White Paper

The Case for Mid Cap Stocks

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Executive summary

Although the concept of mid cap stocks is not at all new, this group of stocks does not always receive attention as a distinct asset class or opportunity set. The practical reality for many consultants and plan sponsors is that responsibility for mid cap stocks is relegated to "large cap" managers who are benchmarked against the Russell 1000® index, which includes "mid cap" stocks. This common activity has the insidious effect of acknowledging mid cap stocks, but not actively assessing the merits of identifying mid cap stocks as a distinct opportunity set.

This paper will make the case for treating mid cap stocks as a distinct opportunity set. In doing so, it will offer a reasonably thorough discussion of mid cap stocks which will include both the documentation and analysis of many of the characteristics that make many individual mid cap stocks especially attractive. In addition, some of the mechanisms that cause mid cap stocks as a group to be inefficiently priced will be investigated. The presence of such mechanisms makes a strong case for the continued opportunity for superior performance from mid cap stocks. In aggregate, these arguments make a powerful case for clearly delineating mid cap stocks as a distinct opportunity set.

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I. Introduction

Mid cap stocks are a fascinating group.[*] At an aggregate level, mid caps have performed well and continue to do so. At an individual company level, mid cap companies often demonstrate a wide variety of characteristics that provide opportunities for superior performance. Many of these characteristics portend probable *future* success as opposed to capturing known *past* success. In the words of one investor, "if your objective is to purchase the stock of a company which will rank in the top ten in total return in the Fortune 500 ten years hence, don't look in the current 'Fortune 500'. You are fishing in the wrong pond."[1] In the same vein, the following discussion provides ample evidence to indicate that mid cap stocks are the "pond" from which many of the institutional favorites of tomorrow will emerge.

II. Arguments AGAINST mid cap stocks

Before exploring the array of attractive characteristics of mid cap stocks, however, it makes sense to establish an appropriate context by evaluating the most common arguments against delineating mid cap stocks as a distinct opportunity set.

The basis for judging the merits of such arguments rests on two criteria for recognizing any particular asset class as distinct. The first criterion for distinction is predicated on the uniqueness of risk and reward characteristics. To the degree an asset class represents unique risk and return characteristics relative to other asset classes, it deserves to be treated as distinct because doing so increases the efficiency of a passively managed "market basket" portfolio of assets. The second criterion for distinction is predicated on inefficient pricing. To the degree securities in a particular asset class are not efficiently priced, that asset class deserves distinction because doing so allows for the opportunity to outperform a passively managed portfolio. Any argument against mid cap stocks, to be valid, needs to address these criteria and to reject them.

With these ground rules established, the arguments against mid cap stocks can be examined logically. For example, one of the most common arguments against breaking out mid cap stocks is that sticking to a broader categorization of the U.S. equity universe (comprised of large cap stocks, i.e. Russell 1000®, and small cap stocks, i.e. Russell 2000®) simplifies life. It is hard to disagree with the general goal of simplifying life with the important caveat, however, that it makes sense to do so in a particular case. For example, for an average *retail* investor, the incremental effort required to address mid caps by further disaggregating the universe of small and large stocks may not provide a sufficient incremental benefit. Institutional investors, however, have strong incentives to pick good stocks and to outperform benchmarks. Given such incentives, institutional investors have far more to gain from exerting the extra effort to diligently search for stocks that can outperform. Institutional investors also have a fiduciary responsibility to be diligent in finding the best possible investments for their clients. The simplification

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[*] In this paper, mid cap stocks will be referred to interchangeably as mid caps, mid sized, Russell Midcap®, or RMC. Likewise, larger stocks in the Russell 1000® will be referred to as mega caps, Russell Top 200®, or R200.

argument, therefore, not only fails to disconfirm either criteria for distinction, but fails to even address the salient issues.

Another argument against mid caps is that there is no clear, broadly accepted way to define mid cap stocks. The argument against mid cap stocks due to lack of definitional clarity does have some merit in that there is indeed a wide range of opinion on the subject of what constitutes a mid cap company. Based upon a summary of the most common mid cap indexes, material differences can be observed in what constitutes a mid cap stock (table 1). The average market cap and market cap ranges, for example, vary widely from one index to another.

TABLE 1. Mid cap index comparison (12/31/06)

Mid cap index	Mean Market Cap ($billion)	Dollar-Weighted Mean Market Cap ($billion)	Median Market Cap ($billion)	Smallest Market Cap ($billion)	Largest Market Cap ($billion)
Russell Midcap® Index	5.7	8.5	4.3	1.2	21.4
S&P 400 Mid cap index	2.8	3.8	2.5	0.5	10.6
Wilshire Mid cap index	3.2	3.9	3.0	0.3	7.1

Source : Russell Investment Group, Standard & Poors, Wilshire Associates, Factset
Note : Data taken from index factsheets when available, from Factset otherwise. Market cap may not be exactly comparable across providers due to modest differences in calculation.

The rationale for avoiding targeted attention on mid caps because mid caps are not clearly defined is weak, however. For one, lack of consensus about a subject fails to serve as proof against it. In fact, regarding market opportunities, lack of consensus often implies ambiguity and therefore pricing inefficiency. Further, clear definitions for any universe are inherently elusive in dynamic markets, and not just for mid caps. For example, a comparison of the most popular large cap indexes also reveals material differences (table 2). Substantial differences in mean and median market cap, and smallest company exist among the large cap indexes and yet there is little argument that large cap stocks are worthy of being acknowledged as a distinct opportunity set. In summary, the definitional argument also fails to disconfirm either of the fundamental criteria for distinguishing an asset class.

TABLE 2. Large cap index comparison (12/31/06)

Large cap index	Mean Market Cap ($billion)	Dollar-Weighted Mean Market Cap ($billion)	Median Market Cap ($billion)	Smallest Market Cap ($billion)	Largest Market Cap ($billion)
Russell Top 200® Index	52.0	126.7	29.1	2.2	463.6
S&P 500 index	25.5	97.9	12.5	1.4	446.9
Russell 1000® Index	15.2	92.9	5.3	1.2	463.6

Source : Russell Investment Group, Standard & Poors, Factset
Note : Data taken from index factsheets when available, from Factset otherwise. Market cap may not be exactly comparable across providers due to modest differences in calculation.

