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# Reflections After the 2011 Equity Risk Premium Colloquium

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In 2001, and again in 2011, I participated in a forum about the equity risk premium. Presented here are some informal thoughts about the equity premium that I composed after the second forum. These thoughts are an eclectic collection inspired by, but not limited to, what we discussed together.

## **Sequels Are Rarely as Good as Originals**

The 2011 forum reprised the earlier gathering with many of the same presenters from 2001. When we met in 2001, it was not long after the peak of the technology bubble (I call it a bubble, although that label is still in some dispute). At that time, equity prices were still well above historical norms, although they were lower than in March 2000. In 2011, many of us would say that equity prices are still high versus historical prices, but the divergence is nowhere near as dramatic as in 2001.

## **We Still Do Not All Agree about Long-Term Predictability**

It is clear from the 2011 forum that a division remains among the participants that was clearly present in 2001. Some believe in long-term predictability; others do not. Thus, when equity prices are high versus fundamentals (I am assuming that we agree on how to measure this comparison), some believe conditional long-term expected real equity returns are low, and vice versa.

I am in this camp, but I have to admit the relationship is not as obvious as it may seem. Point estimates—the actual observed history—show that long-term (say, 10-year) historical rolling returns are indeed negatively related to starting prices. And the market's performance since the first forum, when high prices indeed led to very low realized equity returns, might make it seem that the case is closed.

It is incredibly hard, however, to say anything with precision and confidence about the relationship between long-term return and price because not that much independent data are available and in-sample regressions often contain biases. As was mentioned in the forum, it really comes down to what

an investment manager believes about long-term returns beforehand. If a manager believes that expected returns are constant, then when prices are high, expected growth will be higher than normal (making expected returns come out the same despite the higher prices). The data in fact point in the other direction, but only weakly after accounting for all the problems. In other words, the data barely help to resolve this debate.

It has to be one way or the other; it is a mathematical identity. High prices forecast either low expected returns or high expected growth. For me, despite its low statistical power, the point estimate is still a reasonable guess. Rather than looking for a definitive relationship between high prices and subsequent low returns, I find it more useful to focus on the absolute lack of evidence that high prices forecast high future growth. The relationship is equivalent, but it is how I like to frame the problem.

This point estimate is only a small part of why I believe in predictability. It is more important to me that return predictability agrees with my intuition and prior experience, largely formed from other time-series and cross-sectional experiments. A vast body of literature shows that when prices of anything are high versus fundamentals, expected returns are low, and vice versa. For instance, in the cross-section, when a given set of stocks has high prices versus fundamentals (such as book value, earnings, or cash flow), the expected returns on these stocks are low relative to other (cheaper) stocks. This finding is nearly ubiquitous. Thus, although I find the point estimate for the equity risk premium (ERP) versus the price relationship comforting, I find it far more compelling in the context of the literature. I think the way finance works is that when prices are high, as measured against any reasonable form of fundamentals, expected returns are lower than normal, and vice versa. Admittedly, that is hard to prove, especially if the focus is only on ERP data, and clearly some are still not convinced.

I posed the following question to the 2011 group, particularly to those who were skeptical about the possibility of long-term predictability: When prices are at true extremes (e.g., the high in March 2000 or the other direction, the low in the early 1980s), would forecasters project any difference in forward-looking expected real returns? If the answer is yes, the issue then is a variation in the degree of our beliefs, not a difference in dogma. (I never quite got an answer!)

## **Some Still Believe Silly Ideas, but They Also Have Learned Important Truths**

Ten years after the technology bubble, some unsubstantiated beliefs remain. The so-called Fed model, which is the idea that high stock prices are reasonable when nominal interest rates are low, is still very common (although no one at the forum advanced this view). My own research and others' have shown this

proposition to be a form of money illusion with no power to predict (even noisily) long-term stock returns. But the Fed model still yields a far more bullish forecast than focusing just on equity prices (unadjusted for nominal interest rates), as it has for a long time. Its bullishness probably accounts for its continued popularity, particularly among strategists on Wall Street.

The Shiller P/E (the current price of the S&P 500 Index divided by the previous 10-year average real earnings) has become the *lingua franca* of those that discuss the ERP and how it relates to current equity prices. This choice is not because the Shiller P/E is perfect—no measure is—but simply because it is reasonable and historically consistent. It also helps to have a common standard. Recently, the Shiller P/E has been back in the news because some broker research has called it into question. The attacks are mostly ridiculous; they are based on bullish researchers using Wall Street’s long-term preferred “operating” earnings, which are earnings before negative events are deducted, or throwing out historical periods that the researchers do not want in the data. If the price of the S&P 500 is compared only with other times when the price was high, then of course it will look lower.

One argument the critics advance, with some possible merit in my view, is that the most recent financial crisis was so severe that the past 10 years of earnings are too low to be a reasonable proxy for trend. Even that effect, however, is tiny and ultimately unconvincing.<sup>1</sup>

Finally, reflecting the controversy about predictability discussed earlier, those who have issues with the Shiller P/E assume that today’s low dividend payouts are sensible because earnings will grow more in the future. Rob Arnott and I (Arnott and Asness 2003) established empirically that this notion is not only wrong but also backward for the past 140 years. Some notions die hard, and notions that are more bullish tend to die harder. Both the Fed model and the current critique of the Shiller P/E lean in the direction of liking stocks.

