

What Do We Mean When We Talk About “Value?”



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It has long been common practice in the investment world to divide the market up into “value stocks” and “growth stocks.” What do these labels really mean? “Value” connotes that the stocks in this category are undervalued, and should therefore outperform over time, while “growth” implies that these are stocks with faster earnings growth. Are these broad categorizations true? That is, do value stock indices outperform consistently over time, and do growth stock indices experience faster earnings growth? The answers may surprise you. We examined the Russell 1000 Value and Growth indices, and found that 1) there is no evidence that the Value index outperforms with any consistency, and 2) similarly, the Growth index does not systematically experience faster earnings growth. In the end, this is because the way that Value and Growth have been defined is problematic, driven by accounting metrics. We demonstrate that there is a better way to define Value, driven by an important financial metric, free cash flow yield.

Defining Value

Suppose you walk into a grocery store and see that a gallon of milk is selling for \$3.00. Meanwhile, a quart is selling for \$1.50. Does the quart-sized container represent the “value” container of milk, since it has a lower price? Intuitively, we all understand that “value” has something to do with the relationship between what you are paying and what you are getting. Since it takes four quarts to make a gallon, the gallon-sized container is selling at \$0.75 per quart, half of what you have to pay to buy a quart on its own. Clearly then, the gallon is a better value than the quart, right? It would certainly seem so.

But suppose you are not a milk drinker, and you really only need a quart of milk for a recipe. If you buy the gallon you will end up throwing away three quarters of it. Now which is the better value: spending \$3.00 to get a better price per quart, but buying more milk than you actually need, or spending \$1.50 and getting exactly how much milk you need, even if you are paying more per quart? Value is not necessarily as straightforward as it may seem.

This is particularly true when it comes to stocks. Nobody would be so simplistic as to say that a stock is “cheap” simply because it trades at a low price; investors know that in order to determine whether a stock is a good value they need to compare that price to... well, to something. But to what?

Many investors seem to think that by looking at the ratio of a company’s price to its earnings per share or its book value per share, they are making the necessary adjustment of comparing what they are paying to what they are getting. To them, the price/earnings ratio or the price/book ratio is equivalent to the price per quart calculation they make when buying milk. But milk is a commodity—one quart is pretty much the same as another. Is a dollar of earnings or book value at one company interchangeable with a dollar of earnings or book value at another?

Even putting aside the fact that earnings and book value are poor measures of a company’s success (a subject we will return to later), it should be obvious that two companies can be worth very different amounts even if they both have the same earnings or book value per share. One company’s dollar per share in earnings might represent the latest step on a steady upward path, with earnings having risen from 80 cents the year before and 65 cents the year before that; the other company’s dollar per share might represent the fifth consecutive year of a steady decline in earnings. It seems likely that investors will assign a higher price to the first company’s shares, which means that the first company will trade at a higher P/E multiple than the second. Does that make the second company a “value” stock?

The word “value” connotes that we are getting a good deal—a bargain of some kind. Clearly, just comparing P/E ratios and calling the stocks with the lowest P/E ratios “value” stocks is presumptuous. For all we know, the first stock, with its higher P/E ratio, might actually be more attractively priced than the second, depending on what the future turns out to be for both companies.

We bring this up because it has long been common practice in the investment world to divide the market up into two camps of stocks, one called “value,” and the other called “growth.” This has always seemed odd to us—why is “growth” considered to be the opposite of “value?” If the implication of the word “value” is that these stocks are undervalued, wouldn’t the opposite be something like “expensive” or “overvalued” rather than “growth?” Why, instead, should we assume that the opposite of a stock being undervalued is that it must be a fast growing stock? Conversely, why would we assume that stocks with higher growth rates are overvalued? This is simply a logical non sequitur, like dividing a group of runners into two groups and labeling them “short” and “fast.” These are simply not opposites.

