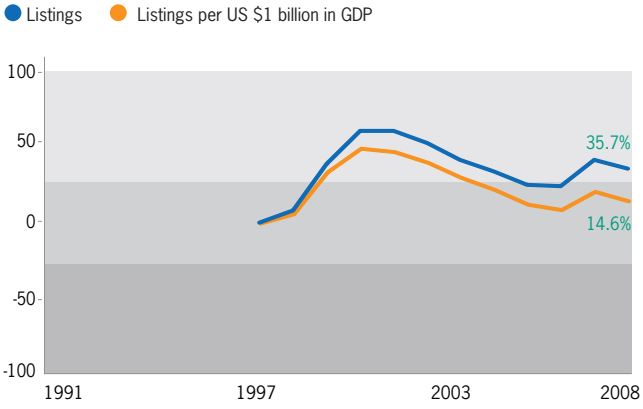
Borsa Italiana
The number of corporate listings indexed to 1991 values, absolute and adjusted for real GDP



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

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.

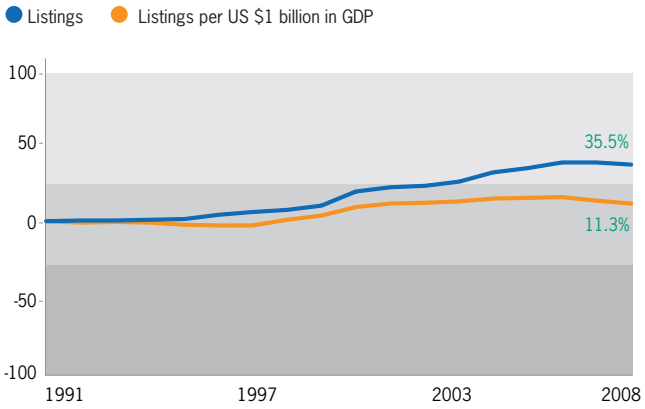
The number of listings on the **Hong Kong Stock Exchange and Clearing** has more than tripled since 1991 (up 253.2%), and growth in listings during this period has even exceeded real growth in GDP by more than two-thirds (up 67%). (See Exhibit 21.) Much of this growth is attributable to the large number 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 20

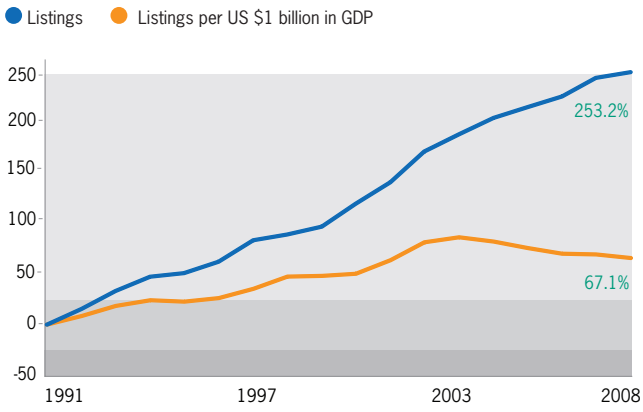
Tokyo Stock Exchange Group
The number of corporate listings indexed to 1991 values, absolute and adjusted for real GDP



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

Exhibit 21

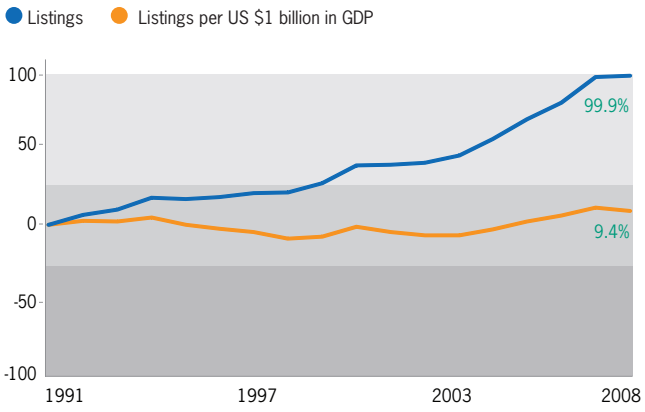
Hong Kong Exchanges and Clearing
The number of corporate listings indexed to 1991 values, absolute and adjusted for real GDP



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

Exhibit 22

Australian Securities Exchange
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 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 Morgan[26] 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.
[25] 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?