Both of these objections may be related to the most common argument levied against mid cap stocks in the institutional arena: "Mid cap managers not need be distinctly targeted because mid cap stocks are adequately covered by Russell 1000® managers." This argument may be the most dangerous of all because of its insidious and subtle nature. The argument appears to acknowledge mid cap stocks, but does not actually address either criterion for distinction. The argument could also be stated as, "We use Russell 1000 managers. The Russell 1000® contains mid cap stocks. Therefore, no further rationale is needed to determine the best way to manage mid cap stocks." When stated this way, the flaw in logic is more obvious. First, it is a refutation by established practice rather than primary evidence and therefore lacks analytical rigor. Second, not only does the argument fail to address either criterion for distinction of an asset class, it implicitly assumes that mid cap stocks are substantially similar to mega cap stocks. This assumption of substantial similarity will be seriously challenged by the arguments presented in the remainder of this paper.

III. Arguments FOR mid cap stocks: The case for passive management

The argument for recognizing mid cap stocks as a distinct opportunity set relies on exactly the same criteria as the arguments against mid cap stocks. In order to merit distinction, there must exist evidence that a) mid cap stocks demonstrate unique risk and return characteristics so as to merit distinct consideration in a passively managed "market basket" portfolio of assets, and b) the market for mid cap stocks is inefficient enough so as to present meaningful opportunities for active managers to outperform a passive portfolio. The remainder of this paper will present arguments and evidence that address these criteria.

The case for passive management relies on aggregate data for mid cap stocks as a group and therefore begins with a top-down, statistical perspective. The comparison of growth, valuation, and size characteristics across the mega, mid, and small cap Russell indexes shows that growth of mid cap stocks (both historical and estimated future) is a little bit greater than growth of mega cap stocks, and mid caps have comparable to modestly higher valuations (table 3). On this basis alone, there is no particularly compelling reason to delineate between mid cap and mega cap stocks.

TABLE 3. Comparison statistics for selected Russell indexes (2/28/07)

Index summary statistics	Employees	Market Cap ($billion)	5 Year Growth in Net Sales (historical %)	IBES Mean Long-Term Growth (5 yr. forecast %)	Price/Earnings IBES Mean FY1 Est. (multiple)	Price/Earnings IBES Mean FY2 Est. (multiple)	Price/Sales (multiple)	Price/Book (multiple)
Russell Top 200® Index								
Average	75,613	126.7	11.4	12.6	18.4	16.1	2.7	4.5
Median	35,700	29.1	8.7	11.9	17.3	15.4	1.9	3.1
Russell Midcap® Index								
Average	16,048	8.5	12.1	13.8	28.3	22.1	3.7	5.2
Median	7,492	4.3	9.3	12.7	18.7	16.8	1.9	3.0
Russell 2000® Index								
Average	3,916	1.2	13.5	16.8	32.9	24.7	15.4	6.0
Median	1,149	0.7	8.6	15.0	20.3	17.7	1.9	2.4

Source : Russell Investment Group, Factset, Compustat, IBES

A review of the Russell index returns shows performance metrics for the mega and mid cap segments of the Russell 1000® universe (table 4). For the entire period from 1994 to 2006 the Russell Midcap® return has exceeded that of the Russell Top 200®. Although the R200 significantly outperformed the RMC during the mid to late 1990s, the RMC more than made up the difference since then. For the entire period, the RMC outperformed the larger stocks in the R200 by an average of 250 basis points per year. In short, the mid cap stocks contributed disproportionately to the Russell 1000® index returns, while the mega cap stocks impaired performance.

TABLE 4. Russell 1000® Index returns

Index return	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Russell 1000® Index													
Annual Return (%)	0.4	37.8	22.5	32.9	27.0	20.9	-7.8	-12.5	-21.7	29.9	11.4	6.3	15.5
Annualized (%)	0.4	17.6	19.2	22.5	23.4	23.0	18.0	13.7	9.1	11.0	11.0	10.6	11.0
Russell Top 200® Index													
Annual Return (%)	1.6	39.4	24.0	34.5	34.0	21.8	-12.1	-14.6	-23.4	26.7	8.3	3.8	15.5
Annualized (%)	1.6	19.0	20.7	24.0	25.9	25.2	19.0	14.2	9.3	10.9	10.6	10.1	10.5
Russell Midcap® Index													
Annual Return (%)	-2.1	34.5	19.0	29.0	10.1	18.2	8.3	-5.6	-16.2	40.1	20.2	12.7	15.3
Annualized (%)	-2.1	14.7	16.1	19.2	17.3	17.5	16.1	13.2	9.4	12.2	12.9	12.9	13.0

Source : Russell Investment Group

When return is considered in concert with the additional element of risk, mid caps still look attractive (table 5). The risk-adjusted returns for RMC, as captured by the Sharpe ratio, compare favorably to those of both the mega cap and small cap indexes over various time periods in the last twenty years. Not only has the mid cap universe materially outperformed the mega cap universe, but it has done so with a compelling risk-adjusted profile.

TABLE 5. Russell index Sharpe ratios (12/31/06)

Russell index Sharpe ratios	One Year	Three Years	Five Years	Ten Years	Twenty Years
Russell Midcap® Index	1.27	1.20	0.65	0.45	0.46
Russell Top 200® Index	2.13	0.73	0.04	0.17	0.36
Russell 1000® Index	1.92	0.93	0.21	0.25	0.39
Russell 2000® Index	1.05	0.66	0.42	0.23	0.25

Source: Russell Investment Group, Factset

The historical evidence of significant return and risk differentials between mid cap stocks and mega cap stocks suggests important differences exist between the two groups. While historical performance does not offer proof of the future attractiveness of mid cap stocks over mega cap stocks, it does show two things. First, the historical record of unique risk and return characteristics makes a strong case for the distinction of mid cap stocks as a unique opportunity set. In addition, the evidence of superior mid cap returns makes the case even more compelling. Second, the evidence begs the question of why such notable performance differentials have persisted over such a long period of time. The historical record also invites a number of questions for further inquiry: Is the outperformance of mid cap stocks merely a function of limited history and likely to revert to the mean, or is it an indication of something different, and better about mid cap stocks? If something is different about mid caps, do good reasons exist why mid cap stocks should outperform mega stocks? If so, what might some of those reasons be?

Arguments FOR mid cap stocks: The case for active management

These questions all relate to the same basic issue; "Do inefficiencies exist that make mid cap stocks attractive, especially relative to mega cap stocks?" The following discussion will provide abundant evidence for answering these questions and therefore for satisfying the criterion for active management. First, one of the most fundamental tests for active management, the variance of returns, will be examined. Following that discussion, two general mechanisms for inefficiency will be explored. One of these mechanisms is the array of characteristics, situations and dynamics that occur primarily at a company-specific level that are often under-appreciated by the market and therefore are inefficiently priced. The second mechanism is related to the market for stocks as a whole. It illustrates how certain supply and demand factors and market structures create an environment which systematically under-appreciates mid cap stocks.

