



January 21, 2014

Ms. Elizabeth M. Murphy
Secretary
Securities and Exchange Commission
100 F Street NE
Washington, D.C. 20549-1090

Via Electronic Submission

Re: SEC Investor Advisory Committee File No. 265-28

Dear Secretary Murphy:

We write in support of “Alternative Recommendation #1” (submitted by Stephen Holmes) regarding the Market Structure Subcommittee’s “Recommendation #1 – Decimalization and Tick Sizes.”

We believe that the Subcommittee has completely failed to grasp the central role of equity research in the small-cap public equity capital formation process and the causal relationship between high quality analyst coverage and a stock that is widely held, actively traded and fully valued.

We further believe that increasing the amount and the quality of equity research in a balanced manner that maintains essential investor protections is the starting point for improving the equity capital formation process and will ultimately foster increased private sector job creation. The mechanism through which this occurs can be highlighted through the following simple chain of logic:

- Increased amounts of research on individual small capitalization companies promote increased liquidity of the trading of their stocks.
- Increased trading liquidity promotes increased opportunity for incremental equity capital formation as public market investors have shown a higher propensity to fund companies when they have fewer concerns about long-term liquidity.
- As small capitalization companies raise more equity capital, they are more likely to expand, reinvest capital in their businesses and create more private-sector jobs.

Unfortunately, the first step in the logic chain—equity research—has been badly broken since the Global Settlement was implemented in April 2003 (a massive reform and transformation of the equity research industry). In addressing these concerns, we acknowledge that components of the Global Settlement and other reforms were appropriate to address past abuses relating to analyst conflicts of interest that harmed investors.

White Paper: “Analyzing the Analysts”

In January 2013, we published a 32-page [white paper](#), “Analyzing the Analysts: A Survey of the State of Wall Street Equity Research 10 Years after the Global Settlement,” that examined how the reforms of the Global Settlement have impacted equity research. The results were not pretty.

The biggest effect of the Global Settlement has been a dramatic decline in analyst coverage of emerging companies, those most in need of capital. As of year-end 2012 (the cut-off date for our research), 1,443 of 5,044 exchange-listed companies, representing nearly 29% of all companies listed on major exchanges, had no meaningful analyst coverage of their stocks. Further, of those 1,443 “orphaned” stocks without meaningful analyst coverage, 1,105 had market caps of less than \$250 million, representing 55% of all listed companies with market caps under \$250 million. Thus, the plight of the “orphaned” stock—not just poorly known and under-covered, but *completely* off Wall Street’s radar screen, with little or no chance of ever becoming widely held, actively traded and fully valued.

These micro-cap stocks represent the equivalent of the farm team for tomorrow’s *Fortune* 500 companies. But they desperately need equity research and all the benefits associated therewith: visibility, marketability and liquidity. Otherwise, these companies receive none of the benefits of being public and all of the burdens. More importantly, it discourages companies from going public in the first place, negates the opportunity for job creation associated with these types of high growth companies and deprives ordinary investors who don’t have access to private equity opportunities of the high-return potential traditionally associated with newly public companies.

Despite the radically changed nature of equity research, it continues to be valued by buy-side institutions. However, until equity research and analyst coverage becomes economically viable for Wall Street to generate for the one out of four public companies without meaningful analyst coverage, “orphaned” public stocks will remain a major public policy dilemma.

Orphaned Stocks

When a publicly traded company has limited or no liquidity in its stock, not only will it fail to benefit from the liquidity premium but, even worse, its stock will enter the nether world of orphaned stocks. Even value investors may shun its shares because of the “value trap,” where a cheap stock remains so in the absence of a catalyst that can unlock its latent value and cause the stock to trade in line with its publicly traded peer group. And so the stock may languish indefinitely in the aftermarket, often with no investment banking sponsorship (i.e., research coverage) and/or limited institutional ownership. And even if a stock does have an analyst covering the stock, such coverage may be “low impact,” meaning that the analyst may issue written research, but with a hold recommendation (as part of an implied obligation), and otherwise do nothing else in terms of promoting the idea to his buy-side clients.

The aftermarket is defined as secondary trading on an exchange once an issuer has completed its IPO, or otherwise listed its shares. Aftermarket *support*, is the proactive process of creating visibility, marketability and, most importantly, liquidity in a publicly traded stock. This requires active effort from management and/or its investor relations firm in an effort to secure quality analyst coverage. In short, there is a causal relationship between high quality analyst coverage and a stock that is widely held, actively traded and fully valued.

Widely Held: Individual vs. Institutional Ownership

Over the last 50 years, a dramatic change has occurred in the relative ownership of common stocks by institutions and individuals. An institutional investor is an entity that pools large sums of money to invest on behalf of others, such as investment advisers, banks, insurance companies, pension funds, hedge funds and mutual funds. Individual investors act on their own behalf. A half century ago, individual investors owned more than 90% of all U.S. stocks, with institutions holding less than 10%. By 1975, institutional ownership had increased to 35%. In 1990, it was 53%. Today, institutional investors now own and

control almost 70% of the shares of U.S. corporations.¹ The top two categories of institutional owners today are mutual funds (28%) and pension plans (21%).²

Two important trends have contributed to this rapid decline in individual ownership of stocks: (i) the rise of the independent broker-dealer and corresponding decline of the “wirehouse,”³ and (ii) the conversion of most independents to a fee-based rather than transaction-based compensation model.⁴ The stockbroker of yesterday who recommended individual stocks has given way to today’s asset gathering “financial adviser,” who views portfolio management as a distraction to what he sees as his real job: constantly being in front of clients. The days of trying to pick stocks that outperform the market are largely gone, displaced by financial plans and asset allocation models. As a result, direct ownership of individual common stocks has given way to model-generated portfolios of index tracking mutual funds and ETFs.

The implication for small business capital formation is profound, and not in a good way. Legions of salesmen who once peddled stocks to individuals for a living (i.e., stockbrokers) are rapidly thinning out. Without the support of individual investors, small IPO stocks are unable to climb the ladder toward institutional financing, and often never reach their full potential. In the absence of stockbrokers, emerging growth companies find it extremely difficult to raise capital the old fashioned way—that is, through a small IPO. The same buyers who are no longer there to support IPOs are also not there to support fledgling stocks in the aftermarket.

Insidiously, the absence of individual stock owners also has the unintended effect of keeping away institutional investors. Institutions will generally only take positions in stocks that have established liquidity, and that cannot exist without a solid base of individual stock owners. Institutional ownership is critical because:

- Institutional ownership confers legitimacy that the company is “real,” since institutional investors tend to be more judicious and careful in their investments than individuals.
- Before initiating coverage, sell-side equity research analysts check whether institutions will consider buying the relevant stock, because commissions received by their sales and trading colleagues from stock trades ultimately finance the research.
- Institutions can take large positions that absorb overhang (inclusive of dilutive securities or large blocks of stock available for sale), increase volume and, most importantly, drive up the price.

Optimally then, a company should have a “high” percentage of institutional ownership. This raises two questions: What does “high” mean? What is the typical or average amount of institutional ownership? To answer these questions we analyzed the performance of all stocks trading on the New York Stock Exchange, the NYSE MKT (formerly known as the American Stock Exchange) and Nasdaq. Collectively, we refer to these three as “Senior Exchanges” or “U.S. Senior Exchanges.”

As of December 31, 2012, there were a total of 5,044 stocks that had a primary listing on a Senior Exchange.⁵ **Table 1** divides these 5,044 listed stocks into five quintiles of roughly 1,009 stocks,⁶ each

¹ “The Amazing Disappearance of the Individual Stockholder,” John Bogle, *The Wall Street Journal*, October 2005.

² Ibid.

³ A wirehouse is typically a full-service broker, offering research, investment advice, and order execution, and is usually considered to be a “top-service” broker.

⁴ “Why are IPOs in the ICU?” David Weild and Edward Kim, Grant Thornton White Paper, November 2009.

⁵ The 5,044 companies listed on a Senior Exchange and used for comparison were public operating companies (excluding ADRs) as of December 31, 2012. Stocks with incomplete and/or missing data were not used.

⁶ Source: Capital IQ. Each quintile contains 1,009 companies, except quintile 3, which contains 1,008.

based on market capitalization, and shows the breakdown of institutional ownership and individual ownership. (Throughout this paper, we refer to the “fifth” or “bottom” quintile as the one with the smallest values and the “first” or “top” quintile as the one with the largest values.) The pattern here is hardly surprising—the larger the company, the higher the percentage of institutional ownership. But the differences are striking. The median institutional ownership begins at 14% in the bottom quintile, increases by roughly 20 percentage points per quintile through the second quintile, hitting a high of 85% in the first quintile.

Table 1: Institutional vs. Individual Ownership of all U.S. Listed Stocks

Quintile	Market Cap Range (millions)	Median Market Cap (millions)	Median Institutional Ownership	Median Individual Ownership
1	\$2,434 – 500,402	\$6,140	85%	15%
2	687 – 2,434	1,236	83	17
3	248 – 687	418	60	40
4	74 – 248	149	33	67
5	0 – 74	33	14	86

Actively Traded: Average Daily Trading Volume as Measure of Liquidity

In order to define an objective standard for trading volume, we look again at the universe of all stocks listed on a Senior Exchange. The clear metric by which we can measure activity is average daily trading volume (“ADTV”), defined here as the average number of shares traded daily over the 30 days prior to December 31, 2012, divided by the average total number of shares outstanding during that time. As an example, a company that trades an average of 500,000 shares on a daily basis with a total of 100 million shares outstanding would have an ADTV of 0.50% [500,000 / 100,000,000]. It could be argued that measuring ADTV as a percentage of *shares outstanding* is flawed, since a small company would typically have a lower “float”⁷ and therefore a lower percentage of shares available to trade in the first place. However, even when ADTV is measured as a percentage of *float*, the pattern still holds.⁸

Table 2 again divides all listed stocks into five quintiles based on market capitalization. The final column is the median ADTV for each quintile. For example, the median ADTV for the third market cap quintile is 0.39%. This means that if, for example, a company in the third quintile had 100 million shares outstanding, on average 390,000 shares would have been traded on a daily basis over the prior 30 days. The data show a very strong positive correlation between ADTV and market cap; the larger the company, the more liquid the stock. Liquidity improves markedly for the largest companies found in the first quintile. **Table 2** enables us to identify the benchmark ADTV for a given company. For example, a company with the median market cap of \$418 million can, all else being equal, expect to have an ADTV of roughly 0.39%.

⁷ Float is defined as the percentage of shares outstanding not held by insiders, affiliates or 5% shareholders.

⁸ By Market Cap quintiles, the median ADTV as percentages of *float* are: 0.65%, 0.51%, 0.25%, 0.12%, and 0.08%.

Table 2: ADTV by Market Cap Quintiles

Quintile	Market Cap Range (millions)	Median Market Cap (millions)	Median Avg. Daily Trading Volume
1	\$2,434 – 500,402	\$6,140	0.70%
2	687 – 2,434	1,236	0.60
3	248 – 687	418	0.39
4	74 – 248	149	0.29
5	0 – 74	33	0.19

Fully Valued: Price-to-Sales Ratio (P/S) as the Proxy for Valuation

We begin by taking objection to the Subcommittee’s faulty conclusion that “...the data shows [sic] that the valuation premium of small company stocks has increased in the last decade. Thus, there is no reason to believe that increasing bid-ask spreads will raise the valuation on small companies, since there is no evidence that a decline in the spreads has lowered their valuation.”⁹ In a footnote, it is noted that the P/E ratios for small companies—with positive earnings—has been higher than for large company stocks with positive earnings. Our objection is that it is unreasonable to carve out and base an analysis on a segment of the market—those that are profitable—as being representative of the entire sample.

Our research took us in a different direction. We chose only one valuation metric as a yardstick for identifying whether a stock is being “fully valued,” a perilous but simple exercise. We chose the Price-to-Sales (P/S) ratio as our sole valuation metric because it is widely acknowledged that sales is the financial item least prone to manipulation, and many stocks are “growth” stocks with little or no earnings. Relying, for instance, on the Price to Earnings (P/E) ratio would have resulted in the exclusion of 30% of listed stocks from the analysis. Stated differently, one out of almost every three stocks listed on a Senior Exchange in the U.S. is unprofitable.

As depicted in **Table 3**, we divided all listed stocks into quintiles based on market cap. The final column of the Table illustrates the general correlation between market cap and P/S. The greater the market cap, the higher the P/S ratio—up to a point. When sorted first by market cap (as opposed to sorting strictly on a P/S basis alone), the median P/S ratio is 2.19x. The difference between the P/S ratios of companies in the fifth (0.90x) and third (2.19x) quintiles is striking. Interestingly, the market severely punishes the smallest companies (fifth quintile) with very low P/S ratios, then rewards the next two quintiles (four and three), presumably for having high growth, then bends back the curve with slightly lower P/S ratios for the top two quintiles (one and two), presumably in recognition of the fact that the companies in these categories are larger, more mature, and therefore characterized by expected slower growth in the future.