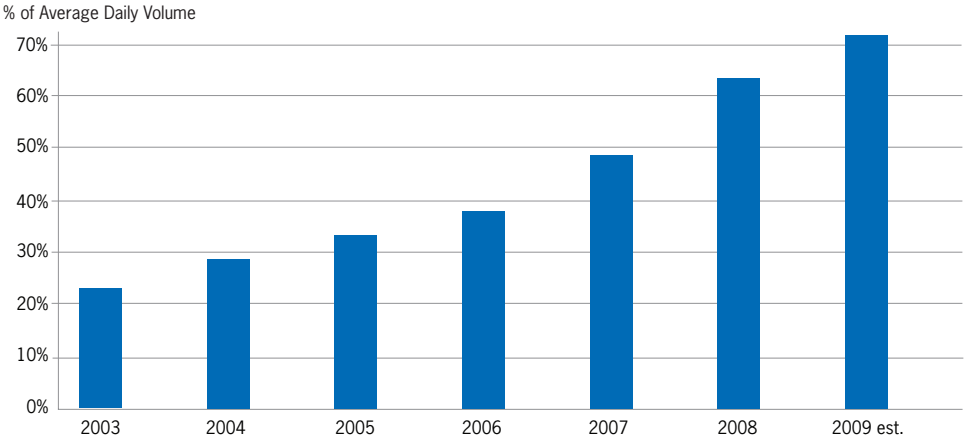
The SEC lost a celebrated court case in *Goldstein v SEC* in which the SEC previously had tried to assert over private hedge funds jurisdiction of the Investment Advisors Act of 1940.[27] In 2006 in the wake of this loss, then-SEC Chairman Christopher Cox testified before the Senate Banking Committee 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 confirmed[29] 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 valuation[30] 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.

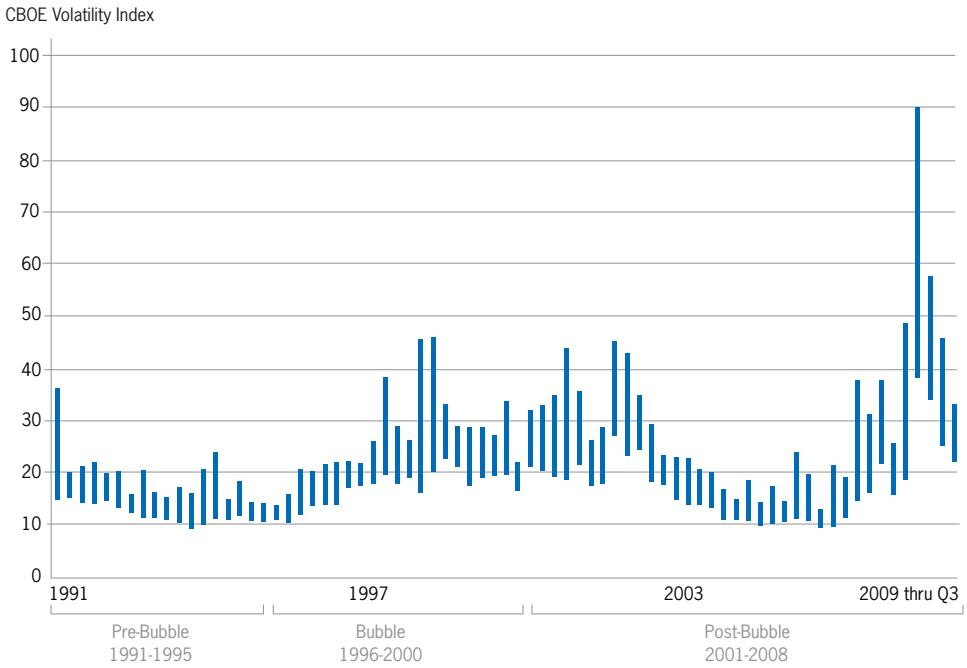
Volatility may have outpaced liquidity[32]

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.