Variance of returns

One of the most fundamental criteria for determining the suitability of an asset class for active management is the analysis of performance differentials among active managers. As David Swensen describes so clearly, "Active managers in less efficient markets exhibit greater variability in returns."[2] In other words, "An inverse relationship exists between efficiency in asset pricing and appropriate degree of active management. Passive management strategies suit highly efficient markets."[3]

An analysis of return variances among equity managers shows much greater variance in returns among actively managed small and mid cap portfolios than among large cap portfolios (table 6). For example, the range between the thresholds of top and bottom quartile performance for small cap growth managers was 4.9%, meaning a top quartile manager produced an annual performance advantage of at least 490 basis points relative to bottom quartile performers. It can also be seen from table 6 that mid and small cap strategies produced the four highest dispersions in active returns, signaling the greatest opportunities for active management. Conversely, the lowest dispersions among managers were in large cap categories where performance differentials were substantially less meaningful among competing managers. In sum, the variance of returns among active managers illustrates greater opportunities for active management in mid cap stocks than in mega cap stocks.

TABLE 6. Variance of returns among active U.S. equity managers (asset returns by quartile, ten years ending December 31, 2006)

U.S. Equity Strategy	25th Percentile	Median	75th Percentile	Range (%)
Small Cap Growth	12.3	9.9	7.5	4.9
Mid Cap Growth	12.6	11.2	8.7	3.9
Mid Cap Value	15.3	13.7	12.0	3.3
Small Cap Core	14.3	13.0	11.0	3.3
Large Cap Growth	10.0	8.4	6.9	3.1
Mid Cap Core	14.0	13.4	11.2	2.8
Small Cap Value	16.0	14.7	13.3	2.7
Large Cap Value	12.4	11.0	10.0	2.4
Large Cap Core	10.9	9.6	8.5	2.4

Source: Data for marketable securities are from the eVestment Alliance database
Source: Adapted from analysis provided by David Swensen in *Pioneering Portfolio Management*, (New York, The Free Press, 2000), 77, by Credo Capital Management
Note: Track records are for separate accounts and are reported gross of fees

Company-specific characteristics

While it is relatively clear that opportunities exist for the active management of mid cap stocks as a distinct opportunity set, the wide variety of reasons that create such opportunities is often less clear. For stock pickers, the most obvious opportunities occur at the grass-roots, company-specific level. This is where the analyst proves his or her value. A great proportion of the stocks that look interesting on a bottoms-up basis to the analyst, tend to be mid cap stocks.

To be sure, however, characteristics per se, are not necessarily correlated with inefficient pricing and performance opportunities. What does lead to inefficient pricing and performance opportunities are characteristics and situations that tend to be under-appreciated or not fully understood by the market.* The real challenge in stock picking then, is not so much to identify attractive attributes (although that can help), but to identify under-appreciated insights. The following discussion of "characteristics" will refer to these types of situations.

Larger universe

It stands to reason that all else equal, a larger universe of stocks represents more opportunities than a smaller one. This is indeed the case with the Russell indexes for mid cap and mega cap stocks. The RMC universe represents approximately 800 companies†

* For a clear explanation of this concept, see *Expectations Investing* by Michael J. Mauboussin.
† The Russell Midcap® index begins with 800 names upon rebalancing each year. Throughout the year, however, stocks can fall out of the index due to acquisition and other such corporate events. Similarly, the

as compared to the R200 universe which represents only 200 companies. Further, when consideration is given to all U.S. stocks that span the current[*] range of market capitalizations represented in the Russell Midcap® index, the universe expands to over 1,300 stocks. Clearly there are a lot more mid cap companies to choose from than mega cap companies. The universe of mid cap stocks is relatively attractive, then, based simply on the "law of large numbers."

The much greater size of the mid cap universe also has other implications for stock pickers. One common element of a larger universe is greater diversity, and an important manifestation of this diversity is the variance of growth rates. In an analysis of firm size and growth rates, Michael Mauboussin states that "a strong body of evidence shows that the variance of growth rates is smaller for large firms than for small firms (even though the median rate is fairly stable across the population)."[4] The greater variance in growth rates for smaller (and mid sized) firms, in turn, creates greater opportunities for differentiated performance.

Business life cycle

Much of the investment community's perspective on mid sized companies is formed by the market capitalization of stocks rather than by the size and nature of the underlying businesses themselves. Once abstracted from the bias of market capitalization, however, it becomes much easier to see how many mid sized businesses tend to be experiencing an especially interesting part of their business life cycle.

Business life cycle theory describes that in a company's formative stages, it is focused on establishing recognition in the market place, optimizing its product or service, finding the right employees, and getting financing.[5] While companies can generate substantial growth during this period, they also face a wide variety of risks. By the time a company becomes mid sized, it tends to have "proven product lines, sound infrastructure, established market positions and seasoned management."[6] And yet, there are still product and geographic markets to penetrate and there is often still substantial growth available for core markets. By the time a company becomes a large company, it has generally substantially penetrated its markets and at that stage, it becomes progressively more difficult to generate superior growth.

Seasoned management

Mid sized companies also tend to be relatively fertile environments for skilled management teams. By the time smaller organizations grow into mid sized companies, the management team has generally developed valuable experience along the way and has also had the chance to resolve major internal conflicts in order to become a cohesive unit. In addition, mid sized firms are often able to attract very talented and experienced managers from conglomerates who have had experience running large businesses. The

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Russell Top 200® index begins with 200 names, but does not necessarily remain at 200 stocks due to corporate actions.
[*] As of March 30, 2007.

development and migration of management talent throughout the mid cap universe has provided an extremely high level of professionalism at these firms.

The war for talent is a two-way street and mid sized companies often attract high-level talent because of the unique opportunities they present to create value. Due to their position in the business life cycle, many mid cap companies are small enough to have attractive growth opportunities that are still meaningful. These opportunities may take the form of complementary products, new customer segments, new geographic markets and the like. Many, if not most, tend to enjoy reasonably strong organic growth opportunities and therefore have little need to engage in forays outside of their realms of expertise. As a result, management enjoys a relatively entrepreneurial environment and is better able to focus on business execution.

Mid cap industries

While the mid cap universe represents a diverse collection of companies growing at different rates, it also represents a diverse set of industry groups (table 7). Virtually all industries across the universe are well-represented in the mid cap universe both in terms of market capitalization and number of companies. As compared to the mega cap universe, the mid cap universe has more than twice as many average companies per industry and represents 50% more economic industries. As a result, there is substantially greater choice, on average, for representation of specific economic exposures in the mid cap universe.

