Rethinking the Equity Risk Premium: An Overview and Some New Ideas

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Many investors regard the past decade as an unusual one for market returns. This view is no doubt based on their having experienced a sea change in equity market behavior, including much-lower-than-average returns, much higher volatility, two of the biggest bubbles (and their subsequent bursting) in stock market history, and rising correlations—cross-asset, cross-country, cross-sector, and intra-sector. Any longtime investment market participant will have encountered more extreme trends and events in the past 10 years than during any other 10-year period in the past seven decades.

One of the key features of this turbulent period is renewed uncertainty about what may be the most important measure in all of finance—namely, the equity risk premium, or the expected return for equities in excess of a risk-free rate:

$$ERP = E(re) - E(rf).$$

The equity risk premium, or ERP, plays a critical role for any investor in that it affects savings and spending behavior as well as the all-important allocation decision between riskless and risky assets. In that sense, it is an equilibrium concept that looks beyond any given period's specific circumstances to develop a fundamental, long-term estimate of return trends.

It should be noted that the equity risk premium, as the term is used here, is not identical to the historical excess return. For example, for the 10 years beginning in the middle of 2001, annualized geometric mean U.S. equity returns significantly trailed U.S. TIPS (Treasury Inflation-Protected Securities)—roughly 3 percent versus 6 percent. So, one measure of the historical excess return is −3 percent.[1] In this volume, Robert Arnott shows that, using rolling 20-year returns, the historical excess return has ranged from +20 percent to −10 percent,

[1]Please note that, by convention, the return is often expressed as a "percentage" rather than "percentage points."

a range that is not very helpful in forming a historical average. But these numbers do not say much about the equity risk premium, which is a forward-looking expectations-driven estimate of stock returns. In other words, what premium do we *expect* stocks to provide over a risk-free rate? This forward-looking premium is critical to fundamental activities in investing, especially strategic and tactical asset allocation but also in portfolio management, hedging, investment product development, and the formation of saving and spending plans.

The problem posed by recent history for all these activities is whether we can be confident in our understanding of equity risk. After several decades during which realized equity returns followed a welcome positive pattern, the past decade has seen a marked downturn in equities. This downturn has prompted some investors to suggest that we must permanently adjust our future expectations for equity returns versus other broad asset classes. Others argue that the same evidence suggests equities are poised for outstanding future excess returns. Which is it?

To investigate the ERP in more depth, we could evaluate forecasts, trends, and expected variations in forward-looking measures: P/Es, dividend payouts, debt, macroeconomic growth and inflation, investment horizon, demographic change, and other variables. We have at our disposal, arguably, more analytical techniques and sources of information than ever before that bear on asset class expectations and behavior, but we have less certainty than ever about the ERP.

This volume is the result of an effort to sort through and present some of the best recent thinking on the ERP in a way that practitioners may find useful in developing their own approach to the subject. It assembles leading practitioners and academics who have confronted the question of what the ERP might be going forward and, more importantly, what factors are the most important drivers of the premium.

Initial ERP Project

The present project arose out of an interest on the part of the Research Foundation of CFA Institute to revisit, in light of what has happened in asset markets, a similar but not identical effort that it sponsored in late 2001. This earlier effort emerged as the "dot-com" bubble burst and investors confronted, for the first time in many years, the possibility of an extended period of lower equity returns. The 2001 forum gathered a wide range of experts to discuss the theoretical foundations of the ERP, historical results, then-current estimates of the size of the premium, and implications for asset management (Association for Investment Management and Research 2002). It featured lively discussions of the definition of the ERP, rational expectations versus behavioral explanations for its existence, specific factors and models that explain its size and stability (or lack thereof), the possibility of structural change–driven effects on the premium, and ways in which institutions and individuals incorporate views on the ERP into asset allocation.

Rather than a firm consensus, a strong sense of diversity arose from this earlier forum regarding views on the ERP and possible explanations for differences among those views. For example, **Exhibit 1** shows, as of 2001, a selected set of estimates of the ERP ranging from 0 to 7 percent, with an average of a little less than 4 percent.

