The FTSE BIRR approach to controlling economy-wide surprises

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The danger of inadvertent risk taking

Investment managers are always concerned about the riskiness of their portfolios. They are especially concerned about their risks relative to the benchmark against which their performance will be evaluated. It is particularly dangerous, therefore, when some risks are hidden from view, either in the managed portfolio or its benchmark.

This situation is exacerbated by the fact that a manager can easily slip into taking inadvertent risks. For example, strategies of selecting high-growth stocks may entail substantial exposures to the business cycle, exposures that often exceed those of the standard growth benchmarks. Unless these exposures to business cycle risk are recognized, measured, and controlled, high-growth strategies will underperform whenever there is a surprise downturn in economic activity.

FTSE BIRR’s software is designed to help a manager measure and control a portfolio's exposures to these types of economy-wide surprises. It quantifies the exposures to risks that usually have been hidden from view and provides managers with a fresh outlook.

Moreover, FTSE BIRR's superior explanation of stock returns gives R-squared values that are almost always substantially higher than those obtained from other approaches. This means that FTSE BIRR's analysis does a much better job of accounting for the behavior of stock returns in terms of broad economic influences, and consequently it better isolates the stock-specific effects that result from a manager's stock selection process.

Economy-wide surprises

Investors recognize that a multitude of events influence stock returns. Some of these events—management decisions, technological advances, takeover attempts, and lawsuits, for example—may be of significance to only a single firm and its close competitors. Others—such as an unforeseen recession or a sudden change in interest rates—tend to affect almost all businesses and the value of their stocks, though each stock will be affected to a different degree.

Portfolio managers (excepting those few who depend exclusively on indexing) have always sought to identify the attributes that point to a potential for superior future performance. They examine firms' competitive positions, the quality of their management, and the possible effects of changes in politics and technology. They also consider certain more quantifiable measures, such as market size, price/earnings ratio, book-to-market ratio, and other firm-specific attributes. At least over certain time frames, certain broad strategies have been rewarded, such as investing in small stocks or in those with a low P/E.

Just as knowledge of basic firm-specific information is useful to an investor, so, too, is knowledge of how a firm's stock responds to broad economic changes. Neither type of information is a substitute for the other, and the best investment strategy takes both into account. With the FTSE BIRR software you can use your own methods of selecting and ranking stocks and simultaneously control your exposures to various economy-wide surprises.

Applying FTSE BIRR's risk-exposure control

The FTSE BIRR model has five primary risk factors. These factors are based on economy-wide surprises in various long-term and short-term interest rates, inflation, real economic growth, and market sentiment.

The simplest way to start using FTSE BIRR’s software is to determine how exposed your existing investments are to the five FTSE BIRR risk factors and how those exposures have influenced returns in the past. This will automatically help to answer a number of important questions. For example, to what extent are a given manager's superior (or disappointing) returns the result of stock selection and to what extent due to the effects of economic surprises? Do the seemingly independent strategies of several managers "add up" to an unintended tilt toward a particular kind of risk (e.g., inflation risk), creating more exposure than is prudent or necessary?

One of the most useful ways to safeguard your portfolio against economy-wide surprises is to add risk control to your own methods of ranking and selecting stocks. Many managers create portfolios based on their own stock selection methods and use FTSE BIRR to control risk exposures to be similar to some benchmark (such as the S&P 500 or the Russell 3000). Their motive is two sided. On the one hand, if an economy-wide surprise is "bad," their consequent losses will be no greater than that of their benchmark. On the other hand, if an economy-wide surprise is "good," their consequent gains will keep up with their benchmark. With FTSE BIRR, you simply import a list of stocks with your rankings (or estimates of return potential) and then simultaneously tune all five risk exposures to those of your benchmark. This prevents factor surprises from resulting in excessive losses from overexposure, while avoiding missed opportunities due to underexposure.

Another simple way of using FTSE BIRR's software is to employ one of the integrated optimizers to create an index portfolio. By matching the risk exposures and other characteristics of a benchmark, you can create a portfolio that tracks your benchmark with fewer stocks.