TABLE 7. Industry representation in the Russell 1000® Index (2/5/07)

Index	Number of Factset Industries	Average Companies Per Industry	Median Number of Companies Per Industry
Russell Midcap® Index	125	6.2	4
Russell Top 200® Index	78	2.6	2
Russell 2000® Index	147	13.1	6

Source : Russell Investment Group, Factset

Some industries in particular tend to be rife with mid cap companies (table 8). Whether due to the size of the industry, the nature of competition, or other reasons, representation of these industries almost necessitates consideration of mid cap companies. For example, the RMC contains 18 different companies in the medical and dental instruments industry, while only four companies have such exposure in the R200. In addition, there are six casino and gambling companies in the RMC to choose from, yet only one company has exposure in the R200. In the paper and plastic container industry, one can find seven mid cap companies, and not a single mega cap company. Disproportionate opportunities for mid cap stocks exist in the energy and utilities industries as well. One of the best examples of mid cap industries may be in the financial services sector. Over a quarter of the financial services weight for the R200 is comprised of diversified financial services (i.e. financial conglomerates). However, if one is interested in owning a REIT, there is only one mega cap REIT to choose from. The RMC, in contrast, has 44 REITS comprising over six percent of the market cap of the entire index.

TABLE 8. Examples of disproportionate industry representation (2/5/07)

	Russell Midcap® Index		Russell Top 200® Index	
Russell industry group	Weight (%)	Number of Companies	Weight (%)	Number of Companies
Medical & Dental Instruments & Supplies	2.41	18	0.78	4
Casinos & Gambling	1.11	6	0.12	1
Containers & Packaging: Paper & Plastic	0.69	7	0.00	0
Machinery: Oil Well Equip & Services	1.76	16	0.53	2
Oil: Crude Producers	1.84	20	1.04	5
Utilities: Electrical	6.25	32	2.18	8
Utilities: Gas Distributors	1.58	11	0.16	1
Diversified Financial Services	1.00	7	6.05	8
Real Estate Investment Trusts (REIT)	6.45	44	0.24	1

Source : Factset, Russell Investment Group

Yet another interesting characteristic of mid cap industries, in addition to their representation of economic exposure, is their representation of head-to-head competitive dynamics. Most mid cap companies operate a single business and thus have relatively pure business models. Many mid cap industries also display a relatively high level of concentration among direct competitors which often conveys meaningful competitive advantages for those participants.

Examples of high industry concentration can be appreciated from a theoretical perspective: "Companies, like species, fit into niches. Thinking about these niches and how they change can provide some insight into a company's growth potential."[7] From a purely practical perspective, several industries are large enough to support a few strong mid sized competitors, but not more. As one portfolio manager described this effect, "*Mid cap* is defined as the stage where these different segments in growth industries become well defined, and you move from having 15 or 20 competitors in an industry to 2 or 3."[8] These situations can provide for stable competitive dynamics and pricing power and yet still allow for ample growth opportunities.

Along with the process of industry structure formation comes an increasingly clear picture of the appropriate scale for industry competition. Many industries are of a size such that a few mid sized companies can realize optimum economies of scale—big enough to enjoy significant advantages over smaller counterparts, and on equal footing with large company participants. Mid sized companies tend to have broader product lines and more complete distribution channels than smaller companies. Many have established strong competence in materials sourcing and international business. Most have already built out their sales forces and service infrastructures. With size, stability, and profitability also comes easier access to capital. Any of these factors can provide substantial advantages over smaller competitors. In addition, many larger competitors may fail to see sufficient opportunity in such an industry, may fail to have a material competitive advantage over existing players, or may fail to identify the opportunity at all.

A number of investment professionals have voiced similar sentiments regarding the nature and attractiveness of industries dominated by mid cap companies. One portfolio manager noted, "Most prospective tech leaders are mid cap companies . . . [in] a range we like to call the 'sweet spot'."[9] Similar sentiments were voiced by another manager: "We're stock pickers. And it turns out that there are more attractive mid cap consumer oriented stocks than large caps."[10] In a number of industries, the size and competitive dynamics tend to create especially healthy environments for mid sized companies.

Survivors

Implied by the discussion of the business life cycle is the notion that many "mid caps are survivors. Many are small cap companies that have grown to adolescence."[11] As one manager describes, "Those companies that survive a move beyond the challenges of a small, startup company—stiff competition, inexperienced management, and insufficient cash flow, among others—may enter an extended growth phase that can last for decades.[12] While this description fits a large number of mid cap companies, some extreme examples have especially long legacies and yet still have double digit growth expectations (table 9). These companies often exhibit the staying power of larger companies, but still have significant growth opportunities ahead of them. A merely cursory review of mid cap stocks often overlooks the sustainability of many of these businesses.

TABLE 9. Mid cap companies that are "survivors" (3/13/07)

Company	Year Established	Long-term Growth Estimate (%)
Tiffany & Co. (TIF)	1837	11.9
Peabody Energy Corporation (BTU)	1883	20.2
Harley-Davidson, Inc. (HOG)	1903	12.4

Source : Russell Investment group, Wikipedia, IBES

Special situations

A number of businesses make their way into the mid cap universe through unique circumstances that rarely occur in the mega cap universe. For example, a number of companies debut in the mid cap universe as spin-offs from larger corporations. Often, the market does not fully appreciate the attractiveness of these businesses when they are masked by the more mature, slower growing businesses of a large company. Mid cap spin-offs can provide very interesting opportunities to astute investors. For example, Sara Lee has spun off several companies over its history with Hanes Brands being the most recent example. Other relatively recent spin-offs include Gamestop, which was spun off from Barnes and Noble, and Tim Horton's Inc., which was spun off from Wendy's. These types of situations, though not incredibly common, happen often enough and involve attractive enough companies as to merit analyst attention.

In addition, a number of private companies grow large enough by the time they IPO that they make their public debut as mid cap companies. Mastercard, Hertz Global Holdings, and Burger King Holdings are all well-established, well-known franchises that have recently initially offered shares and qualified as mid cap stocks upon their initial offering.

Other special situations, acquisitions and mergers, have always presented opportunities for stock appreciation, but until fairly recently, have largely been confined to the small cap universe. While mid cap companies have always been targets of larger corporate suitors, the increasing size and liquidity of private equity firms has increased their reach to include virtually the entire mid cap universe. Greater liquidity has noticeably increased the opportunities for the value of mid cap stocks to be realized through acquisition by private equity investors.

Large cap perspective

One exercise that provides an interesting perspective on mid cap stocks is to compare some of the research on large cap stocks. The attractiveness of mid sized companies can be more fully appreciated from the perspective of the many headwinds companies face as they grow large.