If the value/growth distinction is in fact legitimate, then two things should logically follow. First, value stocks should produce better returns than growth stocks over some reasonable period of time. And second, growth stocks should have higher earnings growth than value stocks. (When you state these assertions, the paradox becomes clear: why would stocks with higher earnings growth underperform over the long term?) But are either of these assertions even true? Let’s look at how the Russell 1000 Value index and the

Russell 1000 Growth index stack up on performance and on earnings growth.

► **If the assertions are true, then Value should outperform and Growth should have higher earnings growth.**

Does Value Outperform?

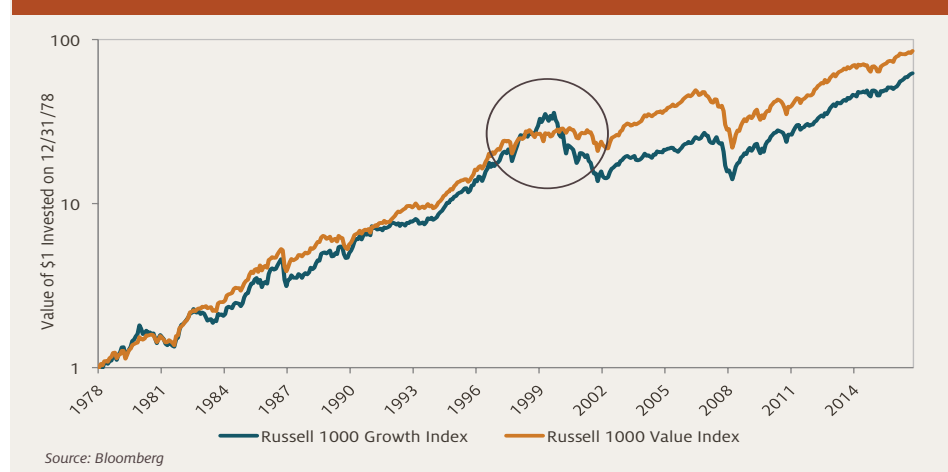
We will look at performance first, because we have a longer data history there. The Russell indices have an inception date of December 31, 1978, over 38 years ago.

Figure 1 shows the cumulative value of a dollar invested in each index at inception, using a log scale so as not to compress the results in the earlier years. (On a log scale chart, equal vertical distances represent equal percentage changes.)

Figure 1 indicates that over the total history of the two indices, the Russell 1000 Value index has indeed outperformed the Russell 1000 Growth index. But the story is not that simple. Notice that from the inception date of the indices up until the summer of 1999, a period of more than 20 years, the two indices actually produced nearly identical returns. The following three years saw the final stages of the tech bubble, followed by its collapse; the Growth Index outperformed until mid-2000, then underperformed significantly

Growth and value have performed in line with each other with the exception of the tech bubble.

FIGURE 1: Cumulative Performance of Growth and Value



Value outperformance confined to a narrow period

FIGURE 2: Relative Performance — Russell 1000 Value vs Russell 1000 Growth



Source: Bloomberg

until mid-2002. Since that time, fifteen years ago, the two indices have again produced very similar returns (remember that on this chart, equal vertical distances represent equal percentage returns, which is not true on an axis that uses a linear scale). **Figure 2** puts this story in better perspective by showing the performance of the Russell 1000 Value index relative to the Russell 1000 Growth index.

When the line in **Figure 2** is rising, it means that the Value index is outperforming the Growth index; when it is falling, Growth is outperforming Value. If the line moves sideways between two points in time, it means that the two indices produced equal returns over that span. As we noted above, 20 years after inception, the two indices were even with each other. After underperforming in the tech bubble, Value outperformed sharply when tech stocks collapsed. Value then outperformed again from 2002 to 2006, but gave back all of that outperformance from 2007 through today. (This was largely driven by the run-up and then the collapse of financial stocks, which for reasons we will discuss later tend to have a very high representation in the Value index and very little representation in the Growth index.) On a net basis, Value and Growth have again matched each other over the last fifteen years.