⁹ “Recommendation of the Market Structure Subcommittee—Decimalization on Tick Sizes,” p. 3.”

Table 3: P/S Ratios of Listed Stocks by Market Cap Quintiles

Quintile	Market Cap Range (millions)	Median Market Cap (millions)	Median P/S Multiples
1	\$2,434 – 500,402	\$6,140	1.76x
2	687 – 2,434	1,236	1.87
3	248 – 687	418	2.19
4	74 – 248	149	2.14
5	0 – 74	33	0.90

Analyst Coverage

As mentioned previously, we posit that there is a very strong, positive, causal relationship between analyst coverage and a stock’s market cap. Analyst coverage confers legitimacy and is an indication that a stock is of institutional quality. Analyst coverage is all the more coveted because, as of December 31, 2012, we estimate that a staggering 1,443 out of 5,044 companies listed on a Senior Exchange, or nearly 29% of all exchange-listed companies, had either zero or no “meaningful” analyst coverage of their stocks.¹⁰ We define “meaningful” as having at least one analyst from the approximately 100 firms included on either the *Institutional Investor* or StarMine list of analyst rankings. Of the 1,443 exchange-listed stocks without meaningful analyst coverage, 1,105 have market caps of less than \$250 million, representing 55% of all listed companies with market caps under \$250 million.

Similarly, as **Table 4** shows, 55% of all listed companies with a market cap of \$74 million or less have no analyst coverage (based on wider coverage from over 1,000 contributing research analysts), and companies with market caps between \$74 million and \$248 million (the fourth quintile) on average have only a pair of analysts, with 30% having zero analyst coverage. Large size, however, does not necessarily guarantee coverage, nor does small size always guarantee a lack of it.

¹⁰ For purposes of this white paper, an exchange-listed company is deemed to have meaningful analyst coverage if the stock is currently covered by one or more analysts from a group of 85 research firms included in the *Institutional Investor* and StarMine analyst rankings, supplemented with an additional 10 research firms that Keating Investments believes provide high quality research based on each firm’s public markets expertise, analyst teams and breadth of coverage. In defining meaningful analyst coverage, Keating Investments’ objective was to identify research firms that issued research reports that could be used by the research firm’s affiliated salesmen to market to institutional investors.

Table 4: Analyst Coverage of Listed Stocks by Market Cap Quintiles¹¹

Quintile	Market Cap Range (millions)	Median Market Cap (millions)	Median # of Analysts	Stocks with No Analysts
1	\$2,434 – 500,402	\$6,140	20	1%
2	687 – 2,434	1,236	10	6
3	248 – 687	418	5	19
4	74 – 248	149	2	30
5	0 – 74	33	0	55

The Big Picture

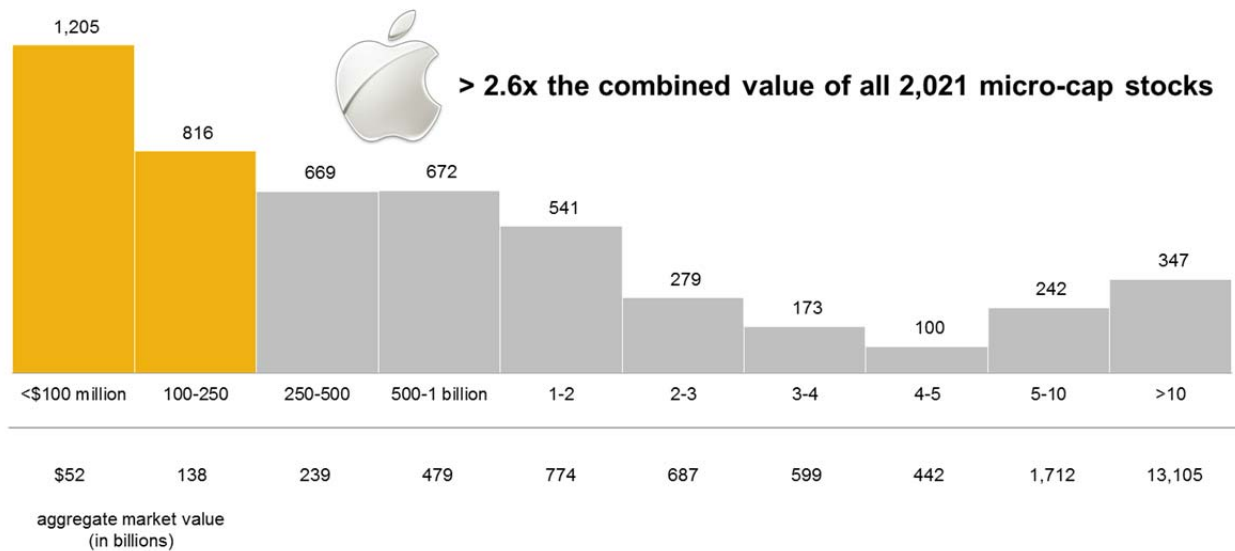
The graphic set forth below reveals some astonishing facts about the distribution of the stocks that are listed on Senior Exchanges (with all data as of December 31, 2012). Consider:

- The 5,044 stocks have an aggregate market cap of approximately \$18.2 trillion.
- There are 1,205 stocks (24%) with a market cap below \$100 million.
- There are a further 816 companies (16%) with market caps between \$100 and \$250 million.
- Cumulatively, there are a total of 2,021 micro-cap stocks (40%).¹² Stated another way, two out of every five companies listed on a Senior Exchange is a micro-cap.
- On an aggregate basis, micro-cap stocks have a combined market cap of \$190 billion—representing approximately 1% of the total listed U.S. market cap.
- We estimate that 1,443 out of 5,044 exchange-listed companies, or nearly 29% all exchange-listed companies, have either zero or no meaningful analyst coverage of their stocks.
- And of the 1,443 exchange-listed stocks with zero/no meaningful analyst coverage, 1,105 are micro-caps, representing 55 % of all exchange-listed micro-cap companies.
- The median market cap of all exchange-listed stocks is only \$418 million.
- Or to put it in perspective, one stock by itself—Apple—has a market cap (\$500 billion) that is 2.6x greater than the *combined* market caps of all 2,021 micro-cap stocks.
- Finally, if we stretch out to those stocks with market caps between \$250 million and \$1 billion—some people’s definition of a small-cap stock, we see that there are a total of 3,362 such stocks that are small-cap or lower—which represents 67% of the total. In other words, two out of every three companies listed on a Senior Exchange is a small-cap stock or lower with an aggregate combined market cap of \$908 billion—representing approximately 5% of the total listed U.S. market cap.

¹¹ Includes analyst coverage from over 1,000 research firms that contribute to Capital IQ and is comprised of: (i) the research divisions of investment banks, (ii) retail focused report services, e.g., Morningstar, and (iii) summary information services that generally do not include commentary or provide buy, hold or sell recommendations or price targets.

¹² For purposes of this white paper, we define a micro-cap stock as one with a market capitalization below \$250 million.

Micro-caps comprise 40% of all 5,044 listed public companies



Conclusion

We believe that the Subcommittee has completely failed to grasp the central role of equity research in the small-cap public equity capital formation process and the causal relationship between high quality analyst coverage and a stock that is widely held, actively traded and fully valued.

With commissions compressed and trading spreads decimated by market reforms in 1997 and 1998, and the advent of decimalization in 2001, Wall Street currently has no economic incentive to staff up the sales, trading and research desks to cover these smaller public companies, and that's bad for everyone. Tick size reform must be the most crucial element of any market structure reform, and we believe the programs outlined in Stephen Holmes' Alternative Recommendation #1 (as well as the recommendations of the Equity Capital Formation Task Force) will be the most effective means to adequately compensate Wall Street to cover orphaned stocks and, more importantly, to provide a needed catalyst to the small cap IPO market and our country's job creation engine.

We don't pretend that changing tick sizes is a cure-all, but it would be a great start.

We thank the Commission, the Investor Advisory Committee and the Market Structure Subcommittee for their work and for the opportunity to participate in this open public forum.

Respectfully submitted,

Timothy J. Keating
CEO, Keating Capital, Inc.
President, Keating Investments, LLC

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Securities and Exchange Commission
January 21, 2014
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Timothy J. Keating is the Chief Executive Officer of Keating Capital, Inc. and the President of Keating Investments, LLC. Keating Investments, LLC (www.KeatingInvestments.com) is a Greenwood Village, Colorado-based SEC registered investment adviser founded in 1997, and the investment adviser to Keating Capital, Inc. (Nasdaq: KIPO). Keating Capital is a closed-end fund that specializes in making pre-IPO investments in emerging growth companies that are committed to and capable of becoming public.



Analyzing the Analysts: A Survey of the State of Wall Street Equity Research 10 Years after the Global Settlement

Executive Summary

As of December 31, 2012, we estimate that a staggering 1,443 out of 5,044 exchange-listed companies, or nearly 29% of all exchange-listed companies, had either zero or no meaningful analyst coverage of their stocks. We define “meaningful” as having at least one analyst from the approximately 100 firms included on either the *Institutional Investor* or StarMine list of ranked analysts. Of the 1,443 exchange-listed stocks without meaningful analyst coverage, 1,105 have market caps of less than \$250 million, representing 55% of all listed companies with market caps under \$250 million. This paper examines this issue in detail and is organized into five sections.

In Section 1, we provide a comprehensive overview of the facts and circumstances leading up to the Global Settlement as a necessary backdrop to understanding the regulatory environment under which equity research operates today.

In Section 2, we explain the impact and consequences that the Global Settlement had on equity research. Specifically, we introduce the concept of an “orphaned” public stock and examine data that compares the average daily trading volume, valuation, institutional ownership and analyst coverage of orphaned stocks to their larger and more liquid brethren.

Section 3 is a brief case study of managing equity research as a business. In particular, we review how one firm that was a participant in the Global Settlement has attempted to de-emphasize and de-couple its previous heavy reliance on a widely used third party ranking system as the basis for evaluating analyst value in favor of a more durable model that rewards profitability at both the departmental and analyst level.

In Section 4, we study the changing nature of equity research and explain how premium services (e.g., investor conferences, access to management, etc.) have gradually supplanted written research as the items most highly valued by the buy-side. Among other instances, we look at the Facebook IPO as the recent and shining example of major problems that exist in the current equity research construct.

Finally, in Section 5 we conclude and offer a simple policy recommendation which we believe will restore the economic incentive for Wall Street to staff up the sales, trading and research desks to cover small companies for the benefit of issuers and investors alike.

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Keating Investments, LLC (“Keating Investments”) is an SEC registered investment adviser and acts as investment adviser to and receives base management and/or incentive fees from Keating Capital. Keating Capital, Inc. (“Keating Capital”) is a Maryland corporation that has elected to be regulated as a business development company under the Investment Company Act of 1940. Keating Investments and Keating Capital operate under the generic name of Keating. This white paper is a general communication of Keating and is not an investment recommendation or a solicitation to become a client of Keating Investments, LLC. This white paper is not intended to be a solicitation to purchase or sell any security.

Introduction

Pity the research analyst. In the 79 years since the 1934 publication of Benjamin Graham and David Dodd's *Security Analysis*, no other job on Wall Street has been characterized by more reputational and financial volatility. Toiling in near obscurity for 40 years, the creation of *Institutional Investor* magazine's "All-America Research Team" concept in 1972 gradually moved the star equity analyst to the top of the investment banking pecking order. By 2000, the analyst had become the prima donna. But just as Icarus' wax wings melted when he flew too close to the sun, the equity analyst's star crashed and burned under the weight of a series of indefensible conflicts of interest and outright abuses that reached a zenith in the dot-com era of 1999-2001. The ensuing result was the so-called "Global Settlement," a massive reform and transformation of the equity research industry implemented in 2003.¹ It has now been 10 years since these landmark regulatory changes were implemented, and the purpose of this white paper is to examine how these reforms have impacted equity research and the state of Wall Street equity research today.