More optimistically, investment managers seem to have learned some important lessons since 2001. Again, many still argue about long-term mean reversion and predictability, but many also believe, as I do, that after long-term strong returns (if mirrored in higher valuations at the end), expected future returns will be lower.

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<sup>1</sup>This argument at least is in the right direction. For instance, if instead of looking at average 10-year earnings, investors looked at median 10-year earnings (thus giving no weight to the magnitude of the crisis), the resulting Shiller P/E would be very high versus history but slightly less high compared with the conventional approach of taking the average. In my view, this minor adjustment, which still shows an overvalued stock market, is not what the bulls are looking for, but it is a reasonable adjustment to make.

In contrast, in 2001, reflecting the thinking of the technology bubble, many in the investment world seemed to believe that high past returns meant *higher* long-term future returns. This belief can creep into prices in various ways, but perhaps the simplest occurs when an investor uses a past average of realized returns to forecast the future. I cannot say this view is gone, but many investors, perhaps most, now seem to understand that it never made sense.

After a time of strong long-term returns, future long-term returns will be lower. Reasonable people may believe that future long-term returns will be unaffected. No rational investor will expect long-term returns to be higher than normal; there are far fewer of such irrational investors today than in 2001.

## **My Forecast and Some Thoughts on Dispersion**

Even those who believe in long-term predictability should acknowledge that it is a noisy process. The standard deviation of average annual returns over 10 years around a forecast that moves with the Shiller P/E is about 4–5 percent. It is a bit tighter when the Shiller P/E is very high or low. This tightness could mean greater predictability at those times, but it could also be a bias from investors not seeing the true extremes possible in the distribution. Nonetheless, 4–5 percent is a lot for standard deviation, and it is big relative to the dispersion among all the forecasters at the forum. Bullish and bearish forecasters at the forum mostly did not differ from each other by more than one time-series standard deviation of 10-year returns. Thus, it will be very hard for anyone to claim a convincing victory!

The financial world, however, still demands a specific forecast, so I will oblige. Guesswork is always involved in making such a forecast, but the thought process around the guesswork can be interesting. I will forecast only the real (consumer price index–adjusted) return on the S&P 500, not the risk premium versus bonds. At the 2001 forum, we failed in deciding what benchmark to use in forecasting the equity risk premium, thus confusing the issue somewhat. In my view, our discussion was not meant to reflect differing bond forecasts; forecasting the real return on the S&P 500 is more to the point.

To do so, I like to start with the Shiller P/E, which was roughly 23.5 in early April 2011. I then reduce that number by 10 percent to get a measure of the current P/E using trend earnings (because earnings grow over time, the unmodified Shiller P/E is a lagging indicator of valuation). Doing so drops the Shiller P/E to about 21.5, which makes the earnings yield about 4.7 percent. To get a sustainable dividend yield, I cut the earnings yield figure in half to about 2.3 percent. Reducing the earnings yield reflects a historically reasonable payout ratio of about 50 percent, not the current payout ratio, which is lower. I am sneaking in some optimism by ignoring my own work with Arnott that

shows growth is slower when payouts are low, as they are today. Next, I add about 1.5 percent for expected real growth in earnings. Using the Gordon growth model (Dividend/Price + Growth), the result is a long-term forecast real equity return of 3.8 percent.

Finally, I round to 4 percent (not to round is arrogantly overprecise!); that is my 10-year forecast, but with some more caveats. This rate assumes a steady state in the markets. That is, it assumes that the best forecast of the future Shiller P/E is the current Shiller P/E. A more pessimistic vision of the future would assume some regression to the long-run mean Shiller P/E, which is about 15. A very pessimistic vision of the future would assume a regression through the long-term mean, as some argue happens eventually after all bubbles. Aside from about three days in early 2009, and then only trivially, valuations have not been below historical means since well before 2000. But I am not that pessimistic.

I agree with others who have argued that valuations in the past were too low, partly because the returns that investors study are far more attainable today with diversified index funds. I think those at the forum in 2001 were just beginning to appreciate this argument, and it is one of the most important considerations when examining the historical ERP. Too often, investors take for granted that they can mimic the market's ERP by buying diversified index funds at very low fees. During much of the historical period, however, this option did not exist. Thus, investors today should require a lower total return, and pay a higher P/E, because they retain more of the return at lower risk. So, my forecast does not incorporate any mean reversion of P/Es. I will stick with a real 4 percent.

Although the journey to arrive at my forecast is messy, and as much art as science, I think the thought process is useful for investment managers.

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## REFERENCES

Arnott, Robert D., and Clifford S. Asness. 2003. "Surprise! Higher Dividends = Higher Earnings Growth." *Financial Analysts Journal*, vol. 59, no. 1 (January/February):70–87.