

"LARGE CAP" VERSUS "SMALL CAP" INVESTING

A DIALOGUE BETWEEN MUTUAL FUND MANAGERS, AMOS 'N' ANDY:

- Amos: Where are you guys putting your money these days?
- Andy: We are investing quite heavily in the second half of the alphabet, especially those companies beginning with the letters "S" through "Z." What are you folks buying?
- Amos: As you know, the first half of the alphabet has been doing well lately, and so we are sticking with it. We have been underperforming the market at a rate of only 3% per year. "A" through "C" has been on quite a roll.
- Andy: I know, but because the second half has been lagging for quite some time, we think it is about ready to move.
- Amos: Do you have any explanation as to why various sectors of the alphabet tend outperform others from time to time?
- Andy: It is our theory that, in the early stages of a bull market, before investors are fully invested, they look down alphabetical lists of companies and spend all their money before they get very far down their lists; then, as the bull market matures, the prices of stocks in the first half of the alphabet tend to get overpriced and, in looking for bargains, investors tend to discover the latter half of the alphabet, and those stocks begin to move. How do you folks explain it?
- Amos: We tend to feel that companies beginning with the early letters of the alphabet probably have more enlightened managements. These managements recognize the higher visibility and better recognition of companies beginning with the early letters, and so change their companies' names, if they are too far down the list. It is probably a pretty prudent move to change your company's name from United States Widgets to American Widgets, for example. A management with the wisdom to make such a change, we feel, is probably wise enough to discover and implement other such critical strategies as well. For this reason, we have a general bias toward the first half, and especially so for the first quarter, of the alphabet. We have been told that, in spite of

occasional divergences, over longer periods of time, the first half has tended to outperform the second half.

In the last analysis, however, we do not much care what the rationale of a strategy is. If it seems to work, we use it.

Andy: In assigning companies to alphabetical sectors, we encounter considerable difficulty in figuring out where to put such companies as Liz Claiborne and The Gap. We are constantly debating whether these companies should be classified by their first names or their last names. It obviously makes a big difference whether you are assigned to the Cs or the Ls, or whether you are lumped with the Gs or the Ts.

Amos: I know what you mean. Our staff spends a lot of time researching and deliberating these questions.

Andy: It is, I suppose, because of our ability and dedication in tackling these difficult investment issues that our shareholders are willing to pay us our million dollar salaries. It's a great business, don't you agree?

Amos: Indeed, I do. By the way, haven't you always wished that lists of people were alphabetized by first rather than last names?

Andy: I sure have. It has been good talking with you. We shall have to get together like this more often to pick each others' brains.

Personally, I would ascribe little more utility to a discussion of "large cap" versus "small cap" investing than I would to the foregoing dialogue. Let me try to explain why:

CAPITALIZATION DEFINED

The "capitalization" of a company is the product of the current market price of its common stock and the total number of its shares outstanding. If a common stock sells at \$25 per share and there are one million shares outstanding, the company is said to have a "market capitalization" of

\$25 million. Market capitalization is the total worth that the marketplace currently puts on a whole company.¹

Security analysts and services that maintain stock market indices² currently have the universe of common stocks classified in, not just two, but four groups, according to market capitalizations—"large-cap," "mid-cap," "small-cap," and "micro-cap."

The dollar values that distinguish each group are somewhat arbitrary; they are different for different analysts and services; there is considerable overlap; and they have tended to increase over time, as companies have grown and the stock market has risen. For example, the upper limit for inclusion as a "small" capitalization company is now about twice what it was just five years ago.

The stocks in the Standard & Poor's 500 Index are generally regarded as approximating the "large" capitalization sector of the U. S. stock market. These 500 companies range from General Electric with a market capitalization of nearly \$200 billion, down to companies with market capitalizations of about \$2 billion. Mid-cap companies tend to cluster in the range of \$2 billion down to \$1 billion, with "small" caps being defined as companies under \$1 billion down to \$200 million, and micro-caps being everything else that is smaller.

THE RATIONALE FOR CAPITALIZATION CATEGORIES

It has been observed in many studies that, if one divides the common stock universe up into categories based upon market capitalizations, one finds that there are periods when smaller capitalization companies as a group tend to perform better in the marketplace than larger capitalization companies, and vice-versa. In fact, over very long periods of time, smaller capitalization companies seem, generally, to have outperformed larger capitalization companies.