We are not trying to deny the fact that on a cumulative basis, Value has come out ahead of Growth since the end of 1978. But if there was some sort of “value effect” that these indices were capturing correctly, wouldn’t you expect it to be a more persistent phenomenon, rather than one that depends entirely on a three-year window out of an almost forty-year period to generate its outperformance? Keep in mind that even if the results were random, one index would still have come out ahead of the other. The question is, how do we

know if the cumulative outperformance of the Value index is random or if it signifies something meaningful?

There are a variety of measures we can look at to try to answer this question. For example, we can look at the individual yearly returns for the two indices, and see how often each one did better. As it turns out, in the 38 years since the inception of the indices, Value has had the better return 20 times, and Growth has won out 18 times—not terribly strong evidence against this being a random outcome.

How about if we look at longer time periods? We can look at rolling five-year returns on a monthly basis since the end of 1983. Through September 30, 2017, there have been 406 rolling five-year periods.

Figure 3 shows the results. As you can see, there appears to be a roughly equal split between the number of periods in which Value had a higher return and the number in which Growth had a higher return.

That visual intuition is correct. Value has outperformed in 211 of the periods, and Growth has outperformed in 195. That is a 52%–48% split—again, not much evidence against randomness.

Finally, we looked at the average monthly returns for the two indices over their lifetimes, which come out to 1.05% for the

Over longer periods, the performance of Value and Growth are fairly even

FIGURE 3: Rolling Five-Year Annualized Returns



Source: Bloomberg

Value index and 1.01% for the Growth index. Is that 0.04% average monthly difference in favor of Value meaningful? There is a statistical test we can perform, called a difference of means test, which starts out with the hypothesis that the true difference in means over the long term is zero (i.e., any observed difference is random), and then tells us how confident we can be in rejecting that hypothesis. The test does this by relating the size of the observed difference in means to the variability of the two underlying distributions, and also takes into account the number of observations in the sample. Ultimately, it boils down to a number similar to the traditional “t-statistic,” which needs to be either greater than 2.00 or less than -2.00 for us to reject the hypothesis—i.e., to conclude with 95% confidence that the means really are different in some significant way.

When we perform this test on the difference in the monthly mean returns for the Value and Growth indices, the score we get is just 0.06, meaning that we cannot reject the hypothesis that the 0.04% difference is simply due to randomness. In fact, there is virtually no evidence in favor of rejecting the hypothesis. The 0.04% difference in the monthly mean returns is so small relative to the range of monthly returns the indices have experienced that it is simply not credible to attribute the difference to anything other than noise.

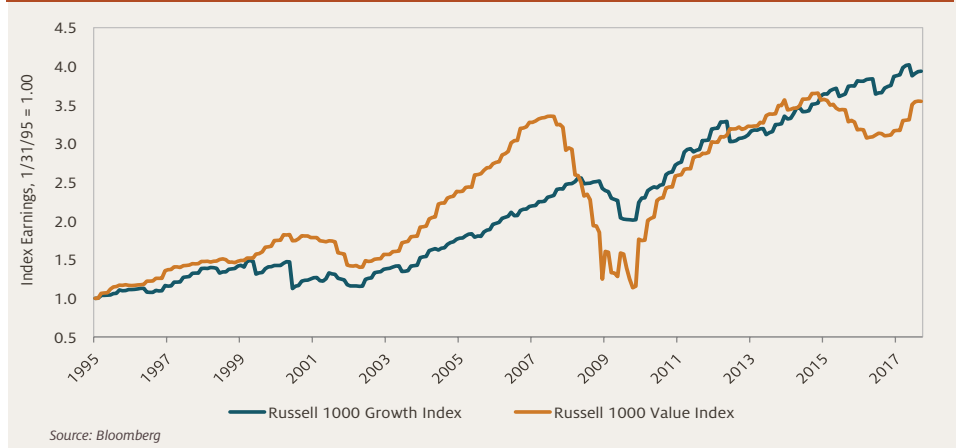
► After looking at the performance a number of different ways, we can confidently say that, over the long-run, Value and Growth are fairly evenly matched.