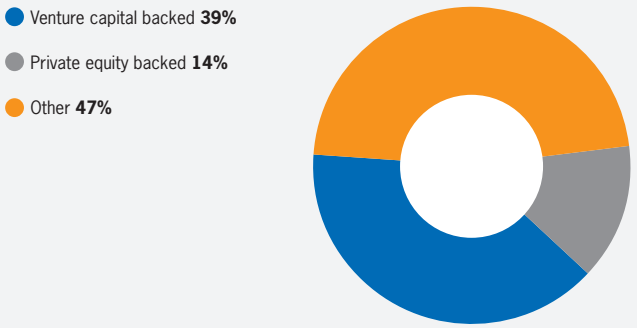
Market structure depresses a broad cross-section of the U.S. economy

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



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.

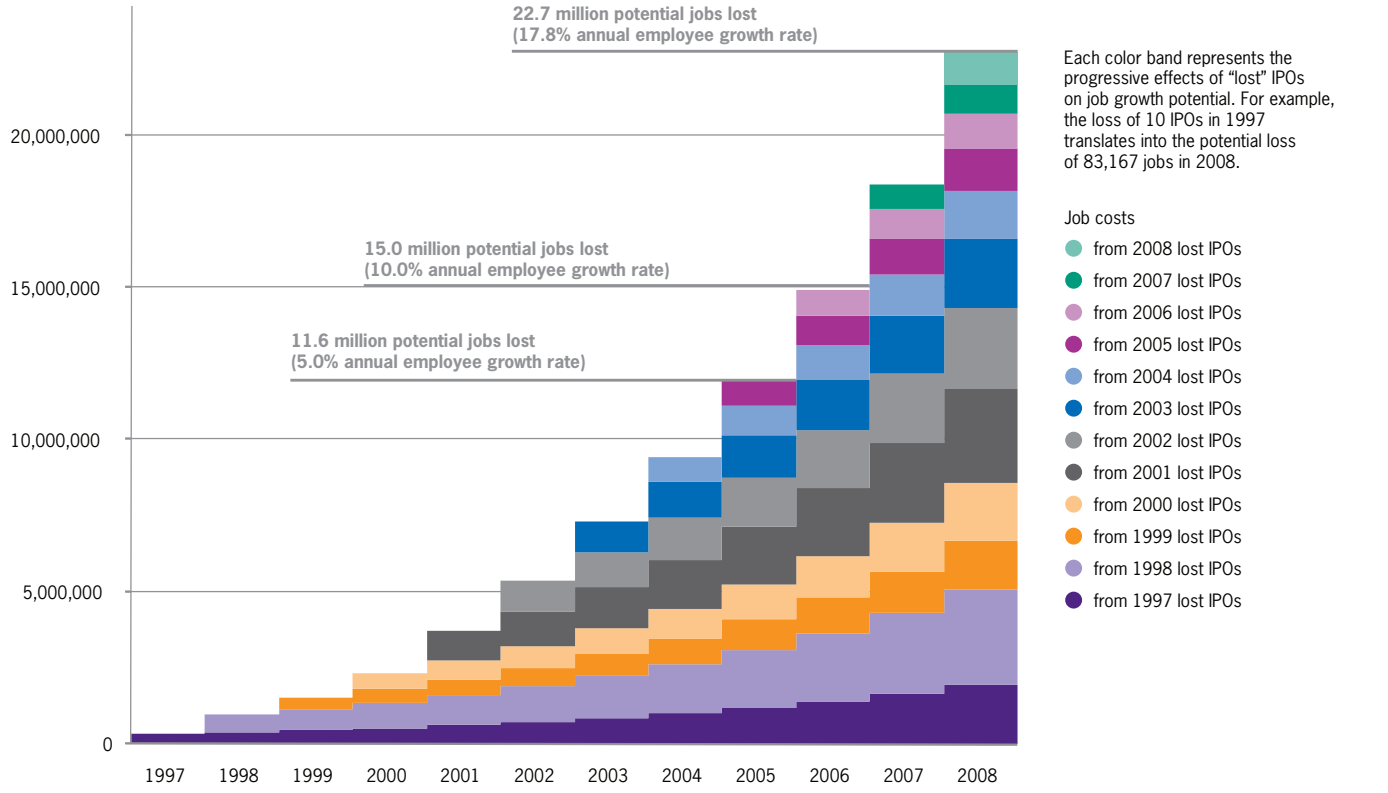
We applied these numbers to the "lost IPOs" each year since 1997, defining "lost" as the difference between the number of corporate IPOs in 1996 (peak) and the number of corporate IPOs in each year since 1996 (Exhibit 26).