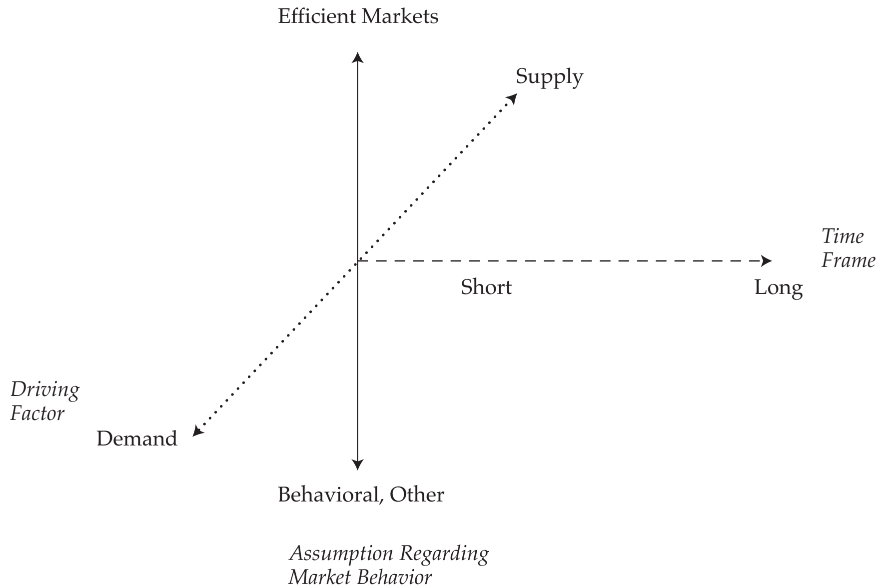
Exhibit 1. Estimates as of 2001 of the ERP

Source	ERP Estimate (%)
Arnott and Bernstein (2002)	0.0
Campbell and Shiller (2001)	0.0
McGrattan and Prescott (2001)	0.0
Ross, Goetzmann, and Brown (1995)	Low
Reichenstein (2001)	1.3
Campbell (2001)	1.5–2.5
Philips (2003)	1.0–3.0
Siegel (2002)	2.0
Bansal and Lundblad (2002)	2.5
Shoven (2001)	3.0
Siegel (1994)	3.0–4.0
Asness (2000)	4.0
Graham and Harvey (2001)	4.0
Ibbotson and Chen (2003)	4.0
Goyal and Welch (2002)	3–5
Fama and French (2002)	4.3
Cornell (1999)	5.0
Ibbotson and Sinquefield (1976)	5.0
Welch (2000)	6.0–7.0
Average	3.7
Range	0.0–7.0

Note: ERP estimates are the expected long-term geometric return of equities in excess of the real risk-free rate.

Figure 1 summarizes, in schematic form, some of the key dimensions that can help explain these estimates. On one dimension, differences in ERP estimates can be caused by the weight given to short-term versus long-term investment horizons, including an emphasis on mean reversion or cyclicality. (A related dimension, not shown here, for different regimes or macro environments could

Figure 1. Three-Dimensional Array of Views on the ERP



also be added—for example, whether prevailing interest rates are high or low.) ERP estimates can also vary according to whether supply or demand considerations are the dominant influence. Some investigators focus on the demand for a return that will compensate investors for the extra risk of equities, whereas others look at the supply of cash flows that companies can inject into the market.

Perhaps most fundamentally, the forum exposed different views on investor behavior, specifically whether markets exhibit rational expectations or suffer from behavioral distortions, such as myopic loss aversion (which can be nonlinear or noncontinuous). One area of general agreement was that, to their detriment, few institutions or individuals explicitly address these issues and even fail to consider the size of the equity premium itself in forming policy portfolios and determining asset allocation.

10th Anniversary Project

The current project started with leading academics and practitioners gathering for a daylong discussion on what new developments, if any, have occurred in thinking about the ERP as well as in estimating the size of the ERP that we can expect in the future. Following that discussion, participants were asked to set down their current thoughts in essay form. The result, contained in this volume, is a rich set of papers that illuminate the issues and speak to the conceptual and empirical sources of the various perspectives. What is interesting about the more recent effort is not only some commonality with respect to the emphasis on supply-driven considerations but also—quite naturally in light of recent history and theory—a great deal of variation among the authors on the stability and term structure of the ERP as well as on whether variations in the ERP, no matter what their source, matter much.