FTSE BIRR can help you make bets both on individual stocks and on economic surprises. For example, if you think the investment community underestimates both the likelihood of an economic boom and the danger of inflation, you can increase your portfolio's exposure to the business cycle while simultaneously reducing exposure to inflation. You can also control risks by placing constraints on how much of your portfolio is invested in stocks of certain sectors or certain market size ranges and even put minimum and investment limits on individual stocks.

Using FTSE BIRR's advanced optimization techniques, it's even possible to perform traditional mean-variance optimization while controlling economy-wide risk exposures.

The FTSE BIRR factors

The primary sources of economy-wide surprise are:

Confidence Risk

Confidence Risk exposure reflects a stock's sensitivity to unexpected changes in investor confidence. Investors always demand a higher return for making relatively riskier investments. When their confidence is high, they are willing to accept a smaller reward than when their confidence is low. Most assets have a positive exposure to Confidence Risk. An unexpected increase in investor confidence will put more investors in the market for these stocks, increasing their price and producing a positive return for those who already held them. Similarly, a drop in investor confidence leads to a drop in the value of these investments. Some stocks have a negative exposure to the Confidence Risk factor, however, suggesting that investors tend to treat them as a "safe haven" when their confidence is shaken.

Time Horizon Risk

Time Horizon Risk exposure reflects a stock's sensitivity to unexpected changes in investors' willingness to invest for the long term. An increase in time horizon tends to benefit growth stocks, while a decrease tends to benefit income stocks. Exposures can be positive or negative, but growth stocks as a rule have a higher (more positive) exposure than income stocks.

Inflation Risk

Inflation Risk exposure reflects a stock's sensitivity to unexpected changes in the inflation rate. Unexpected increases in the inflation rate put a downward pressure on stock prices, so most stocks have a negative exposure to Inflation Risk. Consumer demand for luxuries declines when real income is eroded by inflation. Thus, retailers, eating places, hotels, resorts, and other "luxuries" are harmed by inflation, and their stocks therefore tend to be more sensitive to inflation surprises and, as a result, have a more negative exposure to Inflation Risk. Conversely, providers of necessary goods and services (agricultural products, tire and rubber goods, etc.) are relatively less harmed by inflation surprises, and their stocks have a smaller (less negative) exposure. A few stocks attract investors in times of inflation surprise and have a positive Inflation Risk exposure.

Business Cycle Risk

Business Cycle Risk exposure reflects a stock's sensitivity to unexpected changes in the growth rate of business activity. Stocks of companies such as retail stores that do well in times of economic growth have a higher exposure to Business Cycle Risk than those that are less affected by the business cycle, such as utilities or government contractors. Stocks can have a negative exposure to this factor if investors tend to shift their funds toward those stocks when news about the growth rate for the economy is not good.

Market Timing Risk

Market Timing Risk exposure reflects a stock's sensitivity to moves in the stock market as a whole that cannot be attributed to the other factors. Sensitivity to this factor provides information similar to that of the CAPM Beta about how a stock tends to respond to changes in the broad market. It differs in that the Market Timing factor reflects only those surprises that are not explained by the other four factors.

The Importance of Risk Control

There is, of course, nothing inherently wrong with undertaking risks; after all, that is perhaps the most important way in which high returns are achieved. Nevertheless, one must recognize that the contributions of economy-wide surprises to return can result in substantial deviations in the performance of a managed portfolio and its benchmark. For example, even for relatively small differences in risk exposures, economy-wide surprises often contribute plus or minus 10% per year to the difference between the return for a managed portfolio and its benchmark.

The danger to a portfolio manager is that exposures to economy-wide surprises will be taken inadvertently. If a manager focuses on selecting stocks with superior performance, then using FTSE BIRR to calibrate risk exposures to mimic those of an appropriate benchmark will insulate the manager's performance from unwanted economy-wide surprises. In addition, superior stock selection can be combined with active tilts toward or away from certain kinds of risks. For example, a manager who anticipates an upturn in economic activity might decide to tilt toward Business Cycle Risk, taking a conscious and limited additional risk exposure in order to achieve a higher return.

But whether or not a manager decides to undertake active tilts, it is always desirable to substitute concrete knowledge for ad-hoc guesswork. FTSE BIRR removes the guesswork by measuring the magnitudes of the exposures to the various economy-wide surprises, both for any portfolio and any benchmark. And, using the FTSE BIRR system, a manager can control these exposures over time as part of a strategic investment plan.

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