Does Growth Have Better Earnings Growth?

So apparently, whatever “value” means in the context of the Russell 1000 Value index, it doesn’t mean “likely to outperform.” What about “growth?” Does the Growth index experience faster earnings growth than the Value index? We do not have access to earnings data for the two indices all the way back to inception, but we do have it going back more than 22 years, courtesy of Bloomberg. **Figure 4** shows

After nearly 20 years, the cumulative earnings growth of Growth and Value were almost identical

FIGURE 4: Russell 1000 Growth and Russell 1000 Value Index Earnings



Higher earnings growth for the growth index confined to a short period of time

FIGURE 5: Relative Earnings: Russell 1000 Growth vs Russell 1000 Value



the earnings for the two indices starting on January 31, 1995, rescaled so that both indices start at 1.00 on that date. (There is no need to use a log scale in this chart because the vertical scale covers a small enough distance that using a linear scale does not lead to any significant distortion.)

Over the roughly twenty-two and a half years of data, the Growth index has seen greater growth in earnings on a cumulative basis than the Value index. But once again, that fact alone does not do justice to the story. Notice that as recently as October

2014, the cumulative growth in earnings for the two indices from the start of the graph—a period just short of twenty years—was identical. Not only that, there was a long stretch of time in the beginning of this period—from January 1995 to April 2008, more than 13 years—in which the Value index had better cumulative earnings growth than the Growth index.

This becomes clearer in **Figure 5**, where we show the earnings of the Russell 1000 Growth index relative to those of the Value index, scaled to 1.00 at the start of the

period. Just as in Figure 2, movements in the line show us how one index is doing relative to the other. In this case, when the line is rising, it means that the Growth index's earnings are doing better than the Value index's earnings, and vice versa.

As we noted above, the first dozen years of this period were marked by the fact that earnings for the Growth index were generally growing more slowly than those of the Value index. There was a dramatic reversal during the financial crisis, as the earnings of the banks (as mentioned, a large component of the Value index) collapsed. But in the aftermath of the crisis, the earnings of the Value index recovered a large part of that relative ground. In the last three years, the Growth index's earnings had again begun to pull ahead of the Value earnings, but that trend has actually reversed in recent months.

So yes, just like the case with the performance data, the cumulative data shows that one index came out ahead of the other (as must be the case), and that it appears to be the “right” index (in this case, Growth). Looking at the detail behind the cumulative total, however, provides little confidence that the Growth index truly contains stocks with faster earnings growth.

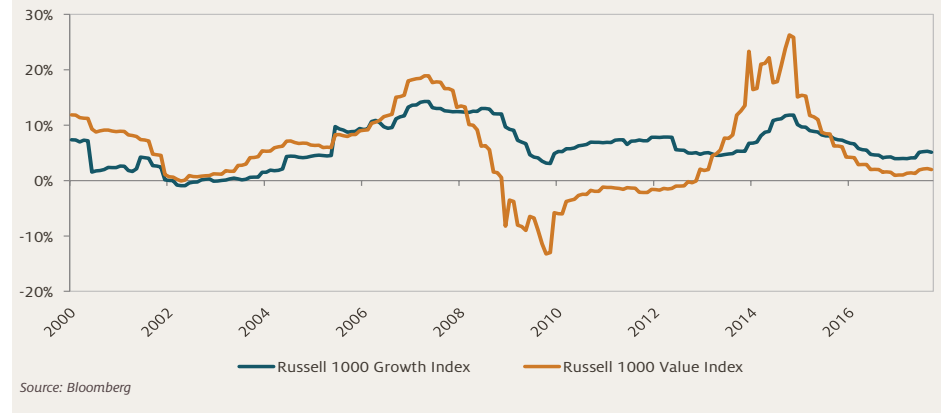
Once again, we can break the data down into one-year and five-year periods to see if there has been any consistency for one index over the other. Since the data we have starts on January 31, 1995, we looked at individual 12-month periods ending on January 31 of each year, starting with January 31, 1996. There have been 22 such periods. The Growth index has had better year-on-year earnings growth in just nine periods, versus 13 for the Value index.