Business life cycles were discussed in relation to mid-sized stocks, but also provide a useful analytical framework from which to assess and compare large companies. As Clayton Christensen notes, "there is powerful evidence that once a company's core business has matured, the pursuit of new platforms for growth entails daunting risk. Roughly one company in ten is able to sustain the kind of growth that translates into an above-average increase in shareholder returns over more than a few years."[13] The "daunting risk" faced by companies as they grow large is expressed even more explicitly in a study conducted by the Corporate Strategy Board. That study found that growth tends to stall for large companies at a certain threshold: "That stall level has risen over the decades, but looked to be in the $20-30 billion area in the late 1990s."[14] One headwind large companies face then, is that impediments to growth become intense once the companies eclipse a certain size threshold.

Unfortunately, yet other obstacles to growth exist for the largest companies. For example, "Aging public companies rarely have an interest in going out gracefully. Corporate executives often strive, first and foremost, to perpetuate the business."[15] Several incentives exist for management to perpetuate a business at the expense of shareholder returns, but such poorly aligned interests may be only a symptom of a deeper problem: "Companies that have been around for a while tend to accumulate inertia and biases, making them inherently more rigid than the broader, ever-changing stock market."[16] Analyzing companies in a dynamic world poses an especially difficult challenge: "In a rapidly changing business environment, a company's mental models—based on experience, expertise, and knowledge—flip from an asset to a liability. For many companies, mental model inertia lies at the root of an inability to adapt."[17] The difficulty for management of large companies, and analysts alike, is to determine when the cultural attributes that help create a company's success eventually become a burden to successfully adapting to a new environment.

It is not hard to see how this can happen. Indeed, the life cycle of a corporation's "emotional" phases bares a strong resemblance to that of human beings[18] "In the early years of a corporation, just after its founding, the dominant emotion is passion—the sheer energy to make things happen . . . As the corporation ages, the bureaucracy begins to settle in. Passions cool and are replaced by 'rational decision making' . . . Eventually, rational decision making reveals that the future potential of the business is limited . . . Cultural lock-in is established."[19]

In contrast to large, long-lived companies and the headwinds they face, the most successful companies tend to be new entrants, and therefore more likely to have mental models well-adapted to the existing environment. Foster and Kaplan show in a study across a broad range of industries over a thirty-four year period that new entrants to an industry tended to deliver superior returns in the first five years following entry.[20] "The lesson here is that corporate longevity is often, but not inevitably, incompatible with superior shareholder returns."[21]

A number of studies strongly suggest that corporate size and longevity are indeed incompatible with superior shareholder returns. Consider the following:

> Forbes created its original 'Forbes 100' in 1917. In 1987, Forbes revisited its first list and compared it with the most recent list of top companies. Of the original 100, 61 no longer existed and another 21 had dropped off the leading company list. The 18 that remained—the survivors—delivered shareholder returns roughly 20% less than the overall market.[22]
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> Standard and Poor's initiated its 500-company index in 1957. Only 74 of the original 500 made it to 1997. Only 12 of the survivors outpaced the market, and the original group, as a whole, underperformed the market by one-fifth.[23]
>
> [Mauboussin and Bartholdson] ran the numbers from 1980 through 2002 and found that for each holding period, the S&P 500 outperformed the Fortune 50 portfolio . . . It's hard for the largest companies to meaningfully outperform the market because they are such a large percentage of the market.[24]
>
> In recent years, Fortune has measured the total return to investors (income plus appreciation) for the prior ten years for all of the companies in its annual Fortune 500. We have taken the top ten in this ranking for the past five years and determined where they ranked ten years earlier. As we expected, most of these companies were not included in the 'Fortune 500' ten years earlier. (Only 32% were listed and none was in the top 100 in revenues)[25]

From the perspective of large, mature, long-lived companies, it is clear how smaller, more dynamic companies often realize important advantages. Ultimately, however, stocks are valued on expected financial performance and underperform only when expectations are not met. Interestingly, Michael Mauboussin found in a study he conducted that, "Based on CSFB HOLT aggregated data, the 50 largest U.S. companies by market capitalization reflect growth and return on investment expectations that are substantially higher than those for the S&P 500 in total."[26] This evidence leads to the conclusion that "investors often extrapolate past growth rates into the future, leading to disappointing shareholder returns for those companies that cannot meet those expectations."[27]

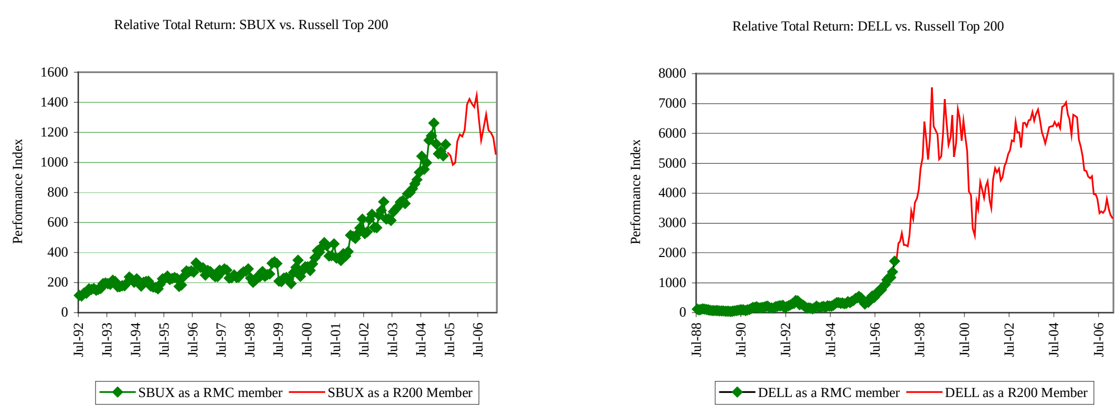
Illustrations: Mid cap versus mega cap stock performance comparisons

The preceding discussion has focused on various types of characteristics that often make mid cap stocks attractive relative to mega cap stocks. These characteristics tend to affect performance at the company-specific level and tend to be especially prominant in the mid cap universe. These characteristics also tend to be under-appreciated by the market and therefore often lead to inefficient pricing that can be exploited. In order to illustrate the impact these characteristics can have on stock performance more visually, some comparisons are provided.

Perhaps the purest form of evaluating the effect of the preceding characteristics on stock performance is to analyze the performance of companies that were mid caps at one time, and then grew into mega caps stocks. These examples illustrate the manifestation of various characteristics that drive exceptional performance as mid cap companies, but then also illustrate the pressures against perpetuating that performance as mega cap companies.