For example, in 1997:

- 569 IPOs, or 234 "lost" from the 1996 peak of 803 IPOs
- (234) x (1,372 employees growing at 17.8% for 11 years) = 1,946,113 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")

Exhibit 27

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).

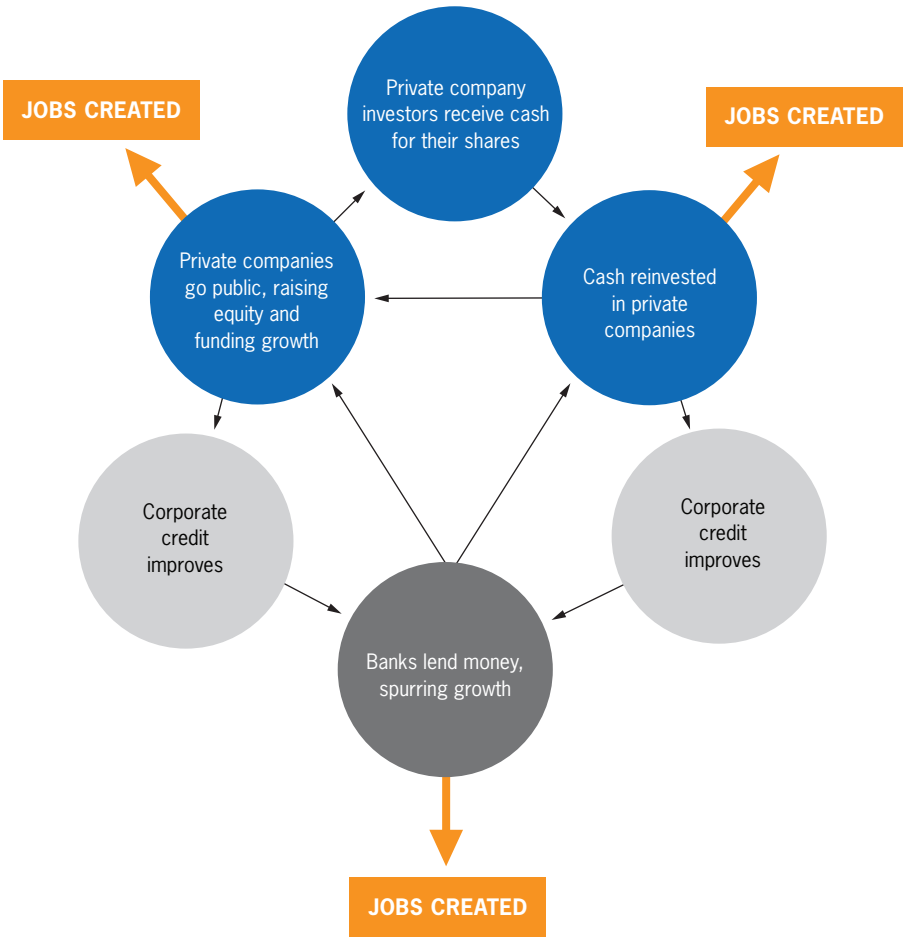
Has too much damage been done?