One common inference is that one might try to switch between large- and small-cap stocks as indicated by their expected relative performances and so enhance one's overall investment returns. For those who have less faith in their ability to time such markets, a second inference

¹ Market capitalization is often referred to as the total amount of money one would need to pay to acquire an entire company. Actually, however, somewhat more than its current market capitalization is usually needed to buy an entire company in the open market because, as soon as a potential buyer starts buying shares, he bids up the price of the stock, and so increases the company's total market capitalization. This effect is apparent in the case of takeovers where an acquiring company must offer a premium to the current market price of the stock of a target company when undertaking a takeover of that company.

² i.e., Standard & Poor's, Frank Russell Company, Wilshire Associates, and the University of Chicago's Center for Research in Security Prices (CRSP).

might be, always, to put a greater emphasis on the ownership of smaller rather than larger cap stocks than one otherwise might.

MARKET CAPITALIZATION AND FIRM SIZE

In discussions regarding large- and small-cap stocks, it is almost universally assumed that market capitalization is a good proxy for firm size. Large capitalization companies, because they are generally larger than small capitalization companies, are presumably collectively "safer." It is harder to imagine General Electric, Coca-Cola, or Exxon going bankrupt than it is some smaller company with an unfamiliar name. Conversely, more small capitalization companies than large capitalization companies, because they are generally smaller, have greater potentials for growth. It is clearly easier to imagine a small company's doubling its sales and profits in each of the next five years than it is to imagine General Electric, Coca-Cola, or Exxon doubling its sales and profits in each of the next five years.

I contend, however, if one is attempting to define "safety" in terms of "large corporate size" or "potential for growth" in terms of "small corporate size," market capitalization is somewhat of a tangential and grossly imprecise way to go about it.

There are four common ways of measuring firm size—sales, profits, assets, and market capitalization. Market capitalization is the least logical of the four in that it tells us more about the current price of a company's common stock than it does about the fundamentals of the underlying company.

Market capitalization, because it is a direct function of the price of a company's stock, is, by far, the most volatile of the four measures of company size. If a stock's price doubles in a year, and many do, a company's market capitalization doubles, by definition. It is far less likely, however, that its sales, profits, or assets have doubled over that same period of time. If none of the latter has doubled, can we legitimately argue that the company is, nevertheless, twice as big as it was the year before?

If a stock doubles in price over a short period of time and causes its company to be reclassified from small-cap to large-cap, should one feel safer owning it? After a stock has doubled in price, and its price-earnings ratio has risen nearly as much, most investors would feel the risk of owning it is now greater, not less.

Similarly, if a company falls upon hard times and the price of its stock drops by 50%, in turn, causing it to drop from large-cap to small-cap status, should we construe that event as an indication that we now have a company with greater prospects for growth than it had before its adversity?

In order to see just how poor market capitalization is as an indicator of firm size, let us consider each of the four common yardsticks, one-by-one:

We might chose to define company size in terms of total sales. Those companies with the largest sales are the ones that have the biggest claims on our pocketbooks; they account for the largest shares of the goods and services generated by the nation, as measured by Gross Domestic Product. As seen in the following table, however, only four of the ten largest companies in terms of sales are also among the ten largest in terms of market capitalizations:

<u>RANK BY</u> <u>SALES³</u>	<u>COMPANY</u>	<u>RANK BY</u> <u>CAPITALIZATION</u>
1	General Motors	21
2	Ford Motor	35
3	Exxon	3
4	Wal-Mart Stores	11
5	General Electric	1
6	IBM	10
7	Mobil	19
8	Chrysler	66
9	Philip Morris	7
10	AT&T	16

We might define size in terms of profits. It would seem that companies with the greatest profits have the greatest flexibility, clout, and control over their own destinies. They have the greatest ability to pay big dividends, to expand internally, or to make acquisitions. As seen in the following table, however, only six of the ten largest companies, as measured by profits, are also among the ten largest companies when measured by capitalizations.

³ Data for all the tables herein are taken from *Forbes* magazine dated April 21, 1997.

<u>RANK BY</u> <u>PROFITS</u>	<u>COMPANY</u>	<u>RANK BY</u> <u>CAPITALIZATION</u>
1	Exxon	3
2	General Electric	1
3	Philip Morris	7
4	AT&T	16
5	IBM	10
6	Intel	5
7	General Motors	21
8	Ford Motor	35
9	Merck	6
10	Citicorp	18

We might measure size by total assets. A case can surely be made that those companies controlling the greatest amount of the nation's wealth are really the nation's largest companies. When size is measured by total assets, the disparity is widest of all. Only one of the ten largest companies by assets is also among the ten largest by capitalization. In fact, the ten largest companies, as measured by their assets, on average, rank 50th, in terms of their capitalizations.