In the first example, Starbucks was a star performer for years as a mid cap company, substantially outperforming its mega cap counterparts in the Russell Top 200® (chart 1). While Starbucks only recently migrated into the mega cap universe, its stocks performance since has slowed noticeably. Likewise, the example of Dell shows many years of outstanding stock performance as a mid cap company. While Dell continued to perform well immediately after it migrated into the mega cap universe, its subsequent performance as a mega cap stock has been considerably more mixed.

CHART 1. Mid cap versus mega cap stock performance comparisons: Starbucks and Dell



Source: Russell Investment Group, Factset
Note: Russell Top 200 and R200 are representations of the Russell Top 200® index, and RMC is a representation of Russell Midcap® index

While Starbucks and Dell are only two anecdotal examples of companies migrating from the mid cap universe to the mega cap universe, the pattern of stock performance in each case is illustrative of both the advantages companies face as mid caps as well as the harsh realities stocks face as they grow large. Mid cap companies tend to be in a very dynamic part of their business life cycle and have a number of strengths to draw on. Superior performance follows as the market increasingly appreciates these strengths. Conversely, as companies grow large, they increasingly run into headwinds that present obstacles to future growth. As that process transpires, the market gradually ratchets down its expectations which get reflected in far less exciting stock returns.

Perhaps an even better illustration of how the dynamics of mid cap stocks versus mega cap stocks compare is the simple examination of performance of the individual components of the Russell 1000® (tables 9 and 10). For the most recent four-year period (from the Russell rebalance date), nine of the top ten stocks ranked by total return began as mid cap stocks. For each of the four most recent one-year periods (from the Russell rebalance date), all ten of the top ten Russell 1000® performers were mid cap stocks. The evidence is amazingly clear; the strongest performing stocks in the Russell 1000® are mid cap stocks. The evidence directly and compellingly refutes the claim that mid cap stocks are substantially similar to mega cap stocks

TABLE 10. Mid cap versus mega cap stock performance comparisons: Russell 1000® Index top performers (7/1/02-6/30/06)

Russell Midcap® company	Total return (%)	Russell Top 200® company	Total Return (%)
Celgene Corp.	1,315.8	Genentech Inc.	407.3
Peabody Energy Corp.	731.0	Occidental Petroleum Corp.	279.3
Valero Energy Corp.	623.4	Caterpillar Inc.	238.3
Corning Inc.	601.2	QUALCOMM Inc.	211.1
Apple Inc.	571.4	Burlington Northern Santa Fe Corp	177.3
Citrix Systems Inc.	565.0	Baker Hughes Inc.	164.3
Autodesk Inc.	473.5	TXU Corp.	160.5
XTO Energy Inc.	428.6	Exelon Corp.	152.8
Halliburton Co.	423.7	Prudential Financial Inc.	149.8
Monsanto Co.	405.3	ConocoPhillips	146.3

Source: Russell Investment Group, Factset
Note: Index membership determined by status at beginning of period

TABLE 11. Mid cap versus mega cap stock performance comparisons: Russell 1000® Index top performers (7/1/05-6/30/06)

Russell Midcap® company	Total return (%)	Russell Top 200® company	Total Return (%)
Allegheny Technologies Inc.	215.8	Burlington Northern Santa Fe Corp.	67.1
Akamai Technologies Inc.	175.0	Valero Energy Corp.	64.5
Terex Corp.	144.5	Baker Hughes Inc.	59.9
NuCor Corp.	141.9	Caterpillar Inc.	57.9
MEMC Electronic Materials Inc.	137.0	Apple Inc.	56.9
Southern Copper Corp.	132.7	Halliburton Co.	55.6
Joy Global Inc.	128.9	Marathon Oil Corp.	53.2
Celgene Corp.	127.0	Starbucks Corp.	47.9
Expeditors Intl. of Washington Inc.	124.0	Goldman Sachs Group Inc.	47.7
Qwest Communications Intl. Inc.	119.8	TXU Corp.	45.6

Source: Russell Investment Group, Factset

Market-related explanations for mid cap inefficiencies

The case for active management of mid cap stocks has thus far been made on the basis of attractive company-specific characteristics that tend to be under-appreciated by investors, especially relative to mega cap stocks. The remainder of this paper focuses on various constructs and mechanisms that exist in the *market* for stocks that cause mid cap stocks as a group to be systematically under-appreciated, and therefore inefficiently priced. Due to certain structural imbalances, mid cap securities, as a group, tend to get inefficiently priced relative to mega cap stocks. As a result, the mid cap universe as a whole tends to be priced inefficiently and therefore presents unusually fruitful opportunities for investors to expoit.

Information availability

One reason that mid caps are under-appreciated by the market is simply that less is known about them; they undergo less scrutiny than mega cap companies. As one portfolio manager noted, mid caps "have some of the characteristics of large cap companies, but because they're less followed, there's the opportunity to add value through research."[28] A comparison of analyst coverage for mid and mega cap stocks reveals the validity of this argument (table 12). Sell-side analyst coverage for mid caps is substantially lower than coverage for mega caps. One portfolio manager described, "They [mid caps] are early in their growth trajectory and not as well recognized or monitored [as mega caps] by Wall Street."[29]

TABLE 12. Comparison of information availability (9/30/06)

Index	Number of stocks	Median number of sell-side analysts	Number of managers (in Mercer MPA)	Number of managers (in Wall Street Journal)
Russell Top 200®	201	19	229[a]	854[a]
Russell Midcap®	770	11	58[b]	340[b]

Source : Factset, Mercer MPA, Wall Street Journal

Note : Wall Street Journal data as reported in the 11/30/06 Mutual Fund Scorecard

[a] The number of large cap managers is based on the reported number of large cap core managers

[b] The number of mid cap managers is based on the reported number of mid cap core managers

In addition to less information being available about mid cap stocks, there also appears to be substantially lower demand for the stocks. As can also seen in table 12, far more large cap managers are vying for fewer mega cap stocks than there are mid cap managers vying for mid cap stocks. This supply and demand dynamic provides for a much more liquid market for mega cap stocks than for mid caps and as a result, it is far easier for mid cap stocks to be under-appreciated by the market.

Buy-side analyst perspective

There are other reasons why mid cap companies as a group tend to get under-appreciated relative to their larger counterparts. One of the reasons is that several structures and behaviors can exist inside the organizations that manage mid cap and mega cap stocks together (as a Russell 1000® mandate) that bias analytical efforts towards mega cap stocks and away from mid cap stocks.

