Portfolio123 Virtual Course: Choosing Designer Models
By Marc Gerstein

Topic C – Size

Intuitively, it's easy for many, perhaps most, investors to accept size (large-cap, small cap, etc.) as a relevant investment consideration. Even those who can't articulate the way Size works still understand the implications, pro and con, of pursuing blue chips, or micro rockets. The challenge, though, is to see it as a bona fide factor.

Size As a Factor

Seeing Size this way requires us to accept that empirical study could justify size as a driver of risk and return, and to be able to make the logical connection between size and the foundational Dividend Discount Model.

I'm not going to detail empirical studies that support the efficacy of a size factor because by now, that's hardly in dispute. Size was one of the factors studied in the pioneering Eugene Fama – Kenneth French study, and it has been studied by many others since then. Portfolio123 strategy designers have likewise bumped into this whether they sought to consciously harness the size effect, as many do, or whether they came upon it in the course of pursuing other ideas.

To the extent you see contemporary rhetoric questioning the efficacy of the so-called "small cap" effect, this isn't so much a debate on whether smaller is better in general, but on when smaller is better right now. Like other factors, Size is neutral, non-judgmental. The investment community has accumulated considerable experience wherein the small-cap effect operated as a positive influence on equity returns.

But there is no inherent reason why this must always be so. There can be and are times when bigger is better. Discerning which is which gets us to the next aspect of what makes for a factor, the logical connection with financial theory. With Size, the logical connection is not always easy to see.

By way of review, the Dividend Discount Model (DDM) sets the price of a stock based on Dividend (D), Required rate of Return(R), and expected Growth Rate (G); the relationship set as P=D/(R-G). (Recall from earlier discussion that this is not a formula that can be or is applied literally but a statement of an ideal, with adaptations and other fundamental factors helping us identify stocks more or less likely to be priced in line with the ideal.) While Size is not part of the formula, it is something that often has significant impacts on both "R" (size influence risk which in turn influences R) and "G."

Size and "G" (the Expected Growth Rate)

This is an aspect of lifecycle and should be intuitively obvious. As things, humans, businesses, etc. age, the rates at which they can be expected to grow diminish. A new restaurant chain can double its unit base (from 1 to 2, or even from 4 to 8) much more easily than can McDonalds.

Those who have analyzed small-caps in depth or worked for small companies know another way size influences expected growth rates. Smaller companies tend to be less bureaucratic and less diverse. That enhances the abilities of such firms to bring new ideas into commercial fruition without the baggage of having them repeatedly analyzed by and explained to layers of executives whose jobs it is to "manage" and who have little stake in or even understanding of individual ideas. (Recall, for example, how post-startup Apple became less innovation friendly and got its groove back only when Steve Jobs, a one-of-a-kind forceful individual, was able to literally destroy the company's bureaucracy and regain the sort of do-it-now power he held back in the company's early days. That caused large-cap Apple to act against type.)

Also, even in the best-managed companies on all parts of the Size continuum, size influences the level of internal diversification. However many good ideas may surface within a company, there is just so much capital to go around, meaning that some good ideas will not get funded. How successful or unsuccessful a large company will often be turns on how effective it is at evaluating competing ideas and in choosing the best based on merit, rather than internal politics. The fact that the old-time 1960s-70s conglomerates, which sounded great on paper, consistently failed to produce satisfactory returns on capital indicates how hard this can be (and why, during the '80s, one of the hottest Wall Street trends was playing conglomerate buyouts-ups.)

These are general characteristics, not hard and fast rules. We see very large companies that post excellent growth rates (AAPL), and very small companies that have trouble growing. But in both cases, the companies would be going against type. Bear in mind, too, that we're not talking about actual observed documented growth rates. We're dealing with expected future growth rates. And these expectations are long-term in nature (in the DDM formulation, it's an infinite growth rate). So in the market, the expectation that smaller companies can grow more quickly wins the day, regardless of what empirical historical evidence might show.

Whether we agree with or approve of this is not relevant. For us, all we need do is understand the lifecycle-based stereotype and recognize that it has an impact on ideal stock valuation. Successful size-based strategies are those that are able to support these generalizations with tests that guard against stocks likely to go against type.