Section 1: The Global Settlement

"Investment banking now dominates equity research."² This was part of the testimony of a former research analyst describing the state of Wall Street research to a 2001 House Committee hearing called *Analyzing the Analysts*. Though these six words accurately summed up the zeitgeist on Wall Street at the time, from a regulatory perspective it was really just a description of the symptom—the root causes of which were a series of abusive practices and conflicts of interest which added up to a rotten core and hopelessly compromised practice. In her testimony at the time, acting Securities and Exchange Commission ("SEC") Chairwoman Laura Unger identified the following commonplace conflicts of research analysts:

- Research analysts were compensated in large part by their investment banking departments and their contributions to specific banking transactions.
- Research analysts automatically provided research reports to companies underwritten by their firms.
- Research analysts made pre-IPO private placement investments in companies for which their firms acted as IPO underwriters and for which they subsequently provided research coverage.
- Research analysts notified their investment banking counterparts prior to making changes in recommendations.
- Research analysts routinely issued "booster shot" buy recommendations prior to the expiration of lockup periods to support those stocks.
- Research analysts either failed to disclose their personal ownership of securities they covered, or did so in an opaque manner.
- Research analysts failed to reveal any conflicts of interest in media appearances in which they were making buy recommendations on securities.³

¹ The Global Settlement was an enforcement agreement reached on April 28, 2003 between the SEC, the National Association of Securities Dealers ("NASD," now FINRA), the New York Stock Exchange ("NYSE"), the North American Securities Administrators Association ("NASAA"), the New York Attorney General's Office and ten of the largest investment firms in the U.S. to address issues of conflict of interest within their investment banking and research analyst businesses.

² *Analyzing the Analysts*: Hearings Before the House Committee on Capital Markets, Insurance, and Government Sponsored Enterprises of the Committee on Financial Services, prepared testimony of Ronald Glantz, 107th Congress, page 243, June and July 2001.

³ Joint Report by NASD and the NYSE on the Operation and Effectiveness of the Research Analyst Conflict of Interest Rules, page 2, December 2005.

Not good, but a lot of this just sounded like business as usual on Wall Street. What really stirred the pot, incensed the public and spurred the regulatory changes were a series of highly inflammatory, sound bite emails introduced as evidence in a case brought by Eliot Spitzer, the New York Attorney General, against Merrill Lynch, in which the firm agreed to pay \$100 million in fines. Henry Blodget, who famously predicted that Amazon would hit a pre-split price of \$400 (which it subsequently did a month later), had recently joined Merrill Lynch as head of the global Internet research team. At the time, Blodget had either a 1 (Buy) or 2 (Accumulate) rating on each of the stocks set forth below in **Table 1**, but was contemporaneously sending private emails completely at odds with his public ratings.⁴

Table 1: Blodget's Public vs. Internal Assessments

Company Name	Public Assessment	Internal Assessment
Excite@Home (ATHM)	"We do not see much more downside to the shares."	"ATHM is such a piece of crap."
Lifeminders (LFMN)	"We think LFMN presents an attractive investment."	"I can't believe what a POS [piece of sh-t] that thing is."
Internet Capital Group (ICGE)	Placed on "Top Ten Tech" list.	"Going to 5 [sell]." "No helpful news to relate [regarding ICGE], I'm afraid. This has been a disaster. There really is no floor to the stock."

After these bombshells were made public, major reform was clearly coming to Wall Street—and fast. In an effort to get ahead of the curve and have a seat at the rule making table, a number of investment banks voluntarily implemented their own policy changes. For example, Merrill Lynch, Credit Suisse and Edward Jones all instituted outright bans on analysts owning the securities of any of the companies they covered. Goldman Sachs and Robertson Stephens followed suit by implementing policies that permitted analysts to own securities of the companies they covered under limited conditions.⁵ The Securities Industry Association, Wall Street's trade group at the time, formed an ad hoc committee of senior securities professionals from the largest member firms to recommend policies relating to research analysts' ownership of stocks they covered, compensation and the interactions with their firms' investment banking units. The result: a set of best practices adopted in June 2001 "designed to restore the integrity of research and 'reaffirm that the securities analyst only serves one master: The investor.'"⁶ Other groups, such as the Association for Investment Management and Research (now known as the CFA Institute), also weighed in with a similar issues paper ("Preserving the Integrity of Research").⁷

But this was all too little too late. By this time, Eliot Spitzer was now on a crusade to radically overhaul the way Wall Street did business. His first port of call...Merrill Lynch:

In May 2002, as part of a settlement with the New York Attorney General, Merrill Lynch agreed to adopt certain changes to its equity research and investment banking activities. Among other things, Merrill Lynch agreed to completely separate analyst compensation from investment banking, prohibit investment banking input into analysts'

⁴ "Vested Interest," PBS, May 31, 2002.

⁵ Joint Report, page 3.

⁶ Ibid.

⁷ "AIMR Issues Report on Analyst Objectivity," The Association for Investment Management Research press release, July 11, 2001.

compensation and disclose in all research reports whether it has received or is entitled to receive any compensation from a covered company over the past 12 months.⁸

But the settlement with Merrill was just a precursor of even more sweeping regulatory changes to come. On April 28, 2003, the SEC, the NYSE, NASD, NASAA, the New York Attorney General's Office announced that they had entered into an enforcement agreement, the Global Settlement, with 10 of the largest investment banking firms to settle charges alleging misleading or fraudulent research. The firms involved in the settlement were required to pay a combined total of \$1.388 billion, consisting of: (i) fines to their investors (\$875 million), (ii) amounts to pay for independent third-party market research (\$432.5 million), and (iii) amounts to fund investor education (\$80 million). A table detailing the amount paid by each firm is set forth in **Appendix A**.⁹

In addition to the fines paid by the firms, two celebrity analysts at the center of the controversy also settled individually with the SEC and agreed to pay significant penalties. Henry Blodget, the Merrill Lynch Internet analyst, agreed to be barred from the securities industry for life and to pay \$4 million, consisting of a \$2 million penalty and \$2 million in disgorgement.¹⁰ And Jack Grubman, the Salomon Smith Barney telecom analyst, also agreed to be barred from the securities industry for life and to pay \$15 million, consisting of a \$7.5 million penalty and \$7.5 million as disgorgement of bonuses and other monies.¹¹

The Global Settlement changed the way investment banking and research departments were permitted to interact with one another. The principal reforms included the following:

- Brokerage firms had to physically separate their research and investment banking departments and create/enforce firewalls to prevent the flow of information between the two groups, except in specifically designated circumstances.
- The firms' senior management had to determine the research department's budget without input from investment banking and without regard to specific revenues derived from investment banking.
- Research analysts' compensation could not be based, directly or indirectly, on investment banking revenues or input from investment banking personnel, and investment bankers could have no role in evaluating analysts' job performance.
- Research management was required to make all company-specific decisions to terminate coverage, and investment bankers could have no role in company-specific coverage decisions.
- Research analysts were prohibited from participating in efforts to solicit investment banking business, including pitches and roadshows. During the offering period for an investment banking transaction, research analysts could not participate in roadshows or other efforts to market the transaction.
- The IPO "quiet period" was increased from 25 days to 40 days.

In conjunction with the Global Settlement, there were draconian new rules implemented by the stock exchanges (also known as Self-Regulatory Organizations or "SROs") in two rounds of amendments, which effectively mirrored the key provisions of the Global Settlement. In the first round (approved by the SEC in May 2002), the NYSE amended existing Rule 351 ("Reporting Requirements") and Rule 472

⁸ Agreement Between the Attorney General of New York and Merrill Lynch, May 21, 2002.

⁹ Joint Press Release by the SEC, New York Attorney General's office, the NASAA, the NASD and the New York Stock Exchange, April 28, 2003.

¹⁰ SEC vs. Henry M. Blodget, 2003.

¹¹ SEC vs. Jack B. Grubman, 2003.

(“Communications with the Public”). For its part, NASD created new Rule 2711 (“Research Analysts and Research Reports”). The Round 1 amendments achieved the following:

- “imposed structural reforms to increase analyst independence, including prohibiting investment banking personnel from supervising analysts or approving research reports;
- prohibited offering favorable research to induce investment banking business;
- prohibited research analysts from receiving compensation based on a specific investment banking transaction;
- required disclosure of financial interests in covered companies by the analyst and the firm;
- required disclosure of existing and potential investment banking relationships with subject companies;
- imposed quiet periods for the issuance of research reports after securities offerings managed or co-managed by a member;
- restricted personal trading by analysts;
- required disclosure in research reports of data and price charts that help investors track the correlation between an analyst’s rating and the stock’s price movements; and
- required disclosure in research reports of the distribution of buy/hold/sell ratings and the percentage of investment banking clients in each category.”¹²

The dot-com crash was a period of extreme tumult and turbulence, and the Sarbanes-Oxley Act of 2002 was enacted at more or less the identical time that the Global Settlement was being finalized. One element of Sarbanes-Oxley required the adoption by SROs of rules “reasonably designed to address conflicts of interest that can arise when securities analysts recommend equity securities in research reports and public appearances.”¹³ Thus, the need arose for a second round of amendments to ensure compliance with Sarbanes-Oxley. The Round 2 amendments became effective incrementally between September 2003 and January 2004, and satisfied the following:

- “modified the definition of research report to delete the requirement that the communication contain a recommendation;
- extended quiet periods after securities offerings to all firms that participated in the offering as an underwriter or dealer;
- required disclosure of a client relationship and non-investment banking compensation received by a firm from a covered company; and
- prohibited retaliation against research analysts for publishing unfavorable research on an investment banking client.”¹⁴

As Eliot Spitzer so succinctly put it: “What we are doing is changing the rules of the game.”¹⁵ Clearly, the world of equity research had changed dramatically and would never again be the same.

Modifications to the Global Settlement Post 2003

Subsequent to the implementation of the Global Settlement in 2003, there have been two rounds of modest reforms. First, in March 2010, The Southern District of New York modified the Global Settlement¹⁶ to permit “chaperoned” research analyst and investment banking participation in joint due

¹² Joint Report, page 5.

¹³ Ibid., page 6.

¹⁴ Ibid., page 7.

¹⁵ “Will it Matter? The Wall Street deal will help, but there’s still room for abuse,” Paula Dwyer et al, *BusinessWeek*, May 11, 2003.

¹⁶ SEC’s Research Analyst Regulation, February 1, 2012.

diligence sessions under certain and very limited circumstances. For example, such joint due diligence sessions are permitted following the receipt by the firm of an investment banking mandate, or (for non-IPO banking transactions) in the case where the issuer has requested a transaction proposal from an investment bank.¹⁷

A second round of reforms was ushered in as part of the Jumpstart Our Business Start-ups Act (the “JOBS Act”), which was designed to make it easier for emerging growth companies (“EGCs”) to raise capital and complete the IPO process. The JOBS Act loosened the rules on the dissemination of research reports and removed certain restrictions on analyst communications for EGCs as part of their IPOs. An EGC is broadly defined as a company with less than \$1 billion of annual gross revenue in the fiscal year prior to its IPO. The three primary modifications to existing provisions of the Global Settlement (then) under the JOBS Act (now), which was signed into law in April 2012, are set forth in **Table 2** below.

Table 2: JOBS Act Reforms

Modification	Then	Now
Communication between bankers and analysts	Physical separation of research and investment banking departments to prevent the flow of information between the two groups	SEC and FINRA rules may not restrict investment bankers from arranging for communications between research analysts and potential investors or research analysts from participating in communications with management in the presence of investment bankers.
Quiet period	Underwriters of an IPO are prohibited from: (i) publishing or distributing research on the issuer until 40 days after the IPO, (ii) making any public appearance for 25 days following the date of the offering, if participating, or (iii) publishing or distributing any research report or making any public appearance for 15 days prior to and after the expiration, waiver or termination of a lockup agreement.	Permits publication and distribution at any time by brokers or dealers of research reports about an Emerging Growth Company (“EGC”) that is the subject of a public offering, even if the brokers or dealers are participating or will participate in the offering.
Pre-IPO communications	Communications by analysts with companies and potential IPO investors are subject to a number of conflicts of interest and other restrictions.	Removes restrictions on who may arrange for communications among securities analysts and investors in connection with an IPO and allows securities analysts to participate in communications with management of an EGC, along with other representatives of a broker or dealer.

The JOBS Act reforms above were designed to provide relief primarily to those firms that were not party to the Global Settlement. Otherwise, the restrictions on Global Settlement firms still apply. For example:

- Analysts of non-Global Settlement firms can attend pre-engagement meetings, i.e., pitch meetings, with EGC management and investment bankers to introduce themselves and to outline their research program and factors that analysts may consider, and to ask management

¹⁷ “Modifications to Global Research Settlement Pave Way for Chaperoned Research and Investment Banking Participation in Joint Due Diligence Sessions,” Davis Polk, March 19, 2010.

- questions to better understand factual matters, but are still prohibited from soliciting investment banking business; and
- After becoming engaged as an underwriting firm, non-Global Settlement firm analysts can participate in EGC management presentations to sales teams, discuss industry trends and communicate their views.