Figure 6 shows the rolling five-year earnings growth rates for the two indices, and reveals something quite interesting.

Perhaps not surprisingly, given that Value saw better year-on-year earnings growth more frequently than Growth, Value has also tended to have the advantage in the five-year growth figures, coming out ahead in 116 of 213 periods, or about 54% of the time. Growth has had better numbers 46%

In many five-year periods the Value index has had better earnings growth than the Growth index.

FIGURE 6: Rolling Five-Year Annualized Earnings Growth



of the time. And yet, as we saw in Figure 4, the Growth index comes out ahead on an inception-to-date basis for the total period. Part of that is because the earnings for the Growth index have been much less variable than those of the Value index. Notice in Figure 6 that earnings growth for the Value index has had higher highs and lower lows than the growth rate for the Growth index. Those lower lows make a difference. For the five years ending in October 2009, earnings for the Value index fell at an annualized rate of 13.3%. That means earnings fell 51% cumulatively during those five years. Falling into a hole that deep meant that Value index earnings had to double from that low just to get back to where they started. Meanwhile, during those same five years, the Growth index's earnings were actually rising by 3.2% per year. It was the fact that Value's earnings had to dig themselves out of such a deep hole that led to the Growth earnings outperforming the Value earnings on a cumulative basis, even though Value beat Growth more often when measured over shorter time periods.

► So, to return to our original question, do stocks in the Growth index experience faster earnings growth than stocks in the Value index? The answer is somewhat ambiguous, and seems to be “it depends on how you look at it, but much of the time, no.”

It does seem, however, that stocks in the Growth index experience less variability in their earnings than stocks in the Value index.

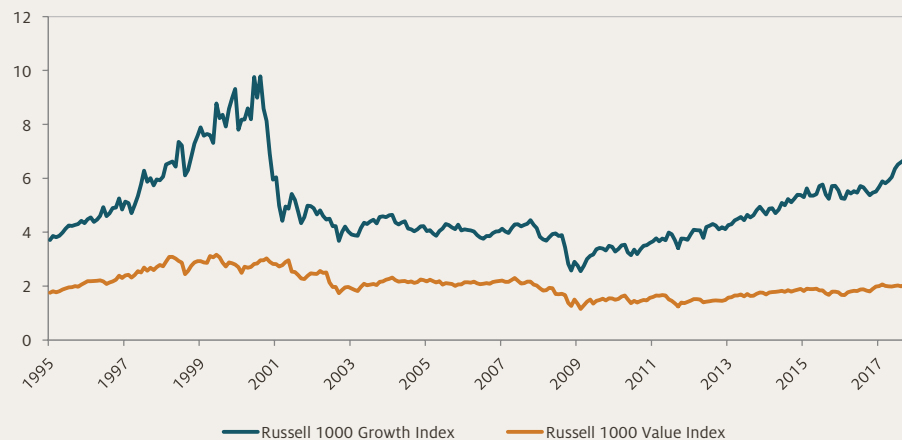
Where Does This Leave Us?

At this point, we have learned that “value” stocks don't seem to outperform “growth” stocks, so maybe they are not really undervalued in any meaningful sense. And growth stocks don't really seem to experience faster earnings growth than value stocks much of the time. So what is the point of these indices? Do they measure anything? The answer is that they do measure something; the question is whether that something is meaningful.