From a purely analytical perspective, mid cap stocks often present the greatest opportunities for buy-side analysts. Analysts, ostensibly, get paid for their ideas and the best performing stocks (as seen in tables 10 and 11) are overwhelmingly mid cap. In addition to the performance opportunity, analysts also find a number of other characteristics common to mid cap stocks that allows them to optimize their contribution of value to the investment process. For example, the investment thesis for mid sized companies is often much easier to substantiate than for a mega cap company. It can be very difficult to make a strong case for a mega cap stock that represents a wide variety of different businesses bundled together. It can also be very difficult to gain an edge in the largest stocks; often there is little transparency into business unit operations and when insight can be gained, it may simply not be big enough to matter very much to the stock as a whole. Further, there is a significant opportunity cost for an analyst who spends a great deal of time on one (i.e. mega cap) stock that can only represent one holding in a portfolio.

Analysts at a Russell 1000® manager are responsible for mid cap stocks (in addition to mega cap stocks), and have a number of reasons to focus on mid cap stocks, but can easily be impeded by the perverse incentives that often develop as investment management shops grow in size. The most common issue arises when firms emphasize asset growth as a business priority. As David Swensen notes, "With distressingly few exceptions, fund managers aggressively pursue marketing activities, attempting to gather as many assets as possible."[30] This behavior is understandable because investment management is a high-fixed cost business and it becomes extremely profitable once those costs are covered. However, the asset growth imperative also causes several ripple effects throughout the organization.

One ripple effect involves the power structure of the organization. It doesn't take long for employees of an asset gatherer to realize that the power and resources in the firm belong to the marketing department and not the research team. Since mega cap stocks represent the greatest absolute effect on firm revenues (and therefore on compensation levels), and the greatest growth opportunities (in the form of firm capacity), they get the most attention, regardless of implications for investment performance. When stock size is rewarded over performance, analysts adapt to the game. Realizing that firm growth (in the form of assets under management) drives compensation growth, and that selection of mega cap stocks can also minimize career risk, analysts allocate their time accordingly—towards mega cap stocks and away from mid cap stocks.

Another risk incurred by the asset growth imperative is that in the quest for revenue and profit growth, a firm simply does not dedicate adequate resources to its research team. Breadth and depth of coverage is not always very closely related to a manager's size, assets under management, or numbers of analysts. One investment professional identified this possibility when he said, "Some institutions are seriously understaffed relative to the capital they manage. (When you peek behind the pillars, you find the whole thing is really in the hands of two men and a boy.)"[31] When this happens (and it is not uncommon), such firms may not be deploying adequate resources or focus to exploit the universe of mid cap opportunities, even though such firms are "large" by many conventional metrics. For a variety of reasons, when a manager focuses on asset gathering, the intensity of the research effort may suffer and with it, the focus on mid cap stock opportunities.

For nearly any firm, once a large cap research effort grows into a reasonably sized team, it is common for different skill sets, personalities and temperaments to emerge. Many analysts like the regular routines of attending large company analyst meetings and conferences. When a high degree of familiarity is established over the years, large companies can become like "old friends" to an analyst. Because so much time and effort (and sometimes personal identity) are invested in creating this familiarity, it is not uncommon for such an analyst to be reluctant to allocate time to less familiar companies. As one former research director described, "some analysts tend to be prejudiced against new companies which come along and muddy the waters because they make their work more complicated."[32] Within such structures, it is not at all uncommon to see unusual new opportunities such as IPOs, spinouts, or new emerging companies, many of which are mid cap stocks, fall through the cracks because an analyst was focused on other "maintenance" work.

Finally, many investment firms end up facing the same obstacles any large company might face. David Swensen illustrates this point clearly:

> Bureaucratic structures deal effectively with repetitive, regular, slow-to-change environments. Control-oriented processes emphasize structure, subordinating the relative importance of people. Bureaucracies employ conventional wisdom and seek consensus, punishing failure quickly and ruthlessly. By pursuing safety and avoiding controversy, bureaucratic structures systematically screen out the market opportunities likely to yield superior returns.[33]

It is not hard to see how such behavior within a research effort can cause an under-appreciation of smaller stocks relative to larger, more familiar ones, regardless of opportunity. In fact, for all of the reasons discussed, many investment organizations are just not very effective in allocating research resources proportionate to the opportunities to outperform.

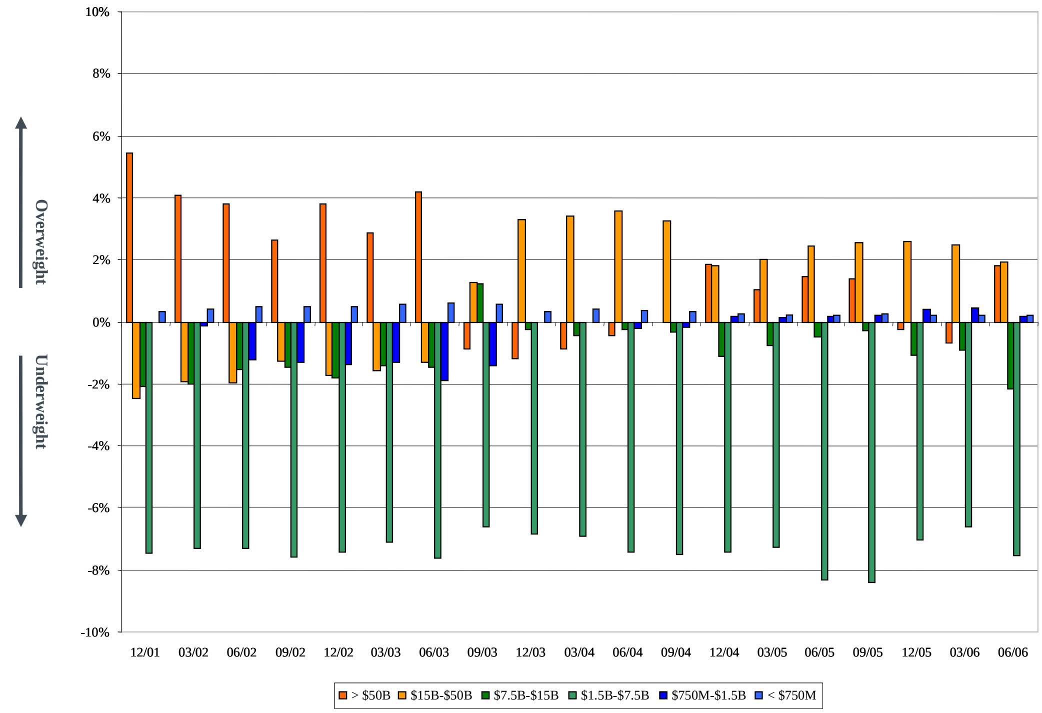
Patterns in stock ownership

Another way to capture the relative demand for stocks is to look more directly at patterns and constituents of stock ownership. The increasing role of institutions in equity ownership is evident in a recent Conference Board report that states, "In 2005 institutional investors held a record 61.2% of total 2005 U.S. equities, up from 51.4% in 2000. Institutional ownership of the largest 1,000 U.S. corporations has increased from 61.4% in 2000 to a peak of 69.4% in 2004, and dropped just slightly to 67.9% in 2005, but still in record historic territory."[34] Perhaps even more revealing is the underlying trend within institutional ownership of stocks. The Conference Board goes on to note, "The biggest gainer in amassing institutional investor assets in the last 25 years is the category of open end mutual funds, which went from owning only 2.3% of total institutional assets in 1980 to 23.8% in 2005."[35]

One study investigating the patterns of stock ownership among large cap mutual fund managers provides insight as to the impact this group is making on the market (chart 2). This study illustrates a very clear bias among large cap mutual fund managers *toward* the largest capitalization segments, and *away* from the mid cap segments. This bias was fairly consistent through each period of the four and a half year study. The impact of such significant incremental demand for larger, more liquid stocks is to inflate the prices of those stocks relative to their mid cap counterparts.