A further summary table that compares certain key provisions of the Global Settlement to the Chaperoned Research and JOBS Act modifications is set forth in **Appendix B**. Finally, a summary of the restrictions on research analysts both pre and post the Jobs Act is set forth in **Appendix C**.

Section 2: Consequences of the Global Settlement

The Global Settlement came down like a hammer immediately upon implementation. The costs were high and the consequences profound. The SRO rules required that all stock ratings now had to be consistent with their plain meanings and had to mean what they say. Gone were the murky ratings like “accumulate” (a rating below “buy”). Now, all firms had to adopt a 3-tier rating methodology (i.e., buy-hold-sell), replacing the more opaque 4- and 5-tier methodologies that had previously been employed.

The first shoe to drop was an almost immediate decline in the number of companies covered by research analysts. According to one academic study, the specific triggering event was the adoption date of the new 3-tier rating methodology. As **Table 3** below illustrates, eight brokerage firms discontinued coverage on between 70 to 143 companies, for a collective loss of 914 dropped stocks, or an average of 114 dropped stocks per firm. (Note: multiple analysts may have dropped coverage on a particular stock, so the 914 total likely includes some overlap.) Overall, the results below indicate an average reduction of 12% in the number of stocks covered by each reporting firm.¹⁸

Table 3: Reduction in Analyst Research Coverage

	Date of Change (all 2002)	# of Discontinued Coverage	# of Stocks Covered After Change	Decrease
Broker 1	Sep. 8	136	1,019	-12%
Broker 2	Sep. 8	143	946	-13
Broker 3	Sep. 8	80	916	-8
Broker 4	Mar. 17	70	768	-8
Broker 5	Sep. 25	128	743	-15
Broker 6	Nov. 4	141	736	-16
Broker 7	Aug. 4	97	791	-11
Broker 8	Sep. 8	119	639	-16
Total		914	6,558	-12%

In the December 2005 *Joint Report by the NASD and the NYSE on the Operation and Effectiveness of the Research Conflict of Interest Rules*, the diminishment of research coverage is explained as follows:

A recent report says that since 2002, 691 companies have lost analyst coverage altogether and 99% of the companies that have lost coverage are smaller companies with a stock

¹⁸ “Conflicts of Interest and Recommendations – The Effects of the Global Settlement and Related Regulations,” Ohad Kadan, Leonardo Madureira, Rona Wong and Tzachi Zach, page 16, 2005.

market value of less than \$1 billion. According to Reuters Research, as of January 2004, 666 companies in its database of 4,075 had been “orphaned” by sell-side analysts, while in 2002, only 85 companies were left without analyst coverage. Of the companies that have not been orphaned, 380 are down to a pair of analysts, while 473 companies have just one. Similarly, a recent academic study has found that the number of stocks covered by the ten Global Settlement firms has dropped an average of 14% relative to 2000 and 20% relative to 2001.¹⁹

Yet another report indicated that by April 2004—one year after the Global Settlement—Morgan Stanley and Merrill Lynch had cut the number of North American stocks that they covered by 26% and 30%, respectively.²⁰

In addition to severing the links between research and investment banking, another key part of the Global Settlement mandated that the brokerage firms had to spend \$433 million over five years to purchase research from “independent” firms (i.e., those with no investment banking ties) and provide it to clients alongside their own research.²¹ That five-year term has now ended, and the cottage industry created out of the Global Settlement has, for all intents and purposes, faded largely into extinction.

Regardless of which study is cited, the results were uniformly the same: many stocks immediately lost analyst research coverage. In a word: they were “orphaned.” And the orphaned stock impact fell disproportionately on the smallest companies. Tragically, orphaned status effectively negates all of the benefits associated with being public, namely: higher valuations, a foundation for securing superior access to capital, a stock currency to fund acquisitions, liquidity for investors and minority stockholders, and equity-based compensation for management and employees.

Investors will always pay more for an asset in its most liquid form. Liquidity is so important in capital markets that investors generally attach a valuation premium of 100% or more for publicly traded companies compared to private companies with the same financial metrics.²² In the parlance of corporate finance, this valuation premium results in a “lower cost of capital” for public issuers. The “liquidity premium” exists because investors value the ability to sell stock quickly, whether in fact they actually sell or not.

Orphaned Stocks

When a publicly traded company has limited or no liquidity in its stock, not only will it fail to benefit from the liquidity premium but, even worse, its stock will enter the nether world of orphaned stocks. Even value investors may shun its shares because of the “value trap,” where a cheap stock remains so in the absence of a catalyst that can unlock its latent value and cause the stock to trade in line with its publicly traded peer group. And so the stock may languish indefinitely in the aftermarket, often with no investment banking sponsorship (i.e., research coverage) and/or limited institutional ownership. And even if a stock does have an analyst covering the stock, such coverage may be “low impact,” meaning that the analyst may issue written research, but with a hold recommendation (as part of an implied obligation), and otherwise do nothing else in terms of promoting the idea to his buy-side clients.

The aftermarket is defined as secondary trading on an exchange once an issuer has completed its IPO, or otherwise listed its shares. Aftermarket *support*, is the proactive process of creating visibility,

¹⁹ Joint Report, page 25.

²⁰ “Change Comes Slowly to Wall St. Research,” Melissa Lee and John Metaxas, CNBC, April 26, 2004.

²¹ Ibid.

²² Pratt’s Stats® at BVMarketData.com, Public Stats™ at BVMarketData.com as of May 14, 2010, for transactions between January 1, 2005 and December 31, 2009. Used with permission from Business Valuation Resources, LLC.

marketability and, most importantly, liquidity in a publicly traded stock. This requires active effort from management and/or its investor relations firm in an effort to secure quality analyst coverage. In short, there is a causal relationship between high quality analyst coverage and a stock that is widely held, actively traded and fully valued.

Widely Held: Individual vs. Institutional Ownership

Over the last 50 years, a dramatic change has occurred in the relative ownership of common stocks by institutions and individuals. An institutional investor is an entity that pools large sums of money to invest on behalf of others, such as investment advisers, banks, insurance companies, pension funds, hedge funds and mutual funds. Individual investors act on their own behalf. A half century ago, individual investors owned more than 90% of all U.S. stocks, with institutions holding less than 10%. By 1975, institutional ownership had increased to 35%. In 1990, it was 53%. Today, institutional investors now own and control almost 70% of the shares of U.S. corporations.²³ The top two categories of institutional owners today are mutual funds (28%) and pension plans (21%).²⁴

Two important trends have contributed to this rapid decline in individual ownership of stocks: (i) the rise of the independent broker-dealer and corresponding decline of the “wirehouse,”²⁵ and (ii) the conversion of most independents to a fee-based rather than transaction-based compensation model.²⁶ The stockbroker of yesterday who recommended individual stocks has given way to today’s asset gathering “financial adviser,” who views portfolio management as a distraction to what he sees as his real job: constantly being in front of clients. The days of trying to pick stocks that outperform the market are largely gone, displaced by financial plans and asset allocation models. As a result, direct ownership of individual common stocks has given way to model-generated portfolios of index tracking mutual funds and ETFs.

The implication for small business capital formation is profound, and not in a good way. Legions of salesmen who once peddled stocks to individuals for a living (i.e., stockbrokers) are rapidly thinning out. Without the support of individual investors, small IPO stocks are unable to climb the ladder toward institutional financing, and often never reach their full potential. In the absence of stockbrokers, emerging growth companies find it extremely difficult to raise capital the old fashioned way—that is, through a small IPO. The same buyers who are no longer there to support IPOs are also not there to support fledgling stocks in the aftermarket.

Insidiously, the absence of individual stock owners also has the unintended effect of keeping away institutional investors. Institutions will generally only take positions in stocks that have established liquidity, and that cannot exist without a solid base of individual stock owners. Institutional ownership is critical because:

- Institutional ownership confers legitimacy that the company is “real,” since institutional investors tend to be more judicious and careful in their investments than individuals.
- Before initiating coverage, sell-side equity research analysts check whether institutions will consider buying the relevant stock, because commissions received by their sales and trading colleagues from stock trades ultimately finance the research.

²³ “The Amazing Disappearance of the Individual Stockholder,” John Bogle, *The Wall Street Journal*, October 2005.

²⁴ Ibid.

²⁵ A wirehouse is typically a full-service broker, offering research, investment advice, and order execution, and is usually considered to be a “top-service” broker.

²⁶ “Why are IPOs in the ICU?” David Weild and Edward Kim, Grant Thornton White Paper, November 2009.

- Institutions can take large positions that absorb overhang (inclusive of dilutive securities or large blocks of stock available for sale), increase volume and, most importantly, drive up the price.

Optimally then, a company should have a “high” percentage of institutional ownership. This raises two questions: What does “high” mean? What is the typical or average amount of institutional ownership? To answer these questions we analyzed the performance of all stocks trading on the New York Stock Exchange, the NYSE MKT (formerly known as the American Stock Exchange) and Nasdaq. Collectively, we refer to these three as “Senior Exchanges” or “U.S. Senior Exchanges.”

As of December 31, 2012, there were a total of 5,044 stocks that had a primary listing on a Senior Exchange.²⁷ **Table 4** divides these 5,044 listed stocks into five quintiles of roughly 1,009 stocks,²⁸ each based on market capitalization, and shows the breakdown of institutional ownership and individual ownership. (Throughout this paper, we refer to the “fifth” or “bottom” quintile as the one with the smallest values and the “first” or “top” quintile as the one with the largest values.) The pattern here is hardly surprising—the larger the company, the higher the percentage of institutional ownership. But the differences are striking. The median institutional ownership begins at 14% in the bottom quintile, increases by roughly 20 percentage points per quintile through the second quintile, hitting a high of 85% in the first quintile.

Table 4: Institutional vs. Individual Ownership of all U.S. Listed Stocks

Quintile	Market Cap Range (millions)	Median Market Cap (millions)	Median Institutional Ownership	Median Individual Ownership
1	\$2,434 – 500,402	\$6,140	85%	15%
2	687 – 2,434	1,236	83	17
3	248 – 687	418	60	40
4	74 – 248	149	33	67
5	0 – 74	33	14	86

Actively Traded: Average Daily Trading Volume as Measure of Liquidity

In order to define an objective standard for trading volume, we look again at the universe of all stocks listed on a Senior Exchange. The clear metric by which we can measure activity is average daily trading volume (“ADTV”), defined here as the average number of shares traded daily over the 30 days prior to December 31, 2012, divided by the average total number of shares outstanding during that time. As an example, a company that trades an average of 500,000 shares on a daily basis with a total of 100 million shares outstanding would have an ADTV of 0.50% [500,000 / 100,000,000]. It could be argued that measuring ADTV as a percentage of *shares outstanding* is flawed, since a small company would typically have a lower “float”²⁹ and therefore a lower percentage of shares available to trade in the first place. However, even when ADTV is measured as a percentage of *float*, the pattern still holds.³⁰

²⁷ The 5,044 companies listed on a Senior Exchange and used for comparison were public operating companies (excluding ADRs) as of December 31, 2012. Stocks with incomplete and/or missing data were not used.

²⁸ Source: Capital IQ. Each quintile contains 1,009 companies, except quintile 3, which contains 1,008.

²⁹ Float is defined as the percentage of shares outstanding not held by insiders, affiliates or 5% shareholders.

³⁰ By Market Cap quintiles, the median ADTV as percentages of *float* are: 0.65%, 0.51%, 0.25%, 0.12%, and 0.08%.

Table 5 again divides all listed stocks into five quintiles based on market capitalization. The final column is the median ADTV for each quintile. For example, the median ADTV for the third market cap quintile is 0.39%. This means that if, for example, a company in the third quintile had 100 million shares outstanding, on average 390,000 shares would have been traded on a daily basis over the prior 30 days. The data show a very strong positive correlation between ADTV and market cap; the larger the company, the more liquid the stock. Liquidity improves markedly for the largest companies found in the first quintile. **Table 5** enables us to identify the benchmark ADTV for a given company. For example, a company with the median market cap of \$418 million can, all else being equal, expect to have an ADTV of roughly 0.39%.

Table 5: ADTV by Market Cap Quintiles

Quintile	Market Cap Range (millions)	Median Market Cap (millions)	Median Avg. Daily Trading Volume
1	\$2,434 – 500,402	\$6,140	0.70%
2	687 – 2,434	1,236	0.60
3	248 – 687	418	0.39
4	74 – 248	149	0.29
5	0 – 74	33	0.19

Fully Valued: Price-to-Sales Ratio (P/S) as the Proxy for Valuation

This paper is not a treatise on valuation. We pick only one valuation metric as a yardstick for identifying whether a stock is being “fully valued,” a perilous but simple exercise. We chose the Price-to-Sales (P/S) ratio as our sole valuation metric because it is widely acknowledged that sales is the financial item least prone to manipulation, and many stocks are “growth” stocks with little or no earnings. Relying, for instance, on the Price to Earnings (P/E) ratio would have resulted in the exclusion of 30% of listed stocks from the analysis. Stated differently, one out of almost every three stocks listed on a Senior Exchange in the U.S. is unprofitable.