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 market[40] 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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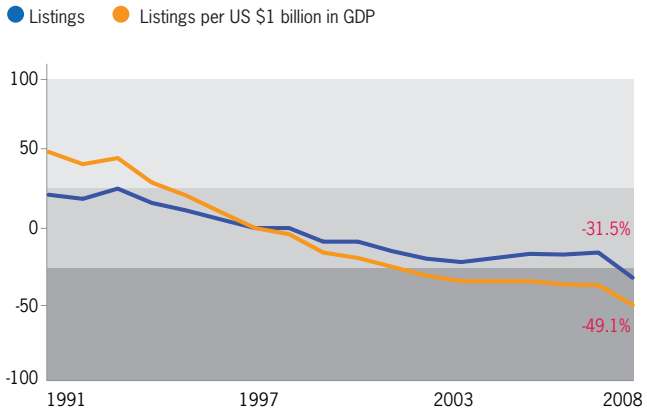
[41] The New York Times, Sunday, September 13, 2009, "Financial Crisis, One Year Later" page 6, SundayBusiness.

Appendix 1

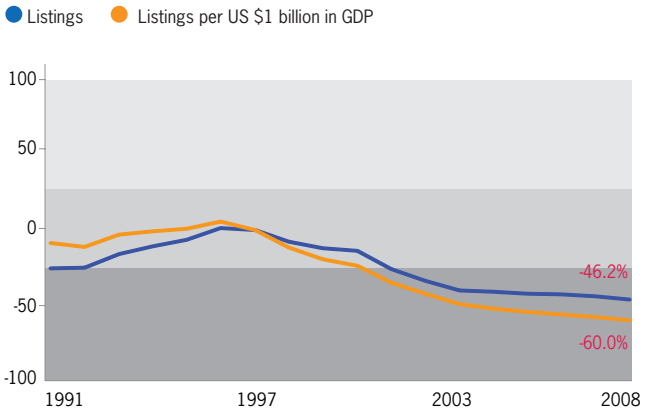
United States

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



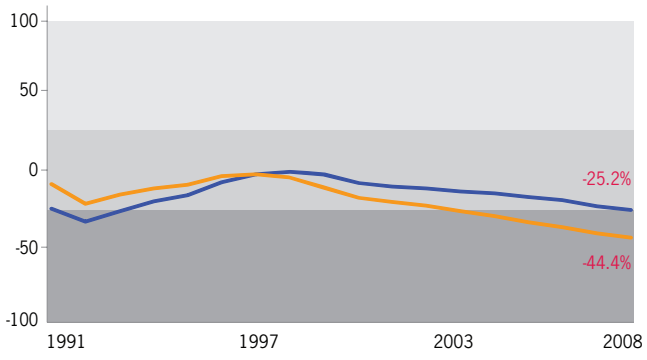
Source: Capital Markets Advisory Partners, World Federation of Exchanges, AMEX, USDA Economic Research Service (GDP in 2005 US$)

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



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

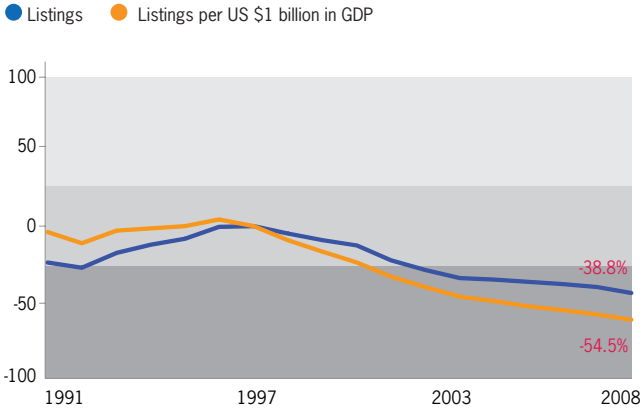
The New York Stock Exchange
The number of corporate listings indexed to 1997 values, absolute and adjusted for real GDP