While mutual funds, with a significant retail component, seem to impact the supply and demand equation for mid cap stocks, institutional investors also play an important role. For example, one common institutional practice is to disaggregate the equity universe by large and small stocks, rather than by large, mid, and small size categories. This common practice, among a significant cohort of investors, serves to de-emphasize mid cap stocks and therefore to impede the ability of mid caps to be fully appreciated in the market. As one research director described, "If everyone is building portfolios based on large and small stocks, those asset classes become relatively overpriced in comparison with mid caps."[36]

CHART 2. Large cap mutual fund holdings segmentation (quarterly, Dec. 2001 – Jun. 2006)



Source: Factset, Morningstar, Credo Capital Management
Note: Composite profile of 400+ mutual funds classified by Morningstar as large cap blend
Note: Holdings segmented by market capitalization – portfolio exposure relative to Russell 1000® index

One more factor that may contribute to the under-appreciation of mid cap stocks is the very nature of some common market indexes. Indexes such as the S&P 500 and the Russell 1000® are hugely popular and widely used as benchmarks. The construction of these indexes is based upon market capitalization and as a result, stocks become progressively more important as their market capitalizations increase. The consequence of this dynamic is that stocks can become "large" based on price appreciation alone.

The notion that market cap-weighted indexes may not be completely efficient has been substantially advanced by recent research from Rob Arnott, chairman of Research Affiliates. Arnott challenges the efficiency of market cap-weighted indexes and in doing so offers some valuable insights. Arnott shows that cap-weighted indexes (like the Russell 1000®) tend to magnify errors of mispricing because the index weights (determined by market cap) are a function of pricing errors (which are embedded in the stock price). As a result, if a company's stock is over-valued, it will receive a disproportionately large weight in the index, and conversely, if a company's stock is under-valued, it will receive a disproportionately small weight in the index.*

What does Arnott's theory imply for the management of a large cap (i.e. Russell 1000®) mandate? While this though-provoking research touches a wide variety of issues, the implication most relevant to this discussion is that there appear to be inefficiencies inherent to the R1000 index that artificially deflate mid cap values relative to mega caps. If pricing errors are assumed to be randomly distributed among stocks, then it can be deduced that over-pricing errors are likely to push some otherwise mid sized stocks up into the R200, and under-pricing errors are likely to shove some large sized companies down into the RMC.

The nature of the pricing bias can be seen more clearly when a market cap-based index is compared to an index not based on market cap. Arnott made this comparison through a study that created a fundamental index based on various metrics that capture firm size, but are not related to stock price[37]. In a rough replication of Arnott's methodology, I created a fundamental index and compared it to a market cap-based index based substantially on the Russell index criteria (table 13).

As can be seen, there is a great deal of overlap between the fundamental index and the market cap-based index, however meaningful variances do occur. For instance, while nearly three-quarters of the market value-based mid index overlaps with the fundamental-based mid index, nearly 11% of those companies are mega cap companies based on fundamentals. This suggests that nearly 11% of conventional market cap-based mid companies are really undervalued mega cap companies. Conversely, nearly 9% of the market value-based top 200 index overlaps with the fundamental mid sized index. This suggests that nearly 9% of conventional mega cap companies are really overpriced mid sized companies. Regardless, both situations provide strong evidence of inefficient pricing for mid cap stocks.

TABLE 13. Fundamental index composition (5/15/07)

	Market value-based mid index		Market value-based top 200 index	
Fundamental index segment	Market value overlap (%)	Company overlap (#)	Market value overlap (%)	Company overlap (#)
Mega (stocks ranked 1 - 200)	10.8	42	90.2	158
Mid (stocks ranked 201 - 1000)	74.4	579	8.9	37
Small (stocks ranked > 1000)	14.8	179	0.9	5

Source: Factset
Source: The fundamental index is based roughly on methodology described in Robert D. Arnott, Jason Hsu, and Philip Moore, "Fundamental Indexation," *Financial Analysts Journal*, March/April 2005, 83-99
Note: The Market value mid cap and Market value top 200 are indexes created through market cap ranking based substantially on the Russell index methodology. They are constructed to be comparable to the Russell Midcap® and Russell Top 200® indexes, respectively.

* For an excellent and very readable review of Rob Arnott's case, see *Just One Thing*, edited by John Mauldin. For the research paper that outlines the math behind the theory, see Hsu, Jason C., "Cap-weighted portfolios are sub-optimal portfolios," *Journal of Investment Management*, Vol. 4, No. 3, 2006, pp 1-10.

IV. Conclusion

When all of the findings above are aggregated, several reasons emerge to prefer the superior performance opportunities that mid cap stocks present and therefore to differentiate mid cap stocks from mega cap stocks for active managers. A wide variety of attractive factors and attributes are especially prevalent in the universe of mid cap stocks. Perhaps even more importantly, a great deal of evidence exists to suggest mid cap stocks as a group are under-appreciated by the market in many ways. Interestingly, the biases of large cap mutual fund managers and the prominence of cap-weighted indexes such as the S&P 500 and the Russell 1000® may actually perpetuate the attractiveness of mid cap stocks by directing funds disproportionately to the very largest stocks in the universe.

Finally, the notion that up-and-coming companies may be an interesting place to invest relative to more mature ones is not new. One prominent investor stated in Barron's in 1939, "Just as no racing enthusiast would buy an old stud horse to compete with younger horses whose records give promise of many more years of racing victories, no wise investor would put his money in one of the old-line companies which has passed its peak and is resting on its laurels . . . A good horse can't go on winning races forever, and a good stock eventually passes its peak, too."[38] Perhaps this insight will finally persuade institutional investors of the virtues of targeting mid cap stocks as a distinct asset class for active management.

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Disclaimers

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