Size and "R" (the Required rate of Return)

R represents a combination of two thing; rate of return in general (heavily influenced by the risk-free interest rate and the equity risk premium, a bonus return expected, although not always received at the end of the day, by equity investors who need to be motivated to take on marker risk) and company-specific factors that make each one's stock more or less risky than the equity market in general.

Size plays out in the latter area, the level of company-specific risk. Here's the logical sequence:

1. Fixed costs are likely to loom larger on income statements when companies are small (i.e., before they are able to fully outgrow and eventually dwarf fixed costs). That adds an important element of volatility to the earnings stream, which in turn adds an element of volatility to the stock price.

2. Smaller companies are more likely to experience the impact of lesser and in many cases, no internal diversification. This goes way beyond the stereotypical notions of conglomeration. If you download and carefully read 10-K Business Descriptions of large-cap companies, you may be amazed at how many different operations you can find even in companies that might seem, based on GICS or SIC coding, to be single-business firms. (This is a consideration in why providers of financial data have struggled to monetize their information among non-investment "business" users who, presumably, would want to better research their respective industries.) As with diversified stock portfolios, the holder is protected against misfortunes in any one or a number of areas by buffers provided by the presence of other holdings. Small companies that have non- or less-diversified business portfolios are exposed to more revenue volatility, that gets exacerbated by the impact of fixed costs as it progresses toward a bottom line.

3. Either way, smallness is associated with greater volatility, at least the perception and often the reality.

4. Increased volatility means increased risk.

5. As we saw with valuation, increased risk means lesser valuation metrics all else being equal. Therefore small caps should trade at lower valuation metrics unless all else is not equal (i.e. unless expectations of stronger growth can offset the risk effect)

The Size Effect in the Marketplace

Now, we can understand the phenomenon described periodically in the media as a "flight to quality." When times get tough, it gets harder for small cap growth expectations to offset

perceptions of increased small-cap risk. That drives capital away from smaller issues toward larger firms.

Conversely, in good times, perceptions of growth rise while risk fears diminish. That moves capital toward smaller firms.

Almost by definition and through mega trends (population growth, productivity, etc.), we tend to have more good periods than bad ones. So when we examine history, we find ourselves with more instances characterized by small cap strength. But we should never lose sight of the fact that however long-lasting small cap strength may be shown to have been, there are conditions under which it can evaporate quickly and vigorously. It all depends on calibration of expectations regarding "R" and "G."

Both tendencies can be and often are amplified by what the Fed does. Injection of liquidity, excess capital, into the system makes it more likely that lower quality higher risk-assets (small cap) can attract newly created capital. Conversely, withdrawal of capital (i.e., as would occur if interest rates rise) can be expected to cause many to prioritize their capital commitments, with riskier small caps potentially on the short end of that stick.

Going forward, with the 30-plus year period of easy money likely at an end and likely to be reversed, be aware that the basic script would suggest a flight to quality, or larger issues. To choose among smaller-oriented models, consider emphasizing to those with higher Quality scores. Those are the small caps with the best chances of going against type. Be likewise wary of large-leaning models with noticeably low Quality scores; these, too, may go against type, but with adverse implications.

Post Script

Obviously, the Quality style scores are very important. In fact, it would be fair to wonder if we should be separating Size and Quality at all. Aren't they one and the same?

That's an interesting question.

During the course of the development of the Designer Models platform, we had studied them separately and together and noticed that the two styles were not so highly correlated as to discourage us from using both. Although they give similar messages, there are unique flavors to each. Our Quality rank, for example, is better able to capture financial strength and earnings quality, important considerations not analyzable on the basis of size per se. (Gimmicky accounting exists in large firms just as readily as in small companies, and when it comes to balance sheets, many very small firms are a lot stronger than many realize.) Meanwhile, Size captures growth expectations and corporate diversification in ways beyond what we can capture by looking at Quality metrics.

Note, too, that during several pre-launch incarnations, we did, indeed, present Size and Quality the same way, as factors. The presentation we ultimately chose for the live launch, however, is aimed at better user comprehensibility – by having users think about Size in

familiar terms (large, mid, small and micro, as opposed to rank scores). But make no mistake: Size is a factor/style just like Momentum, Quality and Value.

Coming Attractions

The next topic will be Themes.