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

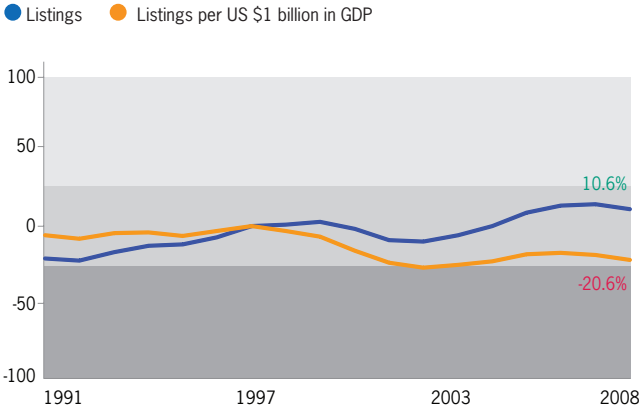
North America

All U.S. Exchanges Combined
The number of corporate listings indexed to 1997 values, absolute and adjusted for real GDP



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

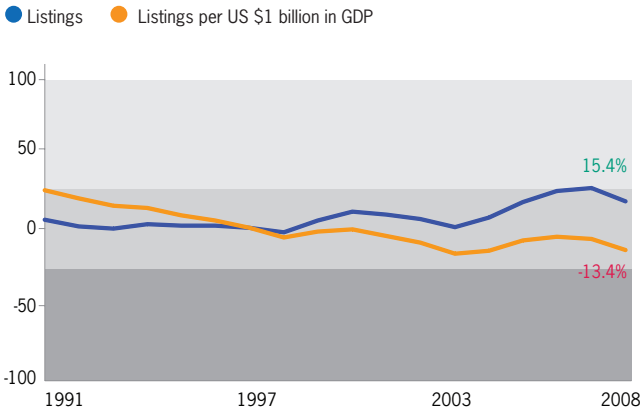


Source: Capital Markets Advisory Partners, World Federation of Exchanges, individual stock exchanges, USDA Economic Research Service (GDP in 2005 US$)

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

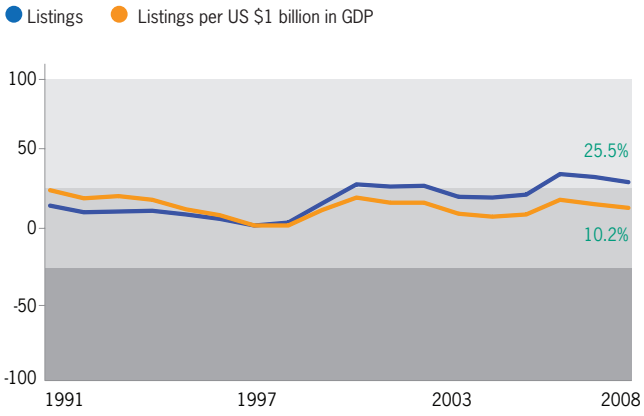
Europe

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



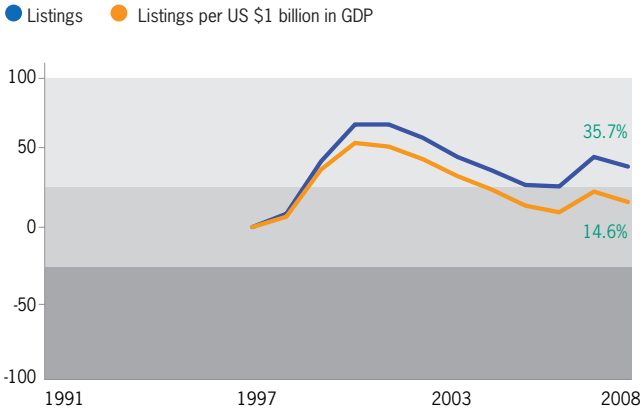
Source: Capital Markets Advisory Partners, World Federation of Exchanges, individual stock exchanges, USDA Economic Research Service (GDP in 2005 US$)

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



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

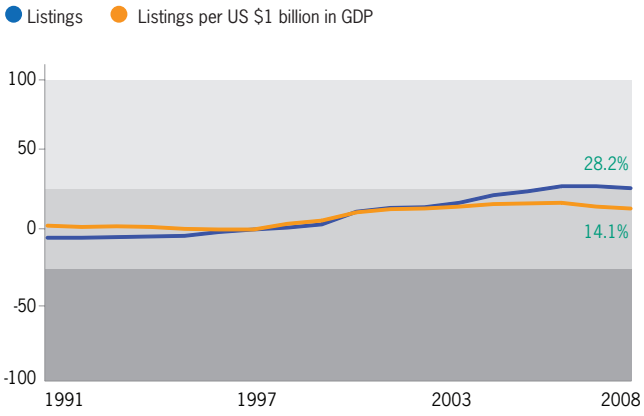
Deutsche Börse*
The number of corporate listings indexed to 1997 values, absolute and adjusted for real GDP