As depicted in **Table 6**, we divided all listed stocks into quintiles based on market cap. The final column of the Table illustrates the general correlation between market cap and P/S. The greater the market cap, the higher the P/S ratio—up to a point. When sorted first by market cap (as opposed to sorting strictly on a P/S basis alone), the median P/S ratio is 2.19x. The difference between the P/S ratios of companies in the fifth (0.90x) and third (2.19x) quintiles is striking. Interestingly, the market severely punishes the smallest companies (fifth quintile) with very low P/S ratios, then rewards the next two quintiles (four and three), presumably for having high growth, then bends back the curve with slightly lower P/S ratios for the top two quintiles (one and two), presumably in recognition of the fact that the companies in these categories are larger, more mature, and therefore characterized by expected slower growth in the future.

Table 6: P/S Ratios of Listed Stocks by Market Cap Quintiles

Quintile	Market Cap Range (millions)	Median Market Cap (millions)	Median P/S Multiples
1	\$2,434 – 500,402	\$6,140	1.76x
2	687 – 2,434	1,236	1.87
3	248 – 687	418	2.19
4	74 – 248	149	2.14
5	0 – 74	33	0.90

Analyst Coverage

As mentioned previously, we posit that there is a very strong, positive, causal relationship between analyst coverage and a stock's market cap. Analyst coverage confers legitimacy and is an indication that a stock is of institutional quality. Analyst coverage is all the more coveted because, as of December 31, 2012, we estimate that a staggering 1,443 out of 5,044 companies listed on a Senior Exchange, or nearly 29% of all exchange-listed companies, had either zero or no “meaningful” analyst coverage of their stocks.³¹ We define “meaningful” as having at least one analyst from the approximately 100 firms included on either the *Institutional Investor* or StarMine list of analyst rankings. Of the 1,443 exchange-listed stocks without meaningful analyst coverage, 1,105 have market caps of less than \$250 million, representing 55% of all listed companies with market caps under \$250 million.

Similarly, as **Table 7** shows, 55% of all listed companies with a market cap of \$74 million or less have no analyst coverage (based on wider coverage from over 1,000 contributing research analysts), and companies with market caps between \$74 million and \$248 million (the fourth quintile) on average have only a pair of analysts, with 30% having zero analyst coverage. Large size, however, does not necessarily guarantee coverage, nor does small size always guarantee a lack of it.

Table 7: Analyst Coverage of Listed Stocks by Market Cap Quintiles³²

Quintile	Market Cap Range (millions)	Median Market Cap (millions)	Median # of Analysts	Stocks with No Analysts
1	\$2,434 – 500,402	\$6,140	20	1%
2	687 – 2,434	1,236	10	6
3	248 – 687	418	5	19
4	74 – 248	149	2	30
5	0 – 74	33	0	55

³¹ For purposes of this white paper, an exchange-listed company is deemed to have meaningful analyst coverage if the stock is currently covered by one or more analysts from a group of 85 research firms included in the *Institutional Investor* and StarMine analyst rankings, supplemented with an additional 10 research firms that Keating Investments believes provide high quality research based on each firm's public markets expertise, analyst teams and breadth of coverage. In defining meaningful analyst coverage, Keating Investments' objective was to identify research firms that issued research reports that could be used by the research firm's affiliated salesmen to market to institutional investors.

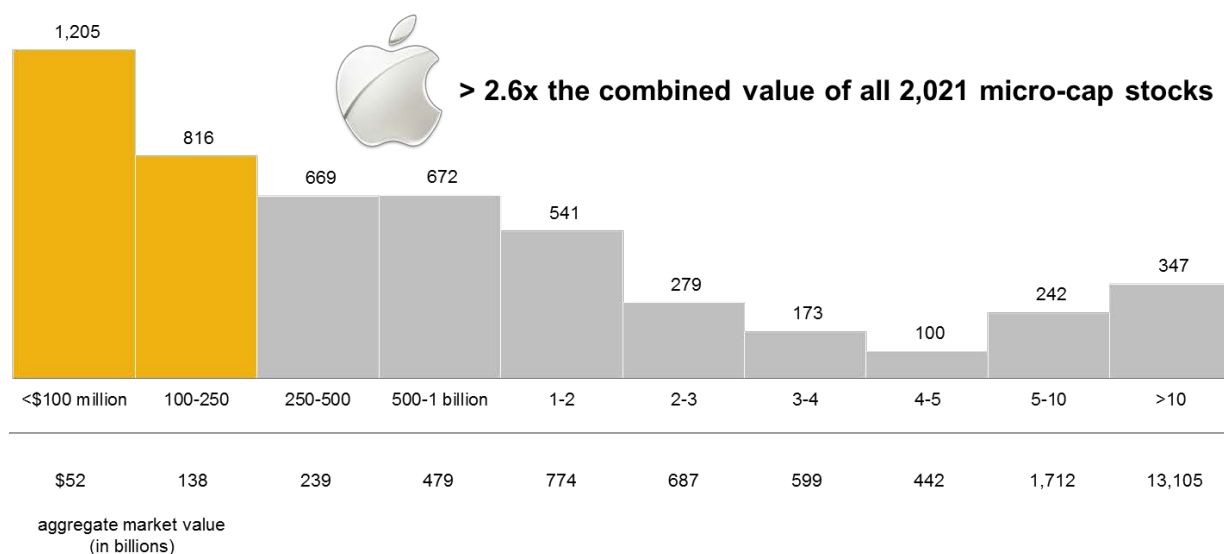
³² Includes analyst coverage from over 1,000 research firms that contribute to Capital IQ and is comprised of: (i) the research divisions of investment banks, (ii) retail focused report services, e.g., Morningstar, and (iii) summary information services that generally do not include commentary or provide buy, hold or sell recommendations or price targets.

The Big Picture

The graphic set forth below reveals some astonishing facts about the distribution of the stocks that are listed on Senior Exchanges. Consider:

- The 5,044 stocks have an aggregate market cap of approximately \$18.2 trillion.
- There are 1,205 stocks (24%) with a market cap below \$100 million.
- There are a further 816 companies (16%) with market caps between \$100 and \$250 million.
- Cumulatively, there are a total of 2,021 micro-cap stocks (40%).³³ Stated another way, two out of every five companies listed on a Senior Exchange is a micro-cap.
- On an aggregate basis, micro-cap stocks have a combined market cap of \$190 billion—representing approximately 1% of the total listed U.S. market cap.
- We estimate that 1,443 out of 5,044 exchange-listed companies, or nearly 29% of all exchange-listed companies, have either zero or no meaningful analyst coverage of their stocks.
- And of the 1,443 exchange-listed stocks with zero/no meaningful analyst coverage, 1,105 are micro-caps, representing 55% of all exchange-listed micro-cap companies.
- The median market cap of all exchange-listed stocks is only \$418 million.
- Or to put it in perspective, one stock by itself—Apple—has a market cap (\$500 billion) that is 2.6x greater than the *combined* market caps of all 2,021 micro-cap stocks.
- Finally, if we stretch out to those stocks with market caps between \$250 million and \$1 billion—some people’s definition of a small-cap stock, we see that there are a total of 3,362 such stocks that are small-cap or lower—which represents 67% of the total. In other words, two out of every three companies listed on a Senior Exchange is a small-cap stock or lower with an aggregate combined market cap of \$908 billion—representing approximately 5% of the total listed U.S. market cap.

Micro-caps comprise 40% of all 5,044 listed public companies



³³ For purposes of this white paper, we define a micro-cap stock as one with a market capitalization below \$250 million.

Market Structure Issues

The secondary market trading and valuations of public stocks matter greatly to IPOs. Specifically, a market that is perceived to be hostile to small-cap companies will in turn chill the IPO market. Prior to 2002, achieving an IPO was the ultimate goal for any venture capital-backed company. Then came Sarbanes-Oxley, and the psychology in Silicon Valley did a 180 degree turn. From that point forward, most VCs questioned the wisdom of the IPO as the exit of choice. Why bother with all of the costs and burdens of going public and being public, particularly if there was a further risk that the stock might become orphaned and lose the value of being public?

Equally, the state of the IPO market has an important impact on equity research for micro- and small-cap stocks. If the IPO market is dead, then there are no 7% underwriting discounts that subsidize the sales, trading and research desks in support of micro- and small-cap stocks.

During 2011 and 2012, there were a total of 97 venture-backed companies that completed IPOs in the U.S. In 2012, the median gross proceeds raised by these companies in the IPO, and the market cap at the time of IPO, were \$84 million and \$409 million, respectively—placing these companies squarely in either the small-cap or micro-cap category, depending on one's definition.

However tempting it might be to assign all of the blame for the abundance of orphaned stocks to the Global Settlement and the changing nature of equity research, such a conclusion would be dead wrong. In fact, there were two other massive market structure changes taking place at the same time that conspired to make the plight of orphaned stocks even more desperate: the rise of electronic trading and decimalization.

In their latest report in a series of Grant Thornton white papers on the long-term ills affecting the IPO markets, David Weild and his co-authors laser lock on market structure and argue persuasively that increasing “tick” sizes (i.e., the minimum increment in which a stock can trade) will restore capital formation, jobs and investor confidence.³⁴ Tick sizes? Yes, they’re talking about tick sizes, and they’re right. In fact, the authors have so precisely pinpointed the underlying causes of the dramatic decline in IPOs that it should serve as a wake-up call for anyone and everyone involved in the equity capital markets ecosystem.

The Grant Thornton authors have demonstrated conclusively in a series of previous white papers that the structural damage to the IPO market began with a series of SEC regulations (order handling rules in 1997; Regulation ATS in 1998) long before either the decimalization of stock trading in 2001, or the implementation of SOX in 2002. Along the way, the advent of electronic trading caused a collapse in commissions at the same time that trading spreads were evaporating. The net effect of these combined rule changes was the decimation of the economics of secondary sales and trading. Weild describes this phenomenon as: “the ‘one-two punch’ of small tick sizes and the shift to electronic-order-book markets [that] precipitated secular decline in the U.S. stock markets.”³⁵

For the seven-year period from 1991 to 1997, there were 2,990 small company IPOs. In 1994, 167 different investment banks acted as managing underwriters, or bookrunners, for these IPOs. And the tick size in this period was typically \$0.25 per share. Fast forward to 2001 and the ensuing seven years.

³⁴ “The Trouble with Small Tick Sizes,” David Weild, Edward Kim and Lisa Newport, Grant Thornton White Paper, September 2012.

³⁵ Ibid.

During this period, there were a total of 233 IPOs (representing a 92% decline), 39 bookrunners in 2006 (representing a 77% decline), and tick sizes were now a penny (representing a 96% decline).³⁶

Weild neatly sums up the problem as follows: “Today, in a world in which tick sizes have been decimalized and decimated, banks can ill afford to commit human and capital resources to what used to be the vast majority of IPOs in this country, i.e., those with proceeds less than \$50 million.”³⁷ In short, Wall Street has no economic incentive to staff up sales, trading and research desks to cover these small companies. Which brings us to the problem of managing equity research as a business.

Section 3: Managing Equity Research as a Business

Institutional Investor’s All-America Research Team

Each year, *Institutional Investor* magazine conducts an “All-Star” poll, in which institutional investors cast votes for the best analysts in each sector. Generally, a high ranking directly influences the analyst’s compensation and career prospects and so provides an incentive to produce useful and timely research. In 2012, 3,567 individuals at 950 buy-side institutions voted in the survey. Collectively, these institutions managed almost \$9.9 trillion in U.S. equities, or 77.4% of the \$12.8 trillion market capitalization of the MSCI U.S. index at the time of polling.³⁸

The composition of the polling universe is worth noting carefully. The primary sources are *Institutional Investor’s* “II 300” (list of the 300 largest active, institutional only money managers) and the magazine’s “Hedge Fund 100” list. Additionally, the survey considers the sell-side’s input, buy-side inquiries and other institutional databases and directories. Voters are asked to nominate up to four analysts and/or teams in rank order (1st place through 4th place). Voting is unprompted and based on unaided recall, so name recognition is extremely important.