<u>RANK BY</u> <u>ASSETS</u>	<u>COMPANY</u>	<u>RANK BY</u> <u>CAPITALIZATION</u>
1	Fannie Mae	32
2	Chase Manhattan	31
3	Citicorp	18
4	General Electric	1
5	Ford Motor	35
6	BankAmerica	34
7	General Motors	21
8	Morgan, J. P.	75
9	Merrill Lynch	94
10	Morgan Stanley	155

If we next look at the ten companies with the largest capitalizations, we find that, depending upon whether we are looking at sales, profits, or assets, these other measures rank the top ten capitalizations anywhere from #1 to #195.

<u>RANK BY</u> <u>CAPITALIZATION</u>	<u>COMPANY</u>	<u>SALES</u>	<u>RANK BY</u> <u>PROFITS</u>	<u>ASSETS</u>
1	General Electric	5	2	4
2	Coca-Cola	52	13	151
3	Exxon	3	1	27
4	Microsoft	144	28	195
5	Intel	40	6	104
6	Merck	45	9	100
7	Philip Morris	9	3	42
8	Proctor & Gamble	16	14	83
9	Johnson & Johnson	36	18	123
10	IBM	6	5	30
5½	Average	36	10	76

INVESTMENT OBJECTIVES, POLICIES, STRATEGIES, AND TACTICS

Investors and portfolio managers have investment objectives which they pursue with various investment policies, strategies, and tactics.

Our personal investment objectives are best defined in terms of our individual tolerances for uncertainty. Specification of a desired rate of return is hardly a meaningful investment objective for, in this regard, we are all the same. Who does not desire to maximize his rate of return? Once we have, somehow, established and specified our tolerance for uncertainty, it is the marketplace that will determine our rate of return.

We might next define for ourselves an investment policy that accommodates our tolerance for uncertainty. We might, for example, decide that we can live with no more uncertainty than that characterized by a portfolio that is held half in cash and half in common stocks.

Our strategy for the cash might be to hold bank certificates of deposit, money market funds, or U. S. Treasury bills. Our strategy for common stocks might be to hold high-quality growth companies, aggressive growth companies, cyclical companies, high-dividend paying companies, troubled companies, small companies, large companies, or a combination of any of these. Our tactics might determine for us when to be in one group or another.

There are any number of reasons why one might elect to invest in any of these common stock categories or any of many more such categories. There are always legitimate reasons for believing that any of these groups of stocks will be favored in the marketplace during some future period of time. Interest rates may be expected to rise, or to fall; the economy may be

expected to expand, or to contract; or the investing public may be expected to become more exuberant or more conservative. Such factors, most assuredly, would affect these different market sectors in different ways.

I am unable, however, to imagine any economic, monetary, or other market scenario that would more likely target a subset of companies defined by their market capitalizations than a subset of companies defined by the size of their sales, their profits, or their assets.

A SIMPLIFIED EXAMPLE

In terms of their sales, profits, or assets, let us define half of all companies as "large" and the other half as "small."

Let us next recognize that a stock sells at a premium (e.g., a high price-earnings ratio⁴) because of the market's perception that the company is of above-average quality and/or that it has an above-average potential for growth. Let us call such a company one held in "high esteem." Similarly, a stock sells at a discount (a low price-earnings ratio) because of the market's perception that the company is of below-average quality and/or that it has a below-average potential for growth. Let us call such a company one held in "low esteem."

Because market capitalization is a function of common stock price as well as firm size, it follows that, among the major members of the "large capitalization" category will be (1) all very large companies, including those priced at a discount because they are held in low esteem and (2) moderately small companies priced at a premium because they are held in high esteem.

Conversely, among the major members of the "small capitalization" category will be (1) all very small companies, including those priced at a premium because they are held in high esteem and (2) moderately large companies priced at a discount because they are held in low esteem.

The following diagram may better help depict the foregoing categories:

⁴ "Earnings" is another name for "profits." Other yardsticks by which the relative price level of a common stock is commonly measured include its price-to-sales and price-to-book (total assets minus total liabilities) ratios.

SOME MAJOR MEMBERS OF THE LARGE-CAP AND SMALL-CAP STOCK CATEGORIES

Large Cap Companies	{	All very large companies, including those priced at a <u>discount</u> because of their <u>low</u> quality and/or <u>low</u> potential for growth
		Moderately small companies priced at a <u>premium</u> because of their <u>high</u> quality and/or <u>high</u> potential for growth
Small Cap Companies	{	Moderately large companies priced at a <u>discount</u> because of their <u>low</u> quality and/or <u>low</u> potential for growth
		All very small companies, including those priced at a <u>premium</u> because of their <u>high</u> quality and/or <u>high</u> potential for growth

The important point to be made is that some significant number smaller companies (as measured by sales, profits, or assets) get thrust into the large capitalization category by virtue of their premium prices; and, similarly, some significant number of larger companies get pushed down into the small capitalization category by virtue of their discounted prices.