*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$)

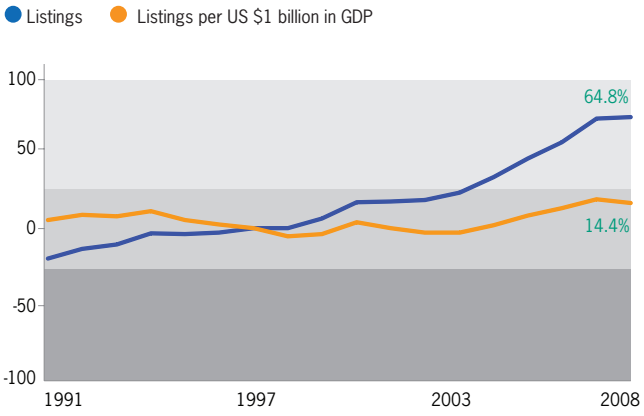
Asia

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



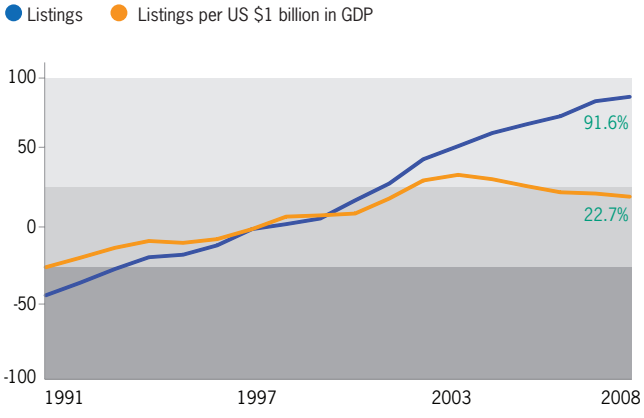
Source: Capital Markets Advisory Partners, World Federation of Exchanges, individual stock exchanges, USDA Economic Research Service (GDP in 2005 US$)

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

Innovators[42]

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.nyppex.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.cmapartners.com) and SecondMarket (www.secondmarket.com) provided information for this exhibit.

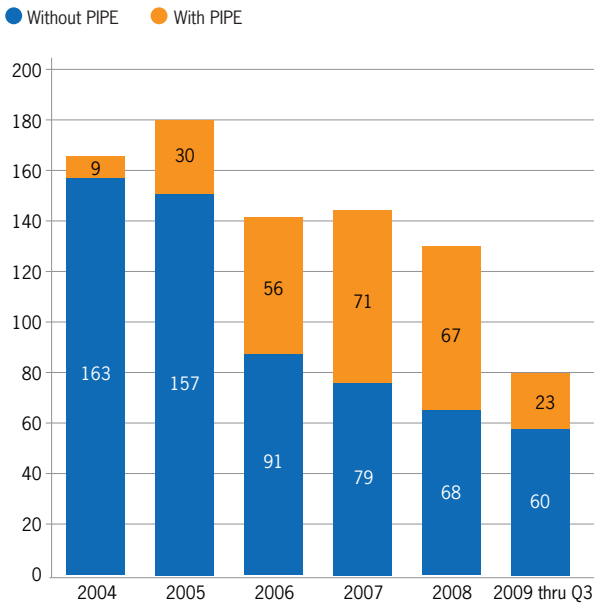
Appendix 3

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.

About the Authors

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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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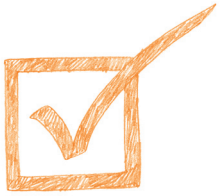

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Raymond James
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Citi
UBS
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RBC
Jefferies
Cowen

[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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