The importance of hedge funds relative to traditional accounts in the voting matrices is interesting. On an unweighted basis, hedge funds accounted for 41% of the assets under management (“AUM”) (vs. 59% for traditional accounts), but are assigned only a 21% voting weight (vs. 79% for traditional accounts). Equally, hedge funds accounted for 40% of commissions paid to Wall Street (vs. 60% for traditional accounts) on an unweighted basis, but are assigned a 31% weight (vs. 69% for traditional accounts).

The weighting of votes is heavily skewed toward institutions with the most AUM and those that pay Wall Street the most commissions. For example, a first place vote from an institution with AUM greater than \$75 billion is worth 24 points, whereas a first place vote from an institution with AUM less than \$1 billion is worth only 4 points—a differential of 6x. See **Appendix D** for a matrix of vote weightings by AUM. Similarly, a first place vote from an institution that pays Wall Street commissions in excess of \$100 million is worth 80 points, whereas a first place vote from an institution that pays less than \$10 million in commissions is worth only 4 points—a differential of 20x. Clearly, size and commissions matter. See **Appendix E** for a matrix of vote weightings by commissions.³⁹

A quick perusal of the 2012 and 2011 *Institutional Investor* All-America Equity Research Teams (the “All-Stars”) reveals that the largest investment banks, the so-called and loosely defined “bulge bracket” firms,⁴⁰ dominate the top of the rankings. In total, 30 firms landed at least one analyst on the 2012 All-

³⁶ Ibid.

³⁷ Ibid.

³⁸ “J.P. Morgan Three-Peat: No. 1 on All-America Research Team for a Third Year,” *Institutional Investor*, October 16, 2012.

³⁹ “2011 All-America Research Team Report,” *Institutional Investor*.

⁴⁰ According to Thomson Reuters League Tables, the following banks are part of the “bulge bracket:” Bank of America Merrill Lynch, Barclays, Citigroup, Credit Suisse, Deutsche Bank, Goldman Sachs, J.P. Morgan, Morgan Stanley and UBS.

Star Team, but 86% of the 2012 All-Stars came from the top 10 firms. Sanford C. Bernstein & Co. and ISI Group were the only non-bulge bracket firms to land in the top 10 and the only firms to have double-digit All-Star analysts. The top-heavy presence of the bulge bracket firms has led many to criticize *Institutional Investor's* rankings as nothing more than a popularity contest.⁴¹ Anecdotes of analysts and firms begging for votes reinforced this perception and have become part of the annual rites of Spring,⁴² when *Institutional Investor* sends out its ballots. As one former analyst summed it up, “The formula is simple. Phone calls = votes = ranking = investment banking business = big bonus. Eventually CNBC appearances and magazine covers replaced phone calls.”⁴³

In 1993, *The Wall Street Journal* inaugurated its own All-Star ranking, the annual “Best on the Street” survey, claiming an unbiased approach based solely on the performance of the analysts’ recommendations. Analysts’ buy, sell and hold recommendations are aggregated into a hypothetical portfolio for each analyst and used to tabulate an estimated total return for the portfolio. The portfolios with the three highest returns across each industry (44 industries in 2012) earned the responsible analysts recognition as the “Best on the Street.” *The Wall Street Journal's* rankings intentionally took the voting element out of the process, thereby leveling the playing field and arguably creating an objective, more meritocratic approach. The results show a more diffuse distribution of awards across firms. In 2011, 86 firms had at least one analyst recognized as “Best on the Street.” Out of 220 analysts receiving awards, no firm had more than 10 analysts on the list, with Standard & Poor’s Equity Research atop the leaderboard. The top 10 firms accounted for 30% of the awards and the only two bulge bracket firms in the top 10 were Credit Suisse (#7) and Deutsche Bank (#10).⁴⁴

In 2002, StarMine, now a division of Thomson Reuters, took the objectivity angle a step further. StarMine reasoned that recommendation performance (i.e., stock picking prowess) was only part of the utility of sell-side research. Another important aspect is the earnings estimates that form the basis for defining “consensus estimates,” such as those published by FirstCall and I/B/E/S. The more accurate the estimates, the more useful the analyst should theoretically be to investors. The annual StarMine Analyst Awards recognize the top three stock pickers and the top three earnings estimators across each industry.

For non-bulge bracket analysts and firms, *The Wall Street Journal* and StarMine awards created an opportunity for recognition. But for all of the criticism lobbed at *Institutional Investor*, popularity has its benefits, validating the maxim that it’s not necessarily what you know, but who you know. For the analyst focused on maximizing his own franchise value, the *Institutional Investor* rankings are supremely important. Rankings represent leverage, for the analyst and the firm.⁴⁵ As a consequence, analysts naturally focus on the accounts with the largest AUM and that pay Wall Street the most commissions. Depending on the firm, this might be a universe of 100 institutional investors—perhaps up to 200 at the most. By definition, these large investors must also deploy their assets into the largest, most liquid stocks (i.e., the S&P 500). The result is that analysts seeking to maximize their franchise value have to correspondingly focus their research coverage on stocks in the S&P 500 in order to be relevant and valuable to their clients with the largest vote weightings.

Though the Global Settlement has severed the formal ties between research and investment banking, to be sure, in the back of their minds analysts still think about investment banking revenue. It’s always a consideration, even if it is a silent one.

⁴¹ “Are the Wall Street Analyst Rankings Popularity Contests?” Douglas R. Emery and Xi Li, *Journal of Financial and Quantitative Analysis*, April 2009.

⁴² Ibid.

⁴³ “We’re All Anlaysts Now,” Andy Kessler, *The Wall Street Journal*, July 30, 2001.

⁴⁴ “Best on the Street 2011, *The Wall Street Journal*, May 9, 2011.

⁴⁵ Kessler.

Credit Suisse Case Study

Prior to the Global Settlement, by one estimate about 35-40% of a typical firm's research budget was funded by revenue tied to investment banking.⁴⁶ Following the Global Settlement, investment banks had to begin to think differently—very differently—about how to manage their research departments. With the severing of the ties to investment banking and the associated loss of banking revenues, research departments now had to move to a different model, figure out how to stand on their own and justify their existence. As Credit Suisse Group CFO Philip Ryan said at the time, “Research is exceptionally costly and does not have a business model of its own.”⁴⁷

Six of the 10 firms that participated in the Global Settlement paid fines of \$50 million. Credit Suisse paid \$150 out of the \$875 million penalty portion of the Global Settlement—second only to Salomon Smith Barney's \$300 million and greater than Merrill Lynch's fine of \$100 million.⁴⁸ Additionally, the firm was deeply embroiled in “spinning”—a highly controversial practice that involved the allocation of hot IPOs by underwriters to the personal accounts of their firms' current and prospective investment banking clients. So it had both financial and major regulatory hurdles to overcome.

The starting point for Credit Suisse's re-invention of its own equity research department began with a de-emphasis of *Institutional Investor's* annual poll of buy-side investors. Because the poll is weighted based on assets under management rather than commissions generated at Credit Suisse, the survey didn't provide a complete picture for the firm. Though there was a geographic breakdown of the vote, there was no detailed breakdown at the account level. And most importantly, there was no feedback as to what specific activities were valued (or not) by the buy-side.⁴⁹

Another existing yardstick that proved problematic for evaluating analysts was measuring the commissions generated for each analyst's sector. Because buy-side firms historically have allocated commissions based on a host of factors, including bundled commissions for research and execution, and monitor commission volumes over longer time periods, “when a client traded in a particular stock, it was impossible to know if the trade was driven by the research analyst, the salesperson or the trading desk.”⁵⁰ Indeed, a 2003 *Institutional Investor* poll “asked buy-side firms to rate the relative importance of research, sales and trading in allocation commissions. Investment professionals allocated 57% of commission dollars to research, 18% to sales and 25% to trading. Traders allocated 41% to research, 9% to sales and 50% to trading.”⁵¹ The results are summarized in **Table 8** below.

Table 8: *Institutional Investor's* Poll Regarding Commission Allocations

Voter Type	Research	Sales	Trading
Investment Professional	57%	18%	25%
Trader	41%	9%	50%

After a series of iterations, Credit Suisse developed a scorecard concept, with both a profit and loss statement at the research department and individual analyst level. Initially, the most challenging task was

⁴⁶ Lee.

⁴⁷ “Credit Suisse Group: Managing Equity Research as a Business,” Boris Groysberg, Paul Healy and Sarah L. Abbott, Harvard Business School, April 2010.

⁴⁸ Joint Press Release by the SEC, New York Attorney General's office, the NASAA, the NASD and the New York Stock Exchange, April 28, 2003.

⁴⁹ Groysberg et al, page 3.

⁵⁰ Ibid.

⁵¹ Ibid., page 4.

how to determine what percentage of secondary trading revenue (i.e., not related to offerings) was attributable to research. In the end, the firm settled on 25%, with a further refinement that only 50% of electronic/algorithmic commissions (which represented 75% of Credit Suisse's total equity trading volume) would be included (on the assumption that many buy-side firms were trading electronically because it was a cheaper and more efficient manner of execution). Direct costs and expenses such as personnel and travel and entertainment were then incorporated into the departmental P&L. However, only 76.5% of these costs were allocated to research on the assumption that the balance of the costs was attributable to other divisions (e.g., equity capital markets, M&A, etc.).⁵²

The next step in the scorecard process was the calculation of a P&L statement for each analyst. Because only 20-30% of Credit Suisse's equity division clients voluntarily provided direct feedback on how commissions were allocated, the firm undertook an exercise on at least an annual basis to elicit this information. Ultimately, the firm was able to get direct feedback from over 80% of their accounts, with a ranking of each analyst as top-3, top-5 or top-10 (or non-relevant). Feedback on rankings was then translated into an attribution of commission revenue based on each analyst's share of total votes awarded to the firm relative to overall commissions. Directs costs were then deducted from revenue to generate an overall analyst P&L. "This P&L accounted for 55% of the analyst scorecard. Other quantitative variables, such as stock recommendations and sales feedback, accounted for 15%-25%, and the remaining 20-30% was left to the managers' discretion... Each analyst's year-end bonus (which, generally comprised between 50-85% of an analyst's total compensation) was based on the analyst's ranking in the overall scorecard. The correlation of the analysts' rankings on the scorecard with their bonuses approached 99%."⁵³

The scorecard provided three key advantages for Credit Suisse. First, it allowed for an objective method for evaluating analysts and, correspondingly, for determining their compensation. Second, it resolved once and for all the longstanding debate between traders and analysts about the value of research. And third, it provided a framework for the optimal management of increasingly scarce departmental resources. The scorecard eventually became a tool in the hiring process of new analysts. The main disadvantage was the de-emphasis on the *Institutional Investor* poll, which analysts had historically relied on to manage their own individual franchises.⁵⁴

Section 4: The Changing Nature of Equity Research

Do brokerage analysts' recommendations have investment value? That question was the subject and title of an important academic article by Kent Womack that appeared in the March 1996 edition of the *Journal of Finance*. Womack's conclusion at the time was yes, analysts did appear to have some stock picking and market timing abilities.⁵⁵ But as far back as 1933, economist Alfred Cowles had asked a similar question ("Can stock market forecasters forecast?") and reached the opposite conclusion that "the recommendations of most analysts do not produce abnormal returns."⁵⁶ This is not a trivial question, because information gatherers spend an enormous amount of time and money collecting, analyzing and publishing information, and there has to be a benefit (i.e., investment return) to the consumers of this research in order to justify an economic return (i.e., compensation) to the providers. It is not the purpose of this white paper to attempt to resolve the debate about the ultimate utility of equity research on investment returns—that will remain the purview of the academics. However, in light of the drastic changes that were wrought by the Global Settlement, it does beg the supremely important question of:

⁵² Ibid.

⁵³ Ibid., page 5.

⁵⁴ Ibid., page 6.

⁵⁵ "Do Brokerage Analysts' Recommendations Have Investment Value?" Kent L. Womack, *Journal of Finance*, Vol. LI, No. 1, March 1996.

⁵⁶ Ibid., page 137.

What is the nature and role of equity research today? And, as a corollary question: What are the implications of the current nature of equity research on capital formation specifically and the capital markets generally?

Before we begin to tackle those questions, it will be useful to take a big step back and gain some perspective on the two important roles that accounting information plays in market-based economies. “First, it allows capital providers (shareholders and creditors) to evaluate the return potential of investment opportunities (the ex-ante or valuation role of accounting information). Second, accounting information allows capital providers to monitor the use of their capital once committed (the ex-post or stewardship role of accounting information).”⁵⁷ Thus, it is obvious that intelligent investors require access to robust accounting information to make informed initial investment decisions and on an ongoing basis thereafter. But is the financial disclosure contained in a company’s SEC filing adequate? Or, more importantly, is the raw public information available about a particular company sufficient to give an investor an edge to outperform the market?

