Factor Management

The first model of factor investing, the capital asset pricing model, was developed in the 1960s and suggested that one factor, the market portfolio, determined asset risk premiums. But at the time, investors had no way to invest in the market factor. The market index fund was created a decade later and gave investors a way to collect the equity market risk premium through low-cost exposure to the whole equity market. Market index funds remained niche products until the 1980s and really took off in the 1990s; now many investors invest in the market factor cheaply, in scale, and with minimal agency issues. It took twenty to thirty years, however, after the conception of the theory for investing via the market portfolio factor to become widespread.

The theory behind moving beyond just the market factor to a world of multiple factors was developed in the 1970s. Theoretical developments and substantial empirical work validating multiple sources of factor risks occurred during the 1980s and 1990s. Today we are experiencing exciting times in factor investing as industry innovates to create low-cost, scalable versions of factors that are diversified within and across asset classes and regions. A new generation of dirt-cheap factor index funds will allow investors to harvest many
sources of risk premiums, including those associated with value versus growth, momentum investing, credit risk, and volatility risk. Most of the effort has been concentrated in dynamic factors that take time-varying nonmarket capitalization weighted positions, but there are also efforts to go further by linking the underlying macro factors to asset allocations.

I see three main areas where we still fall short of the theory. These are also areas where industry can help us reach the full potential of factor investing:

Identifying and Managing Bad Times
This book started with the asset owner. Her fears, desires, the riskiness of her income, her liabilities, how she perceives different sources of risk—all uniquely (p.622) define her set of bad times. Periods of low wealth are often bad times, but bad times also include times of moral indignation, jealousy when her peers and neighbors do better, and distress at how her wealth and consumption might have changed for the worse compared to what she was used to. Asset management is ultimately about building portfolios that mitigate the risk of an investor’s bad times, while trading off the pain of those bad times for the potential of returns.

We have whiz-bang methods of handling bad times that arise from high volatility and low average returns (mean-variance optimization), but generally our quantitative methods of handling more general varieties of bad times leave much to be desired. This is especially true of modeling how bad times change over investors’ life cycles, and dynamically handling bad times of illiquidity over long horizons, incorporating time-varying liabilities, and taking into account asymmetric treatments of losses and gains. Progress is being made, but it would be nice if we had a standard commercial optimizer that enabled us to toggle between various utility functions, especially those incorporating downside risk aversion, and see the effects on optimal portfolios. Investors need help in mapping a series of bad times and how they perceive the risk of bad times to different quantitative models of investing.

Factor Risk Premiums Are Rewards for Suffering Losses during Bad Times
The concept of factor investing compares the bad times of an investor with bad times of the typical investor—the market investor. In fact, since the market portfolio is strictly a long-only passive holding of assets, the market investor does not capture any dynamic factor risk premiums. The market also does not rebalance. We can move away from market weights to holding portfolios of securities which outperform, on average. These high returns don’t come for free. Factor portfolios earn risk premiums to compensate investors for bearing losses during bad times. Bad times for the typical investor, however, may not be a bad time for you. This gives you scope to harvest a factor risk premium if you can tolerate the losses. Other investors willing to give up the factor exposure because they are too risk averse.

We are seeing many innovations that customize factor indexes with nonmarket capitalization weights, tailor the size of the risk exposures, and more cheaply create optimal factor portfolios. These are all good things. But when asset owners choose between different factor risks, and the size of the risk exposures, they rarely ask themselves: how am I different from the market? Ideally, consultants, financial advisors, and asset managers would offer guidance on how factor risk losses correspond to different bad times. We should know some economics explaining the existence of these factor risk premiums—even for the basic equity premium—before we can say whether they are appropriate for an investor.

Understanding the economic theories giving rise to risk premiums, relating these stories to the realized losses and gains of various factors, and showing how the factor risks are appropriate (or not) for a particular investor is the optimal way to decide which factors an investor should collect and determine how large his factor exposures should be.

A valid criticism is that I’ve outlined a great many sources of factor risk and a great many investable dynamic factor premiums. How do you choose in this cornucopia? How do you make sense of all these factor risk stories? The asset owner must take a stand by identifying what he believes and what defines his specific bad times. (An investor policy statement or a statement of investment beliefs are ideal vehicles to do this.) Then we compare the investor to the market along a select number of dimensions: time horizon, capacity to bear risk or weather losses, level and nature of liabilities, reliability of labor income, and so on. Start with the market portfolio—this
represents the average investor. Judge how you are different from average along these characteristics, which determine your capacity to bear risk. Investors should choose just one or two dimensions to differentiate themselves from the market, translating their comparative advantages and disadvantages into risk factor exposures. The risk exposures are not necessarily positive—it might be better for us to purchase protection when volatility spikes and pay for volatility insurance, rather than receiving small volatility insurance premiums and getting whacked with heavy losses when volatility shoots sky high.

They’re Your Assets
Agency problems are front and center in asset management. We don’t want to be adding bad times through dysfunctional principal–agent relationships. This is an area where both industry and academia could do more in promoting the welfare of asset owners. In industry, investment vehicles too often give asset owners a raw deal. In many hedge fund and private equity contracts, for example, asset owners have little or no control over their funds, information is terrible, and agents have little incentive to act in the best interests of asset owners. Academics could do more by making recommendations for optimal contracts and deriving optimal control and governance mechanisms for asset management organizations.

Factor investing will help. Factor benchmarks can ameliorate agency issues. They do not penalize a manager for underperformance when the losses are due to poor factor performance. From the perspective of the asset owner, factors raise the bar for active management. There is talent out there, and we want to identify those with skill and reward them handsomely. However, that talent should be producing returns in excess of factor risk exposures that can be obtained generically at low cost elsewhere.

Currently, long-only passive factor benchmarks predominate in industry. The creation of low-cost factor portfolios should hasten the adoption of dynamic factor benchmarks tailor made for each investor. If we can get factors at low cost, we can remove from expensive active returns a component that doesn’t really belong there.
Asset management is not really about the management of assets. It is all about factors. (p.624)