How does Russell classify stocks as value or growth? They rely on three measures, one for value and two for growth. Russell uses price/book ratio as its measure of value; for growth, the firm uses one backward-looking variable, trailing five-year growth in sales per share, and one forward looking variable, expected two year earnings growth (from IBES). The firm combines these variables into a single score, giving a 50% weight to the price/book ratio and the other 50% to the two growth variables together. Russell then ranks stocks on this combined score. Interestingly, they do not assign all stocks exclusively to one index or the other. According to Russell, they classify the 70%

With value defined as low P/B by Russell, the value index will always have a lower P/B.

FIGURE 7: Price/Book Ratios



Source: Bloomberg

of the available market capitalization with the most extreme scores at the two ends of the ranking as either all-value or all-growth. For the stocks in the remaining 30%, Russell assigns them partially to one index and partially to the other, with the two parts adding up to 100%. They might consider one stock to be 58% Value and 42% Growth, while they consider another to be 61% Growth and 39% Value. Thus, there is some overlap in the names between the two indices, although the weightings in those names will differ between the indices.

Given this methodology, you should not be surprised by Figure 7, which shows the price/book ratios of the two indices over time.

If you define value as low price/book, your Value index will always have a lower price/book ratio than your Growth index. But as we saw, there has been no statistically significant difference in performance between the Value and the Growth indices over time, which tells us that low price/book is not a useful predictor of outperformance. And the reason why that is the case is that the price/book ratio is a very poor measure of whether a stock represents a good value.

Why? Well, consider an analogy. Suppose you are looking for a carpenter to build a deck outside your house. You have all

the materials, and you just need someone to put it all together. You speak to two carpenters about the job. The first charges \$50 per hour to build the deck, while the second charges \$75 per hour. The first one is cheaper on a per hour basis, so that must be the better value, right? Or do you feel that perhaps you are missing a key piece of information here—namely, how many hours it will take each carpenter to finish the job. Suppose it turns out that it would take the

first carpenter 30 hours to finish the job, but the second carpenter could do it in 18 hours, because he has better tools that enable him to work faster. Your total cost would be \$1500 for the first carpenter, but only \$1350 for the second carpenter, even though the second carpenter charges more per hour.

The lesson here is that an hour of labor from one carpenter is not interchangeable with an hour of labor from another carpenter, because the two carpenters have different levels of labor productivity. So evaluating which carpenter is a better value simply by looking at each one’s price per hour of labor is a poor strategy. Similarly, a dollar of book value at one company is not interchangeable with a dollar of book value at another company, because the two companies can generate different levels of return on that book value. In essence, some companies are able to be more productive with their capital. And as **Figure 8** demonstrates, companies in the Value index have, with rare exceptions, generated much lower returns on their book value, as measured by return on equity, than companies in the Growth index. So evaluating which company is a better value simply by looking at each one’s price per dollar of book value is also a poor strategy—as demonstrated by the fact that

Lower P/B can be the result of companies having lower ROE. Should they be considered Value?

FIGURE 8: Return on Equity



Source: Bloomberg

the Value index has shown no evidence of systematically generating better returns.

Now, this is not to say that a company selling at a low price/book ratio cannot be undervalued, or that a company with a high price/book ratio cannot be overvalued. Of course they can. But it is equally true that a company selling at a high price/book multiple can actually be undervalued relative to a company trading at a low price/book multiple. The point is that just looking at a company's price/book ratio alone does not give you enough information. You need to put that multiple in some context when you compare that stock to another one with a higher or lower multiple. Do the companies earn different returns on those book values? And if so, do those differences justify the differences in the price/book multiples? The answer is never simple.

We mentioned earlier that financial stocks have tended to have a much heavier weight in the Value index than in the Growth index over the years, and that as a result you can often explain the behavior of the Value index by making reference to what was happening to financial stocks. (As of September 30, 2017, financial services made up 25.9% of the Russell 1000 Value index, versus just 3.4% of the Russell 1000 Growth index.) Now that we have discussed the methodology that Russell uses to classify stocks, we can see why that is the case: financial stocks tend to trade at low price/book multiples. But given what we saw about return on equity in Figure 8, we can also see why financials tend to trade at low price/book multiples: they have generally produced relatively low ROE over the years. So financials are usually considered “value” stocks. Does that mean they are usually likely to outperform? No.