The opening paper by Roger Ibbotson lays out several ways of estimating the ERP, including supply, demand, historical extrapolation, and combinations thereof. Investors are not the only agents who are affected by the excess return on equities over bonds; corporations should consider the ERP as the most important ingredient in understanding their cost of capital, and equity analysts need to use the ERP as part of the discount rate when estimating the present value of a company's future cash flows. Moreover, although it may be the largest market premium, the ERP is not the only one. Other premiums are associated with investment horizon, company size, value, momentum, default risk, and inflation risk. Of particular interest is the liquidity premium, described by Ibbotson as the phenomenon in which unpopular stocks (those that do not trade much) can display significant excess returns compared with stocks traded more often. Most important, investors often fail to differentiate a short-term tactical view of the ERP from the more fundamental long-term supply-driven equilibrium equity premium, suggesting that short-term signals may not always provide accurate information about the "true" long-term ERP.

Focusing on the cyclical nature of returns and fundamental indicators, Clifford Asness notes that there is no evidence that high P/Es are an accurate forecast of high future earnings growth rates. Rather, the evidence runs in the opposite direction. Using his own estimates of earnings growth and drawing on the Shiller P/E, which is the current price divided by trailing 10-year average real earnings, Asness offers a future equity return estimate in the range of 4 percent. Because it is hard to agree on a benchmark for the risk-free rate, he does not make a specific forecast of the ERP.

Looking historically and adopting a broad geographical perspective, Elroy Dimson, Paul Marsh, and Mike Staunton report on their most recent update of realized excess equity returns, relative to both bills and bonds, in 19 different countries from 1900 to the start of 2011. Although they found considerable variation across countries, the realized excess return was substantial everywhere. For their world index, annualized geometric mean real returns were 5.5 percent, the excess return relative to Treasury bills was 4.5 percent, and the excess return relative to long-term government bonds was 3.8 percent. Based on a supply model of the ERP, with the addition of the change in the real exchange rate, they estimate that the forward-looking equity premium is lower, around 3–3.5 percent, largely because of lower expected dividend growth compared with the historical average. In addition, they suggest that mean reversion in the stock market may not be as strong a force as others would argue. And even if mean reversion is a force, it may not provide much comfort to an investor who still does not know what the average stock market return will be in the future, nor what the equity premium is today or what the other parameters of the return process are.

The paper by Richard Grinold, Kenneth Kroner, and Laurence Siegel develops and estimates a supply model of the ERP. It decomposes equity returns into three major components: income, earnings growth, and repricing:

$$R \underbrace{\frac{D}{P} - \Delta S}_{\text{Income}} + \underbrace{i + g}_{\text{Earnings growth}} + \underbrace{\Delta \text{PE}}_{\text{Repricing}},$$

where D/P is the dividend yield, ΔS is share repurchases net of (that is, minus) new issuance, i is inflation, g is real earnings growth (not earnings per share), and the last term is the change in the P/E multiple. To illustrate, if the current 10-year bond yield is 2 percent and the ERP is 4 percent, then income, earnings growth, and repricing components must sum to 6 percent. Looking forward, the authors estimate future income to be about 2 percent, composed of dividend yield of about 1.8 percent and net share repurchases at 0.2 percent (repurchases of 2.2 percent and dilution or new issues at 2 percent). Earnings growth is expected to be a little more than 5 percent, with 2.4 percent coming from inflation and a little less than 3 percent coming from real earnings growth (which they equate to real GDP growth). Finally, although repricing contributed significantly to equity returns in the 20th century, there is little reason to believe that it will continue to do so. If we put these figures together, equity returns are expected to be about 7.2 percent. If the long-term nominal bond yield is about 3 percent, then the ERP is in the range of 4 percent.

Robert Arnott supports a view of the ERP as cyclical, smaller, and more dynamic than the prevailing theory of a more stable and robust premium would suggest. He counters a series of "myths" by showing that bonds have outperformed stocks over a significant period, the realized excess return has often been lower than the forward-looking ERP, net stock buybacks are lower than is often assumed, lower earnings yields are empirically associated with lower subsequent stock returns and premiums, real earnings and stock prices grow with per capita GDP rather than total GDP, and dividend yields are lower now than ever before. When taking this more sobering evidence into account, he finds that the probability of future stock returns matching the 7 percent real historical average is slight. Arnott's estimate of the future ERP ranges from negative to slightly positive.