Prior to the implementation of Regulation Fair Disclosure (“Reg FD”) on October 23, 2000, it was commonplace (in fact, the norm) for company management to make private, selective disclosure of material information (e.g., advance warnings of earnings results) to financial analysts, who in turn provided the information to select institutional investors. This enabled the recipients of this privileged information to make a profit or avoid a loss at the expense of less well-informed investors. Reg FD was designed to eradicate this abusive practice. And it was the first of the three pieces of substantive regulatory reform (followed by Sarbanes-Oxley in 2002 and the Global Settlement in 2003) to emerge out of the dot-com crisis. Stripped of the conflicts of interest connected to investment banking courtesy of the Global Settlement, and now operating on a level playing field courtesy of Reg FD, Wall Street has had to abruptly adjust to the highly sanitized, less informative, edge-less, new normal of equity research. The buy-side currently attaches very little value to sell-side price targets, buy-hold-sell recommendations, earnings estimates, etc. The written form of sell-side research product has transformed itself correspondingly. Which brings us to the present, investor conferences and the changing nature of analyst research.

Premium Research Services: Conferences and Access to Management

If the old research model is dead, then what specifically is the new business model for equity research post the Global Settlement? Some of the putative changes in the research industry include the following:

- “Institutional investors are diverting equity commission dollars away from Wall Street’s traditional research to secure access to analysts and company management.
- There has been a decrease in sell-side research staff and budgets in light of the separation of research from investment banking revenue.
- Sell-side analysts are migrating to the buy-side/money management firms.
- Many companies are outsourcing research staff to foreign countries, such as India.
- Research is not going to the small investor, whom the regulations were designed to protect, but to institutional investors.
- Issuer-paid research is on the rise as a result of the loss of coverage.”⁵⁸

Our focus will be on the first item, which we believe is the most profound and best explains the migration away from written research reports to so-called “premium services,” including conferences and access to

⁵⁷ “The Financial Reporting Environment: Review of the Recent Literature,” Anne Beyer, Daniel Cohen, Thomas Lys and Beverly Walther, page 1, July 2010.

⁵⁸ Joint Report, pages 27-28.

company management. (However, in our Facebook case study later in this section, we will specifically address the plight of the small investor relative to the institutional investor vis-à-vis equal access to research.) With tighter budgets and a reduced universe of coverage, brokerage firms have increasingly de-emphasized written research in favor of more client-specific services, such as providing access to analysts and firm management. Investor conferences hosted by brokerage firms, which are invitation-only events, provide a forum for institutional investors to interact directly with CEOs and CFOs. These events are highly valued and generate significant commission revenue for investment banks. A recent academic study analyzed a representative sample of one year's worth of investment banking conferences and determined that 107 unique investment banks hosted a total of 350 conferences with 8,500 individual company presentations.⁵⁹ Furthermore, the study concluded that:

- “At the broker level, ...hosting one additional conference is associated with an \$11.9 million increase in commission revenues;”
- “At the stock level, volume market share [for all of the trading in a particular stock] is 3.39% higher for brokers that host a conference at which the firm is present;”
- “After controlling for average broker market share across all stocks, ...hosting a conference nevertheless boosts market share by 1.87% among all conference stocks.”
- There is a “significant increase in broker trading during the 5-day period following conferences, which helps establish a causal relationship between conferences and market shares.”
- “Commissions on stocks of companies that attend brokerage-hosted conferences are 0.12 cents higher than those on stocks of companies that do not attend these conferences, after controlling for trading activity at both the broker and client level, as well as lagged commissions for a given client-broker pair.”
- “For the average-sized fund trading in [the] sample, this difference corresponds to \$35,000 in extra commissions each year. The results confirm that broker-hosted investor conferences are a premium research service valued by institutional investors.”
- “Average commissions per share are 0.11 cents higher among covered stocks, which confirms the value of conventional measures of analyst research for the brokerage firm.”
- “Finally, ...broker research is valued most highly by investors for firms [i.e., publicly traded stocks] that are overlooked by other brokers and where opportunities to obtain information from management are limited. Specifically, ...the effects of traditional and special research services on broker market shares are significantly stronger for firms that are covered by few brokerage analysts and that attend few investor conferences.”⁶⁰

In a recent survey of U.S. equity investors by Greenwich Associates, a premier consulting firm for the financial services industry, buy-side institutions allocated approximately \$6.2 billion (or 57%) out of a total 12-month commission pie of approximately \$10.9 billion for equity research. The balance of the commission pie is allocated for trade execution services. Hedge funds allocated slightly more than traditional long only accounts to equity research.

According to the Greenwich estimates, nearly 70-75% of all equity research spending is allocated to some form of access to company management and analysts, with access to company management ranked either first or second depending on the account type (see **Table 9**). Based on the data, hedge funds place a greater emphasis on access to company management (30% vs. only 19% for long only accounts). Effectively, the hedge funds are saying to Wall Street: “Get me in front of the company, and then get out of the way so that I can make my own decisions.” By contrast, traditional long only accounts place the

⁵⁹ “Investor Conferences and the Changing Nature of Analyst Research, T. Clifton Green, Russell Jame, Stanimir Markov and Muss a Subasi, page 2, September 2011.

⁶⁰ Ibid., pages 3-4.

greatest weight on access to the analyst. Other services include individual company or industry studies, economic analysis, portfolio strategy advice, thematic investment ideas, global research, expert networks and customized research account for the balance.⁶¹

Table 9: Research Advisory Commission Allocations – Q1 2012

Research Advisory Commission Allocations – Q1 2012	Hedge Funds	Long Only Accounts
Access to company management	30%	19%
Analyst service	20	24
Research conferences & seminars	14	13
Sales service	11	13
Sub-total	75%	69%

So if Reg FD is designed to ensure that all parties receive access to the same information at the same time, why is there so much value attached to management access, or “soft” information. The distinction between “hard” and “soft” information is subtle but crucial. Hard information includes widely circulated forms of written research published by analysts such as earnings forecasts and recommendations. Soft information is still subject to all of the restrictions under Reg FD, but the *information collector is also the decision maker*. In other words, the information has not been filtered by a third party analyst.

Historically, most asset managers paid commissions to Wall Street on a “bundled” basis—meaning that the commission was intended to cover both the costs of trade execution and the equity research. Today, an increasing percentage of commissions are being allocated on an “unbundled” basis under “commission sharing agreements” or “CSAs,” meaning that the executing broker is being instructed to pass on a portion of the commission to a different broker for research services. In many cases today, buy-side institutions pay for research directly simply by sending checks to sell-side firms rather than deal with the hassle of executing a trade through a multitude of brokers. According to Greenwich estimates, more than 82% of asset managers are now using CSAs.⁶² Furthermore, the average account generates about \$26 million in annual commissions and uses approximately 40 firms, 12 of which are typically considered important relationships.⁶³

Investor conferences are but one form of the high touch special services delivered to an increasingly narrow subset of clients that characterize Wall Street’s new approach to research today. Following their participation in the 2003 Global Settlement, a number of firms have undertaken a variety of initiatives in an attempt to creatively generate more commission revenue. According to a survey of hedge fund managers by *Alpha* magazine, a sister publication to *Institutional Investor*, hedge funds “prefer analysts who organize conferences and meetings with management, respond to questions in a timely manner and offer unique information such as surveys and proprietary analysis. ‘Hedge funds hate written product, and would rather spend two hours on the phone with the analyst.’”⁶⁴ Consider the following investment banking approaches to deliver analyst time and proprietary ideas to highly targeted, large commission generating clients.

⁶¹ “The Incredible Shrinking Equity Pie,” Integrity Associates, June 2012.

⁶² “Proliferation of Commission Sharing Arrangements Could Pressure Smaller Equity Brokers,” Greenwich Associates, November 27, 2012.

⁶³ “U.S. Equity Trading Business Falling Short of Expectations in 2010,” Greenwich Associates, June 2010.

⁶⁴ Green et al, page 7.

Goldman Sachs

Under a variety of names known internally as the “research captain program,” “asymmetric service initiative” and “client prioritization,” Goldman Sachs stratified clients based on commission generation and tailored services accordingly. At the heart of the program were so-called “research huddles” among Goldman’s analysts, traders and top clients, where select investors allegedly received privileged information (i.e., unpublished trading ideas) not available to other clients. Beginning in 2009, Goldman’s research clients were organized into four tiers with the corresponding privileges as follows:

- Tier 1: Research huddle access and calls from *senior* analysts.
- Tier 2: Research huddle access and calls from *junior* analysts.
- Tier 3: No research huddle access and research requests would go through a checking process.
- Tier 4: No research huddle access and research requests were “closely monitored.”

Alas, the program was shut down, and in June 2011, Goldman agreed to pay a \$10 million fine to settle an investigation by Massachusetts’ securities regulator, which described the research huddles as “dishonest and unethical.” As part of its settlement, Goldman agreed to stop the meetings between analysts and traders as well as the client research huddle program.⁶⁵

Other Investment Banks

And Goldman is by no means the exception. Here is a sampling of high touch services provided by other investment banks to select, high commission generating institutional investors:

- “Morgan Stanley has stated they spend approximately two thirds of their time and resources marketing to roughly 200 of their thousands of institutional clients.”
- “At Credit Suisse, the number of ‘high touch’ clients in 2009 was roughly 80.”
- “Sanford Bernstein has five tiers of clients: analysts strive to make at least two phone calls per month to top clients compared to no calls for the bottom tier.”⁶⁶

This narrowing of the provision of research services to a select few, very large, high commission paying accounts raises an interesting series of questions. Is this merely a case of no harm/no foul, laissez faire capitalism at work in the canyons of Wall Street? Or are there perhaps deeper implications for capital formation specifically and the capital markets generally? To answer these questions, let’s take a close look at the Facebook IPO as a telling case study.

The Facebook IPO

In the dot-com era, it was left up to the reader of equity research to decide if clicks and eyeballs were better than profits and cash flow as the primary metrics for making investment decisions. The most important thing is that there were choices. One could read the research and then choose whether or not to believe it. Or one could ignore it altogether.

The absence of equity research at the time of the IPO was among the elements that contributed to the Facebook IPO fiasco. Under current securities laws, members of an IPO underwriting syndicate are prohibited from *publishing* equity research before and up to the IPO pricing date *and* for a period of 40 days after the pricing of an IPO. Just to be clear, the analysts can and do speak to management of the

⁶⁵ “Goldman Settles Probe Over Research ‘Huddles,’” Liz Moyer, *The Wall Street Journal*, June 10, 2011.

⁶⁶ Green et al, pages 6-7.

issuer. And these same analysts can and do speak with their firms' preferred customers—i.e., large institutional investors—so-called “whispers.” They just don't speak to the unwashed masses of retail and small institutional investors. In the case of Facebook, the insiders were tipped off—entirely legally under the current rules—of softness in one part of the company's business. Or so it seemed at the time. Either way, retail investors never got the memo or the whispers.

There's a saying on Wall Street that “readers don't buy; and buyers don't read.” The reading in question is of the prospectus for a new issue. There are so many risk factors listed in a prospectus that an average reader not accustomed to such documents would run for the hills and hide his wallet.

That's where equity research fits in. Analysts are professionals who play a vital role in filtering through the legalese of an issuer's SEC disclosure documents to assess the real risk and return potential for each security. Their job is to put an estimated dollar value on a stock. It is up to the reader to determine whether any gap that may exist between an issue's stock price and an analyst's price target represents a good bet.

The JOBS Act has helped on the research front in two ways. First, the Act specifically allows investment bankers and research analysts to formally collaborate on an IPO (although appropriately retaining the independent safeguards designed to protect investors). And second, the Act allows equity research to be published immediately after an IPO, instead of waiting 40 days. But the picture is still murky. The JOBS Act doesn't nullify the Global Settlement, and the bulge bracket firms that were a party to it are still subject to restrictions imposed by SROs. Moreover, a middle-market firm serving as a co-manager that broke ranks by publishing research before the bookrunner would surely run the enormous financial risk of being iced out of participation in future syndicates by that bookrunner. Also, publishing research immediately after an IPO may create unwanted liability risks for the underwriting group and the issuer.

Both these JOBS Act reforms only apply to the newly designated category of EGCs — those issuers with less than \$1 billion of revenue and under \$700 million of public float. In other words, definitely not Facebook. Furthermore, although the Act specifically allows *pre-IPO* analyst research reports for EGCs, existing restrictions continue to prohibit pre-IPO publication or dissemination of research reports for EGCs until further SEC and FINRA interpretative guidance is issued. So instead of allowing pre-IPO research reports available to the masses for both EGCs and non-EGCs alike, the same Facebook “whispers” to large institutional investors before the IPO continue to be condoned.