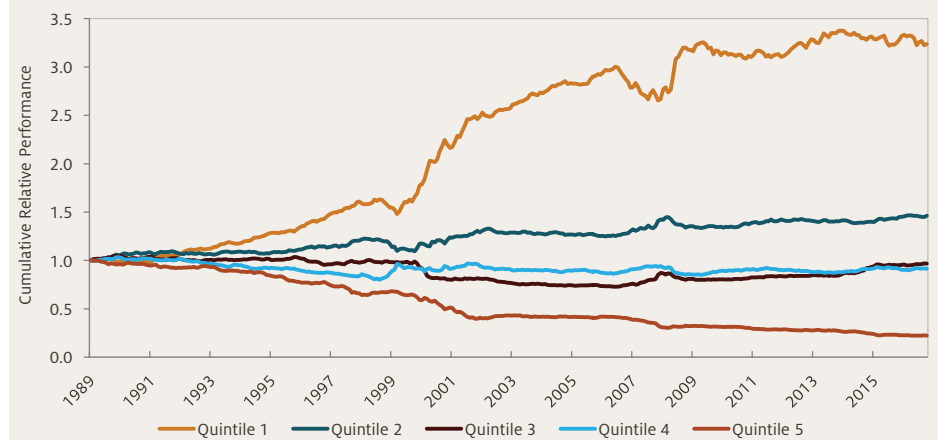
► Lower ROE can lead to lower P/B, making a stock a value stock. Are investors getting a good deal from a company with lower ROE?

Is There a Better Definition of Value?

As we have seen, Russell's methodology for classifying stocks as “value” or “growth”

Using free cash flow yield to measure value, we see that companies with higher FCF yield tend to outperform

FIGURE 9: Free Cash Flow Yield Quintiles, Russell 1000, Equal Weighted



Source: Epoch Investment Partners

has little to do with whether they are likely to outperform the market (which is what the word “value” would imply) or whether they are likely to experience above average earnings growth in the future (which is what you would expect from “growth” stocks). Rather, the classification system depends heavily on price/book ratios, labeling stocks with low price/book ratios as “value” and stocks with higher price/book ratios as “growth.” This ignores the fact that price/book ratios are heavily influenced by return on equity (and remember that “equity” in the ROE calculation is the same thing as book value); companies that earn high returns on their equity tend to sell, not surprisingly, at higher multiples of that equity than companies that earn lower returns on their equity. The two indices might just as well be called High ROE and Low ROE rather than Growth and Value.

If price/book alone is an insufficient measure of value, and if trying to figure out whether a particular price/book multiple is justified by a particular level of ROE is inevitably complex, is there a more straightforward way to measure value? We believe that there is.

Epoch's philosophy, reduced to two essential principles, is that 1) it is the

ability of a company to generate free cash flow that makes it worth something to begin with, and 2) it is how management allocates that free cash flow (between reinvestment in the business or distribution to shareholders) that determines whether the company's worth grows or shrinks. This philosophy tells us that a true measure of value should not be dependent on accounting based measures like earnings or book value. Accounting figures are too easily manipulated within GAAP rules, are distorted by accruals, and ignore the time value of money. A better measure of value is one that relies on the free cash flow that a business throws off.

In our 2016 white paper, “Free Cash Flow Works,” we demonstrated that companies with high free cash flow yields have outperformed the market by a wide margin over the years, while companies with low free cash flow yields have underperformed. **Figure 9** recreates a chart from that paper, showing the cumulative relative performance of the stocks in the Russell 1000, divided into quintiles every month based on their trailing one-year free cash flow yield (and updated through June 30, 2017). We can think of this chart as showing five different value indices, ranging from “most attractive” to “least attractive.”