Antti Ilmanen directly addresses the issue of the stability of the ERP over time by considering what the premium might look like for the next decade and well beyond, including periods with regime and term structure variations. After helpfully reviewing a wide variety of approaches to the ERP, he makes three major points. First, term structure effects are more obvious on the bond side of the premium, where short-dated TIPS yields are currently negative but longer-dated TIPS are higher, implying a 2.7 percent forward TIPS yield for the decade starting in 2021. Second, abnormally high (or low) starting valuations for equity markets and related mean-reversion potential have strong implications for expected stock market returns for the next few years. However, if we consider prospective equity returns *after* the next decade, we have no clue what the starting valuation levels will be in 2021. Thus, if we assume below-average equity market returns for the next decade because of an expected normalization of the currently high Shiller P/E, our best forecast for real equity market returns beyond 2021 should be closer to our "unconditional" long-term return forecasts. That is, these forward forecasts should largely ignore starting valuations (or at least allow future higher starting yields in 2021 than in 2011). And third, many indicators besides valuation measures can be used to predict stock market returns. Regressions and other econometric techniques can be used to forecast returns over any investment horizon (admittedly having fewer independent data points in longer horizon regressions). It is thus possible to estimate a full term structure of expected returns.

Using a variation on the supply-driven approach, Peng Chen looks at whether bonds might outperform stocks over the long run as they have over the past decade. Although the bulk of bond returns comes from their yield or income, the recent outperformance of bonds is based on the decline in yield (price increase). Currently, long-term bond yields are so low (estimated at the time of writing to be less than 3 percent) that they are unlikely to decline much further, so expected capital gains from bonds are low to negative. In contrast, stock returns depend on earnings growth and the change in the ratio of price to earnings as well as their yield. If expected earnings growth and yields remain at roughly historical averages (5 percent and 2 percent, respectively), then P/Es have to decline to 5 to produce overall future stock returns less than the 4 percent expected bond yield—an outcome that seems highly unlikely.

Looking at the information contained in the P/E that might bear on the ERP, Andrew Ang and Xiaoyan Zhang conclude that the ERP is relatively stable over time. They decompose companies' future earnings into those associated with a perpetual, no-growth component and a component associated with future growth opportunities. In effect, movements in P/E reflect changes in discount rates, which contain the ERP, as well as growth opportunities, which involve the cash flow and earnings-generating capacity of company investments. Therefore, P/Es can be high (low) because growth opportunities are favorable and/or because expected returns are low. Using more than 50 years of data from the S&P 500 Index, Ang and Zhang show that macro variables—especially risk-free rates, earnings growth, and payout ratios—are important in explaining variations in P/E. Most important, although discount rates (which contain the ERP) are variable, they are also mean reverting; thus, changes in growth opportunities, rather than in the total discount rate, explain 95 percent of the variation in P/E.

Adopting a historical emphasis, as several of the other authors have, Jeremy Siegel looks back even further to emphasize continuities in the numbers that underlie the historical excess return and estimates of the ERP. He shows that the underperformance of real equity returns in the past 10 years relative to the historical average (6–7 percent) was just about offset by the outperformance of the previous 10 years. In addition, the average historical P/Es and earnings yields have changed very little in the past decade, further supporting the notion of stability in the forward-looking ERP. Siegel closes by observing, consistent with finance theory, that the dividend payout ratio has declined along with dividend yield but that it was offset by the growth of future earnings and dividends.

Rajnish Mehra looks back in a different way, asking whether the result of his original groundbreaking work, which predicted a very low ERP, is still warranted. Taking a long-term view that combines supply and demand considerations, he argues that higher estimates of the ERP typically depend on three basic assumptions that need rethinking because they lead to overestimations of aggregate risk. First, the risk-free rate of return should be matched to the duration of liabilities, which suggests using higher inflation-linked bond or mortgage returns rather than the more commonly used T-bill rate. Second, most estimates ignore the idea that households borrow considerably more than they lend, thus inflating the ERP. Third, younger investors have a higher demand for equities than middle-aged and older investors, but younger investors find it harder than older investors to borrow. These life-cycle and borrowing constraints artificially raise the ERP and the bond yield. Taken together, these corrections greatly reduce forward ERP estimates. One consequence of this analysis is that as the Baby Boomers retire and raise the demand for bonds, it is possible that the ERP will be higher in the future.

In sum, the papers collected in this volume share a general emphasis on supply factors and models for the historical excess return as well as the forward-looking equity risk premium. After 10 years of low and highly volatile equity returns, there is little consensus about the stability of the ERP over changing regimes and time horizons. Interestingly, the group appears to be in agreement more on the actual size of the ERP over the next few years (most agree that it is in the 4 percent range) than on its stability.