Just how significant the number and magnitude of these dislocations are can be gleaned from the range of the price-earnings ratios (P/Es) of the companies appearing in the preceding tables. They range from a low of 6-to-1 for Chrysler to a high of 48-to-1 for Microsoft. In terms of the market's current perception of quality and potential for growth, Microsoft is held in eight times higher esteem than Chrysler. If Chrysler had the same P/E as Microsoft, it would have a market capitalization eight times as large as it has now. Similarly, if Microsoft had Chrysler's P/E, its market capitalization would be only one-eighth of what it is now. Clearly, the level of a company's price is far more important than the magnitude of its sales, profits, or assets in assigning it a rank on the basis of market capitalization.

What do all very large companies held in low esteem have in common with moderately small companies held in high esteem? What do all very small companies held in high esteem have in common with moderately large companies held in low esteem? To both questions, I would answer, "not much." If they have little in common, there is no reason to expect them to move in tandem in response to any particular, economic, monetary, or other market dynamics.

Large companies may move together for a number of reasons, the most obvious of which is the safety associated with their large size. Small companies may move together for a number of reasons, the most obvious of which is the greater potential for growth associated with their small size. It is extremely difficult, if not impossible, however, to define a reasonable set of circumstances which would either favor or disfavor both very large companies held in low esteem and moderately small companies held in high esteem versus very small companies held in high esteem and moderately large companies held in low esteem. Such disparate collections of stocks are not likely to march to the same drummer, no matter what the drummer's beat might be.

That very large companies and moderately small companies selling at premiums may seem to move together is easily explained by the fact that, collectively, this particular assemblage of companies is populated more by large companies than by small companies, as measured by sales, profits, and assets; and such large companies may, indeed, logically move together at times. Similarly, the universe of small capitalization companies is populated more with small companies, as measured by sales, profits, and assets, than by moderately large companies selling at discounts, and such small companies, too, may have trends that are independent of, and diverge from, those of large companies at times.

As an analogy, let us suppose that someone makes the observation that he thinks men are more conspicuous in crowds than women. When asked why, he says because men are generally taller than women. Would it not have been at least marginally more useful to make the observation that "tall" people are more conspicuous in crowds, irrespective of whether they are men or women?

DATA MINING

Data mining is the practice of looking at historical data to find patterns and, then, in the absence of a plausible theory to explain the patterns, using them, nevertheless, to make projections into the future. Sunspot cycles and hemline trends have been said to correlate with bull and bear markets in the past, but few people use them productively to manage their portfolios today. It is said that, historically, the best single predictor of the Standard & Poor's 500 Stock Index has been butter production in Bangladesh, but portfolio strategies based upon this correlation have not gained wide acceptance.

Portfolio managers, though they vary widely in their investment strategies, are in near universal agreement that any technique, in addition to appearing to have worked in the past, must have some logical explanation as to why it has worked, before they will bet money on its working in the future.

I ask those who engage in the large-cap-small-cap dialogue to explain why a group of stocks which have nothing more in common than the size of their market capitalizations should ever respond in unison to any economic, monetary, or other set of market forces and, if so, just what these forces might be.

CONCLUSION

Why, then, is market capitalization so widely used as a measure of firm size? I suspect that it is used by default. Unable to agree whether sales, profits, or assets is the best yardstick, portfolio managers, at least, can compromise with market capitalization. Though they cannot agree on which of the four measures is the best, they can all agree on which of the four is the worst, and so that is what they use.⁵

For the foregoing reasons, however, it is this writer's opinion that large-cap-small-cap discussions are not useful; and, most assuredly, the large-cap-small-cap dichotomy is not useful for defining an investment objective, policy, strategy, or tactic.

Whether they be mutual fund managers, investment advisors, stockbrokers, or individual investors, I believe those defining a focus of their investments in terms of large-cap and small-cap categories are victims of the "Amos 'n' Andy illusion" illustrated in the opening paragraphs of this paper.

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⁵ Even if measured by sales, profits, or assets, firm size in the absolute is not necessarily a useful concept. A determination of company size that is useful requires a comparison with other companies in its industry. For example, while annual sales of \$1 billion would imply very large size for a manufacturer of apparel, it would imply much lesser size for a grocery store chain.