Consider the irony of this situation. Facebook is a company with over a billion users and represented the largest venture-backed IPO of all time. The sheer size of the \$16 billion IPO coupled with the unusually high 25% allocation of shares to retail investors made the transaction screaming with systemic risk. But no research was available to individual investors, a number of whom were purchasing stock for either the first time or in a very long time (because they were still recovering from the dot-com crash and a “lost decade” of little/no returns from their equity market investments).

Facebook: Post Script

In December 2012, Morgan Stanley agreed to pay \$5 million to settle an investigation by the Massachusetts securities regulator that its investment bankers tried to “improperly influence” analysts in the days leading up to the pricing of the IPO.⁶⁷ Just like in the pre-Global Settlement era. According to *The Wall Street Journal* account of the matter and David Grimes, the senior Morgan Stanley banker, handling the IPO transaction:

⁶⁷ “Morgan Stanley Gets Facebook Fine,” Aaron Lucchetti and Jean Eaglesham, *The Wall Street Journal*, December 17, 2012.

On May 7, the first day of Facebook's "roadshow" pitching the shares to investors, Facebook officials told Morgan Stanley bankers that revenue would likely come in softer than analysts' expectations...The Morgan Stanley senior investment banker advised Facebook Chief Financial Officer David Ebersman that "updating analyst guidance would be a good idea." To that end, on May 9, Facebook filed a revised prospectus that informed investors of potential risks to revenue based on trends in mobile advertising. Within minutes of that 5:03 p.m. filing, Facebook's treasurer started hitting the phones from a Philadelphia hotel with a script that had been handwritten by Mr. Grimes...The script included changes in projected quarterly revenues from a \$1.1 billion to \$1.2 billion range down to the lower end of that range. The information wasn't in the public filing.⁶⁸

Morgan Stanley was not the only underwriter to run afoul of the Massachusetts securities regulator in the Facebook IPO. Citigroup Inc. fired Mark Mahaney, the firm's senior Internet analyst, and agreed to pay a \$2 million fine for allegedly running afoul of the firm's internal rules covering disclosures. Specifically, Mr. Mahaney is alleged to have "provided unpublished information about revenue estimates for Google's YouTube unit to a reporter for *Capital*, a French business magazine. He then allegedly told a communications employee at Citigroup that he hadn't responded to the magazine reporter's questions."⁶⁹ So it seems that both institutional investors and the media got the heads up—just not the retail investors who bought 25%—or \$4 billion—of the new issue.

Section 5: Conclusions and Policy Recommendation

Conclusion

Micro- and small-cap stocks represent the equivalent of the farm team for tomorrow's *Fortune* 500 companies. But they desperately need equity research and all the benefits associated therewith: visibility, marketability and liquidity. Otherwise, these companies receive none of the benefits of being public and all of the burdens. Worse, without equity research they risk joining the already staggering and unconscionably large list of orphaned public stocks. As of December 31, 2012, we estimate that 1,443 out of 5,044 exchange-listed companies, or nearly 29% all exchange-listed companies, had either zero or no meaningful analyst coverage of their stocks. And of the 1,443 exchange-listed stocks without meaningful analyst coverage, 1,105 have market caps of less than \$250 million, representing 55 % of all listed companies with market caps under \$250 million.

This state of affairs is deplorable. It certainly doesn't help the issuers, particularly growth companies who elected to go public in the first place to enjoy the benefits of higher valuations, superior access to capital, lower costs of capital, etc., that are typical benefits associated with being public.

And it doesn't encourage VCs to rush to an IPO as the preferred path to exit, negates the opportunity for job creation associated with these types of high growth companies, and deprives ordinary investors who don't have access to private equity opportunities of the high return potential traditionally associated with newly public companies.

Nor does it help investors, who intuitively may understand that less liquid public stocks that are less well-known and under-covered may be correspondingly undervalued and therefore potentially provide a distinct source of return compared to a more traditional investment style based on size alone. But there is

⁶⁸ Ibid.

⁶⁹ "Citi Web Analyst Fired After Lapse," Telis Demos, Jean Eaglesham and Anupreeta Das, *The Wall Street Journal*, October 26, 2012.

a wide chasm between being less well-known and under-covered on the one hand, and being orphaned and off Wall Street's radar screen entirely, on the other hand. And therein lies a major problem.

In spite of all the market abuses that the Global Settlement and other regulatory changes were designed to eradicate, the unintended consequence of orphaned public stocks is a major public policy dilemma. We believe that with commissions compressed and trading spreads decimated, Wall Street currently has no economic incentive to staff up the sales, trading and research desks to cover these small companies, and that's bad for everyone. Unless and until this economic problem is solved, there will be no relief for the orphaned public stock.

As a simple solution, we advocate for a program that would permanently change tick sizes (the minimum trading size for stocks) for smaller stocks and allow all issuers to control the tick sizes of their own stocks. We believe this should be accomplished with tick sizes in decimals (e.g., \$0.05, \$0.10, \$0.25, etc.) rather than the clumsiness associated with fractions, but the most important thing is to change this crucial element of our current market structure. We don't pretend that changing tick sizes is a cure-all, but it would be a great start. Of course, more work remains in ironing out the details in connection with the implementation of certain provisions of the JOBS Act and making sure secondary market investors are not unfairly disadvantaged.

Despite the radically changed nature of equity research in the 10 years since the Global Settlement, equity research remains valuable—as evidenced by buy-side institutions' continued willingness to pay Wall Street billions of dollars annually for this service. What's needed now is a modest market structure reform to revitalize equity research and make coverage economically viable for Wall Street so that it can once again become available to those companies that need it most—namely the one out of every four public stocks that currently has none and is orphaned.

Finally, in the information age of the 21st century, the quiet period and other restrictions on the disclosure and dissemination of public company information (all in compliance with Reg FD) are anachronistic and serve no one and need to be relegated to the dustbin of the Wall Street history museum. This would also eradicate the obscene information asymmetry that currently favors the largest institutional investors at the expense of individual and small institutional investors and which undermine the integrity of the entire IPO process. This simple action would level the playing field for all investors and allow more information from research analysts to flow more freely.

Appendices

Appendix A - Global Settlement Payments

Name of Firm	Retrospective Relief (millions)	Independent Research (millions)	Investor Education (millions)
Bear Stearns & Co. LLC	\$50	\$25	\$5
Credit Suisse First Boston Corp.	150	50	0
Goldman Sachs	50	50	10
J.P. Morgan Chase & Co.	50	25	5
Lehman Brothers Inc.	50	25	5
Merrill Lynch & Co., Inc.	100	75	25
Morgan Stanley	50	75	0
Piper Jaffray	25	7.5	0
Salomon Smith Barney, Inc.	300	75	25
UBS Warburg LLC	50	25	5
Total	\$875	\$432.5	\$80

Appendix B - Modifications to the Global Settlement Post 2003

Global Settlement Provisions	Chaperoned Research Modifications	JOBS Act Modifications
The firms will physically separate their research and investment banking departments to prevent the flow of information between the two groups.	N/A	SEC and FINRA rules may not restrict investment bankers from arranging for communications between research analysts and potential investors or research analysts from participating in communications with management in the presence of investment bankers; rules are otherwise unaffected. Global settlement is unaffected. ⁷⁰
The firms' senior management will determine the research department's budget without input from investment banking and without regard to specific revenues derived from investment banking.	N/A	N/A
Research analysts' compensation may not be based, directly or indirectly, on investment banking revenues or input from investment banking personnel, and investment bankers will have no role in evaluating analysts' job performance.	No Longer Exists	N/A
Research management will make all company-specific decisions to terminate coverage, and investment bankers will have no role in company-specific coverage decisions.	N/A	N/A
The firms will create and enforce firewalls restricting interaction between investment banking and research.	Investment banking and research analysts may now participate in joint due diligence sessions with the issuer or third parties in some specifically designated circumstances under the presence of chaperone from legal or compliance. ⁷¹	N/A

⁷⁰ "The JOBS Act: A New IPO Playing Field For Emerging Growth Companies" Goodwin Procter LLP, April 25, 2012.

⁷¹ "Court Approves Modifications to Global Research Analyst Settlement," Litigation Release – SEC, March 19, 2010.

<p>Underwriters of an IPO are prohibited from</p> <ul style="list-style-type: none"> ♦ Publishing or distributing research on the issuer until 40 days after the IPO, ♦ Making any public appearance for 25 days following the date of the offering, if participating, ♦ Publishing or distributing any research report or making any public appearance for 15 days prior to and after the expiration, waiver or termination of a lockup agreement. 	N/A	Permits publication and distribution at any time by brokers or dealers of research reports about an EGC (Emerging Growth Companies) that is the subject of a public offering, even if the brokers or dealers are participating or will participate in the offering. ⁷²
<p>Communications by analysts with companies and potential IPO investors are subject to a number of conflicts of interest and other restrictions.</p>	N/A	Removes restrictions on who may arrange for communications among securities analysts and investors in connection with an IPO and allows securities analysts to participate in communications with management of an EGC, along with other representatives of a broker or dealer. ⁷³

⁷² “JOBS Act Overview,” Goldman Sachs, March 29, 2012.

⁷³ Ibid.

Appendix C - Restrictions on Research Analysts Pre and Post the Jobs Act ⁷⁴

Research Personnel May...	Pre-JOBS Act	Post-JOBS Act	
	All issuers	EGC	NON-EGC
Publish research reports concerning the securities of an issuer immediately following its IPO or expiration of any lock-up agreement?	X	✓	X
Publish research reports concerning issuers that are the subject of any public offering of common equity securities (even if the firm is participating in the offering)?	X	✓	X
Participate in meetings with representatives of an issuer, attended by Investment Banking personnel?	X	✓	X
Contact potential investors in an issuer's IPO?	X	✓	X
Make public appearances concerning the securities of an issuer?	X	✓	X
Solicit business for Investment Banking personnel?	X	X	X
Engage in communications with potential investors in the presence of Investment Banking personnel?	X	X	X
Share price targets and ratings with an issuer prior to the launch of a deal?	X	X	X
Be compensated based on Investment Banking revenue?	X	X	X

⁷⁴ "Frequently Asked Questions about Separation of Research and Investment Banking," Anna T. Pinedo, Nilene R. Evans and Michael J. Rosenberg, Morrison & Foerster LLP, 2012.

Appendix D - Vote Weightings by Assets Under Management

Vote Weightings

Each vote is weighted by assets under management and place rank. Weighted scores are used to produce the Research Team rankings.

		Asset Weight					
		6	5	4	3	2	1
Place Rank	Points	≥\$75B	\$30B - \$74.99B	\$10B - \$29.99B	\$5B - \$9.99B	\$1B - \$4.99B	<\$1B
1st place	4	24	20	16	12	8	4
2nd place	3	18	15	12	9	6	3
3rd place	2	12	10	8	6	4	2
4th place	1	6	5	4	3	2	1

Score range:

- ◆ 1st place vote from the biggest portfolio: 24 points
- ◆ 4th place vote from the smallest portfolio: 1 point

Appendix E - Vote Weightings by Commissions

Vote Weightings: Commissions

Each vote is weighted by self reported, estimated 2010 U.S. cash equities and place rank.

		Commissions Weight				
		20	15	8	4	1
Place Rank	Points	> \$100M	\$51M - \$100M	\$26M - \$50M	\$11M - \$25M	≤ \$10M
1st place	4	80	60	32	16	4
2nd place	3	60	45	24	12	3
3rd place	2	40	30	16	8	2
4th place	1	20	15	8	4	1

Largest three bands comprise 74% of the weighted voter universe.

Score range:

- ◆ 1st place vote from the biggest portfolio: 80 points
- ◆ 4th place vote from the smallest portfolio: 1 point

About Keating Investments

Keating Investments, LLC is a Greenwood Village, Colorado-based SEC registered investment adviser founded in 1997, and is the investment adviser to Keating Capital, Inc. (Nasdaq: KIPO) (www.KeatingCapital.com). Keating Capital is a publicly traded Business Development Company that specializes in making pre-IPO investments in innovative, emerging growth companies that are committed to and capable of becoming public. Keating Capital provides investors with the ability to participate in a unique fund that allows its stockholders to share in the potential value accretion that we believe typically occurs once a company transforms from private to public status.

About the Author

Timothy J. Keating is the founder and President of Keating Investments. Previously, he held senior management positions in the equity and equity derivative departments of Bear Stearns, Nomura and Kidder, Peabody in both London and New York. He is a 1985 *cum laude* graduate of Harvard College with an A.B. in economics. He can be reached at tk@keatinginvestments.com.