Another Perspective: Regimes and Circumstantial Drivers

Rather than try to resolve what may be unresolvable differences in perspective on the ERP, and given the understandable challenges of evidence, inference, and prediction in this area, it may be useful to adopt a different approach—one that acknowledges and reflects the inherent multiplicity and diversity among (1) interest rate and market regimes and (2) investor perspectives.

The ERP is typically discussed as an expected return increment needed to compensate a universal or typical investor for accepting equity risk. This simple, and thus attractive, definition tempts us to think of a single investor deciding, on the margin, whether to move from a "riskless" fixed-income base into equities. The higher the ERP, the more the investor can expect to gain from a move from fixed income to equities and the higher the expected allocation to stocks. The lower the risk premium, the lower the expected gain and the lower the allocation to equities.

One implication of this single-premium concept is the assumption that it is possible to forecast a single "headline" ERP. This assumption is built into most discussions of the risk premium and most applications. Of course, these discussions and applications must take into account variables that affect the headline number. **Exhibit 2** is a far-from-exhaustive list of these "objective" drivers, including the selection of the risk-free asset base, the type of equities under consideration, real interest rate regimes, inflation expectations, other macro trends, earnings expectations, variations in the premium over time, and other considerations that can affect the forecast of a risk premium.

Each of these important variables can drive differences in calculations of the ERP. These variables have received considerable attention from analysts as well as from academics in search of the actual risk premium, including many of the contributors to this volume. Some of the differences in perspectives may be better understood by noting that the dynamics among macroeconomic and valuation factors, and their effects on the ERP, may be nonlinear. This nonlinearity can be seen in an admittedly simplistic form in **Exhibit 3**, in which the analysis is tied to interest rate regimes, which are nonlinearly associated with equity valuations. In other words, one can observe a sweet spot in P/Es and other valuations associated with moderate real long-term interest rates (2–3 percent), with a drop in valuations for lower and higher interest rate regimes. The relationships among some of the factors listed here display loosely connected tendencies rather than strong tight unities (e.g., inflation).

Exhibit 2. Objective Drivers of ERP Differences

Risk-Free Asset	Equity Class	Real Interest Rate Trend	Inflation Expectations	Other Macro Assumptions	Earnings Expectations	Dividend Trend	ERP Variations
Treasury bills	U.S. equities	High	High	Macroeconomy	High	Rising	Volatility
Treasury notes	Global equities	Medium	Medium	Demographics	Medium	Falling	Volatility of volatility
Inflation-linked bonds	Large cap	Low	Low	Globalization	Low		
	Other:						
	Size						
	Value						
	Geography						
	Sector						

Exhibit 3. Real Interest Rate Regimes and the ERP

Factor	Low Rates 0–1%	Sweet Spot 2–3%	High Rates 6%+
Equity risk premium	High (6%)	Low (4% or less)	High (5%)
Probability of occurrence	Low	High	Low
Financial/economic environment	Dismal	Balanced	Overheated
Inflation expectations	Low (1–2%)	Low/medium (2–3%)	High (4%+)
Discount rate/cost of capital	Medium (7%)	Medium (7%)	High (11%)
Real growth rate	Very low (2.5%)	Good (4%)	Too high (7%)
Regime persistence	Hopefully brief	Sustainable	Almost surely brief
Sustainability of current earnings	Fair (0.4)	Fair (0.4)	Good (0.7)
New investment profitability	Good when available (6%)	Good (6%)	Squeezed (2%)
"Franchise" value (FV)	Low (4.8)	High (11.4)	Low (3.2)
"Ongoing" or "tangible" value (TV)	Fair (5.7)	Fair (5.7)	Fair (6.4)
Theoretical P/E (FV + TV)	Low (10.5)	Peak (17.1)	Low (9.6)

Notes: Specific functional values have no empirical validity. They are illustrative of relative values that might be associated with P/E and other valuation components corresponding to the three growth regimes.

Source: Based on Leibowitz and Bova (2007).

The main point is the relationship between the ERP and other economic and valuation factors. Note that although the middle, or medium, interest rate regime is the sweet spot for the economy and the equity market, the ERP could remain low in these circumstances. Whether we focus on supply or demand forces, excess return expectations may be low compared with those in more uncertain times when economies are troubled or overheated. So, some of the differences in views of the ERP could be attributed to specific regime forecasts or to whether regimes play a strong or weak role in determining the ERP.