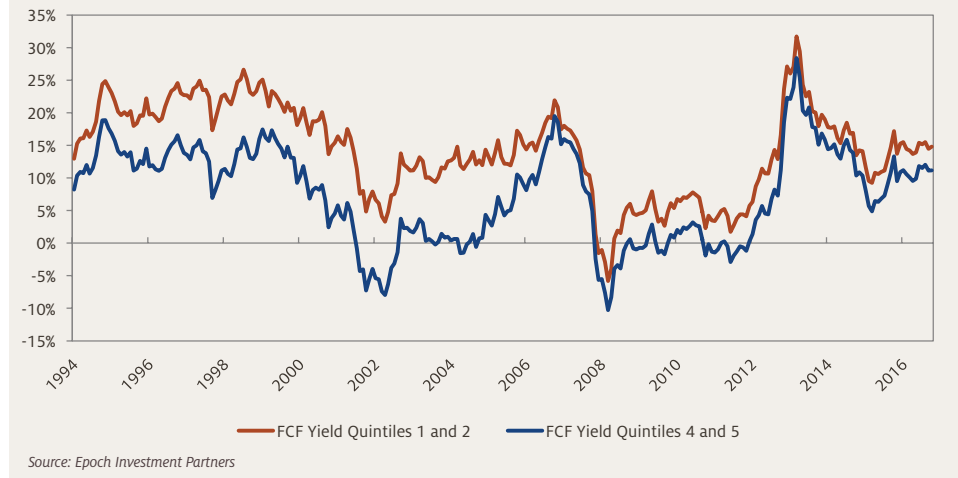
We would never think of calling quintiles 4 and 5 the “growth” quintiles, because as we noted earlier, value and growth are not opposites. They are simply the quintiles with the lowest free cash flow yields. But to make this analysis more comparable to our earlier analysis of the Russell indices, in which we were looking at just two indices, we combined quintiles 1 and 2 into one index, and quintiles 4 and 5 into another. This gives us two indices, one representing the 40% of stocks with the highest FCF yields, and the other representing the 40% of stocks with the lowest FCF yields. In **Figure 10**, we show the rolling five-year returns for these two combined indices.

Remarkably, the top two quintiles performed better than the bottom two quintiles over every five year period back to the inception of our data. Obviously, the margin of outperformance varied, but it never dipped below zero. On a calendar year basis, the combination of the top two quintiles did better than the bottom two in 24 of the 27 years in our sample; the bottom quintiles outperformed in only three years (1999, 2003, and 2010, in case you are curious).

As impressive as these numbers are, we have to admit that the difference in the average monthly returns for these two series (1.20% per month for the top quintiles, 0.74% per month for the bottom quintiles) was still not wide enough, given the variability of the underlying data and the number of data points, to pass the difference of means test that we mentioned earlier. That shows how difficult the test is to pass. Still, we suspect that few investors would quibble about the difference in monthly returns not being statistically

Companies with higher FCF yield outperformed in every rolling five-year period

FIGURE 10: Rolling Five-Year Annualized Returns



significant when they have at least been so directionally consistent.

This is not to say that simply holding the top two quintiles is an investment strategy that you should necessarily follow. Such a portfolio might at times not be as well diversified as you might like, or it might expose you to certain types of active risk you would prefer not to take. The point of this analysis was, first, to show that there is a better, more reliable measure of “value”—defined as a price-sensitive characteristic (remember, FCF yield is the inverse of the price/FCF ratio) that is likely to lead to outperformance—than the measures like price/book that are commonly used in widely followed Value indices.

But we also had another motive, which was to explain why those standard Value indices are a poor measure for Epoch’s value-

focused strategies. Clients and consultants, hearing us describe these strategies as employing a value approach, often compare our portfolios and our results to traditional Value indices, and are puzzled by what at times seems to be a mismatch.

► Underlying that variance is the fact that Epoch defines value based on free cash flow characteristics, rather than on traditional accounting metrics. In the long run, we believe our way of defining value is more meaningful and more likely to lead to good returns.

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