forecasting purposes and for estimating the cost of capital. Because valuation is forward-looking, the appropriate average is the one that most accurately approximates the expected future rate of return. The best estimate of expected returns over a given future holding period is the arithmetic average. There is no theoretical or empirical justification for the use of geometric mean rates of return as a measure of the appropriate discount rate in computing the cost of capital or in computing present values. In any event, the CAPM is developed on the premise of expected returns being averages and risk being measured with standard deviation. Since the latter is estimated around the arithmetic average, and not the geometric average, it is logical to stay with arithmetic averages to estimate the MRP.

Length of Historical Period

To estimate the MRP, one should rely on returns realized over long time periods rather than returns realized over more recent time periods because realized returns can be substantially different from prospective returns anticipated by investors, especially when measured over short time periods. But over very long periods, investor expectations coincide with realizations; otherwise, investors would never invest any money. A risk premium study should consider the longest possible period for which data are available. Short-run periods during which investors earned a lower risk premium than they expected are offset by short-run periods during which investors earned a higher risk premium than they expected. Moreover, the use of the entire study period in estimating the appropriate market risk premium minimizes subjective judgment and encompasses many diverse regimes of inflation, interest rate cycles, and economic cycles. There is no compelling reason to weigh recent returns more heavily than distant returns because of the random behavior of the market risk premium.

From a statistical viewpoint, to the extent that the historical equity risk premium estimated follows what is known in statistics as a random walk, one should expect the equity risk premium to remain at its historical mean. The best estimate of the future risk premium is the historical mean. Since, as discussed in Chapter 5, there is little evidence that the MRP has changed over time, it is reasonable to assume that these quantities will remain stable in the future. Clearly, the accuracy of the realized risk premium as an estimator of the prospective risk premium is enhanced by increasing the number of years used to estimate it in the same way that one can predict with a good deal of confidence that approximately 50 heads will appear in 100 tosses of a coin. Under these circumstances, it is most appropriate to estimate future experience from long-run evidence of investment performance.

One can always calculate the historical MRP using shorter or more recent time periods on the grounds that the entire period contains unrepresentative unusual events and/or that recent events are more likely to be repeated in the near future. This approach is suspect because all periods contain "unusual" events, for example the October 1987 stock market crash, the 9/2001 attacks, the 2008-2009 credit cri-