One implication of looking at these sorts of objective determinants is that they are all, at least in theory, reducible. In other words, let's imagine it is possible to gather investors together to obtain a general agreement on selection of the risk-free asset, equity index, earnings and inflation expectations, and even the pattern by which the ERP varies over time or the list of forces that cause such variation. Although agreement on these matters might not be easy to obtain, discussions would focus on issues that are subject to measurement, analysis, and objective inference. With such a general agreement, some or maybe even a great portion of the differences among investors in their ERP estimates would be reduced. But not completely.

The differences in investors' ERP estimates would not, in the end, be eliminated. These differences are not fully reducible even with agreement on measurement and benchmarks. What remains are irreducible differences based on investors' varying conditions or circumstances. Each investor might have a unique combination of circumstances that differentiates her from all other investors, not in terms of her views on how to calculate the ERP but in terms of the circumstances in which she finds herself as an investor. In turn, those unique circumstances can then affect what we might call a "personal" or "institutional" ERP, one that is specific to an individual or institution. As shown in **Exhibit 4**, these circumstances could include investment horizon, need for liquidity, rebalancing requirement, sensitivity to changing market valuations, the capacity to evaluate those changing valuations, risk tolerance, and buyer or seller orientation.

All these circumstantial drivers of investor perceptions can affect the size of the equity premium that an investor might expect or experience at any point in time. Furthermore, this expected ERP is different from a "required" ERP in that it reflects what the investor actually experiences based on his or her individual circumstances (as opposed to an ERP that is required for the investor to act). For example, investment horizon can range from nearly perpetual (some foundations and endowments) to nearly immediate (an individual investor's current living expenses). A short-term investor might not experience the same ERP as a long-term investor, either in terms of expected return or expected volatility of that return. Similarly, liquidity needs can affect the return an investor can expect; sometimes there may be a positive or negative illiquidity premium built into the ERP. And rebalancing requirements can influence return, especially if we are aware that a large set of investors must rebalance in the same direction at the same time. In turn, the ERP may vary depending on whether one is a buyer or seller (such as during late 2008 in the equity markets, when bid–ask spreads or the differential returns required by buyers and sellers froze some markets and nearly destroyed others).

Take, for example, some combinations of these dimensions as illustrated in Exhibit 4. Many long-term investors are relatively premium insensitive in that they are interested in holding rather than buying or selling. Others, such as the LSB (long-horizon valuation-sensitive buyer), may be looking to add to positions if the price (premium) is right, although the LSS (long-horizon valuation-sensitive seller) is looking to lighten holdings based on receiving an adequate premium.[2] In contrast, a liquidity-sensitive investor (e.g., hedge funds in mid-2007 and late 2008), denoted by LLS, may need to sell at nearly any

[2]See the notes to Exhibit 4 for a full explanation of the acronyms used in this discussion.

Exhibit 4. Circumstantial Drivers of Investors' Perceptions of the ERP

Investor Type	Investment Horizon	Liquidity Bias	Rebalancing Requirement	Valuation Sensitivity	Ability to Evaluate Market	Risk Tolerance	Trade Orientation	Example
Long horizon								
LSB	Long			Sensitive	High		Buyer	Discretionary buyer looking for low premium
LSS	Long			Sensitive	Low		Seller	Discretionary seller looking for extra premium
LLB	Long	Liquidity bias					Buyer	Buyer at nearly any price
LLS	Long	Liquidity bias					Seller	Seller at nearly any price
LRB or LRS	Long		Rebalance				Buyer	Must rebalance when market moves
LCB or LCS	Long				High	Constant		Constant risk tolerance but evaluates and acts on changing market opportunities
LVB or LVS	Long				High	Variable		Risk tolerance depends on market conditions or changing personal circumstances
LRB or LRS	Long					Range bound		Constant risk tolerance, except in extreme market move
Short horizon								
SSB or SSS	Short			Sensitive				Daily, weekly, monthly, quarterly performance evaluation
SLB or SLS	Short	Liquidity bias						Must remain liquid

Notes: First letter: L = long horizon, S = short horizon. Second letter: S = valuation sensitive, L = liquidity bias, C = constant risk tolerance, V = variable risk tolerance, R = has rebalancing requirement. Third letter: B = buyer, S = seller.

price in order to raise cash. Other investors, such as pension funds, may need to put cash to work quickly as contributions come in the door (LLB). Still others may need to rebalance systematically as the market pushes their allocations away from a policy portfolio (LRB or LRS), and therefore, they may be relatively premium insensitive. Of course, the same individual or institution may exhibit more than one of these behaviors depending on the circumstances. The point is that these circumstances can influence the size and character of the ERP investors experience or require.

Shorter-term investors may be a smaller part of the overall equity market but may receive an outsize portion of media attention. If we put aside share repurchases and new issues, as well as the supply of equity substitutes, the term structure of the ERP and its volatility may be such that both variables have very different values over the short and long term. A high short-term volatility may look much more acceptable to a long-term investor because of his ability to ride it out. Similarly, a high short-term premium can coexist with a dreary long-term premium.

So, long-term and short-term investors might share a sensitivity to valuation metrics but in very different ways. Long-term valuation-sensitive investors (LSB and LSS) might respond to a sufficiently high long-term ERP (that is, the ERP in excess of the long-term fixed-income yield) by selling bonds to buy stocks in the belief that such an action will compensate them for long-term nominal as well as real risk. In contrast, short-term valuation-sensitive investors (SSB and SSS) may be more inclined to judge the ERP either on an absolute stand-alone basis or relative to returns from various fixed-income durations given expectations regarding yield curve movements. In these cases, price volatility looms large as a risk factor, so short-term investors need a much greater premium inducement to get them to prefer equities to bonds over their short horizon.

One should also consider not just the effects of circumstantial ERP on investor behavior but also the effects of investor behavior on the ERP. As buyers and sellers meet in the marketplace, the transaction size, urgency, other asset holdings, and other circumstances could dampen or exacerbate equity premium movements. Rebalancers and especially liquidity-sensitive sellers may be relatively insensitive to price and premium and thus have a moderating effect on ERP variations. Both valuation-sensitive and valuation-insensitive investors could affect the equity premium. Valuation-sensitive investors are looking for a desired or required price or premium, so their actions will tend to move the market in that direction. The impact of actions by valuation-insensitive investors may be unpredictable because they purchase or sell shares at times that could inadvertently push the equity premium up or down.

Some transactions, however, might have little effect on the marginal ERP. In general, the marginal ERP value is likely to be determined by one type of buyer interacting with one type of seller. Although we often think of both the marginal buyer and seller as savvy and valuation sensitive, an equally savvy investor on one side may not be able to exercise valuation sensitivity. For example, a long-term liquidity-sensitive buyer (LLB) might be content buying at a price set by a short-term valuation-sensitive seller (SSS) who thinks that equities are currently overpriced. The sum of all such forces would theoretically combine into a pair of supply and demand curves, which could be smooth, lumpy, kinked, and certainly multidimensional (e.g., with term structure characteristics and regime dependency). Thus, we can see how the interplay of these multiple circumstantial forces can lead to a risk premium that is far more multifaceted and complex than is typically envisioned in the standard discount models, even when we take into account structural and cyclical changes in the more objective factors cited in Exhibit 2.

Overlaid on all these issues may be behavioral effects, such as systematic investor misperceptions and behavioral anomalies, that affect buying and selling behavior (the behavioral versus efficient markets dimension in Figure 1). But these forces are in addition to the objective and circumstantial forces just described, and they may be more invariant. Finally, our investor categories are not all mutually exclusive, and depending on circumstances, investors may shift from one type to another.

Conclusion

The past 10 years have shown that the ERP, far from being a settled matter, continues to challenge analysts. The research and observations in this volume have a number of implications for investment practice and theory. First, investors and analysts should take care to be explicit about their estimates of the ERP. We still too often use different definitions of, assumptions about, and approaches to the ERP, or leave it altogether implicit in our analyses of asset markets and valuations. Further clarity may help reduce the number of occasions when we are talking past each other. Second, we should be clear about what model we are using when we offer a forecast or explanation of the ERP. We have seen that variations in our estimates can be the result of different approaches to objective, circumstantial, and behavioral factors. Third, differing circumstances among investors lead to true, irreducible differences in the ERP that each investor may face at any given time. This final consideration underscores how the interplay of these multiple circumstantial forces can lead to a risk premium that is far more multifaceted and complex than typically envisioned in the standard discount models, even when we take into account structural and cyclical changes in the more objective factors. The papers contained in this volume richly illustrate this interplay.

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