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Monetary Policy Perspectives on Risk Premiums in Financial Markets

Remarks by

Donald L. Kohn

Member

Board of Governors of the Federal Reserve System

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I am pleased to have an opportunity to participate in this conference on the time variation and macroeconomic links of financial market risk premiums. Steven Sharpe, Paul Harrison, and Hao Zhou are to be congratulated for putting together an interesting program that should advance our understanding of this important topic. Although your papers concentrate on the equity premium, I would like to take a few minutes today to broaden the discussion to encompass risk premiums in other markets and to highlight the connections between risk premiums and monetary policy. My goal is not to draw conclusions on recent movements in risk premiums but rather to give you a sense of how estimates of risk premiums may influence our policy decisionmaking, to note some of the difficulties that we face in interpreting their movements, and, I hope, to stimulate further research in this already fertile field.¹

At the Federal Reserve, we pay a lot of attention to financial market prices in the formulation of monetary policy. Financial markets are the channel through which our policy affects the economy, and asset prices contain valuable information about investors' expectations for the course of policy, economic activity, and inflation, as well as about the risks around those expectations.

An important element in interpreting financial market prices is the identification of the risk premiums they contain. To be clear, when I say "risk premium" I mean the additional compensation required by investors for holding a risky security--that is, one with uncertain returns--above the compensation that would be demanded by risk-neutral investors who care only about expected returns. For example, while a risk-neutral investor would demand a certain spread on a junk bond over a risk-free rate of the same maturity as compensation for expected losses, a risk-averse investor likely requires an

¹ Roberto Perli and Paul Harrison, of the Board's staff, made important contributions to this talk.

even wider spread depending on the covariance characteristics of the bond's total return. In the Treasury market, risk--or term--premiums are generally evident as maturities extend and reflect mostly the interaction of risk aversion and uncertainty about the future path of interest rates. When applied to credit markets, the term "risk premium" is sometimes used in a broader sense to include expected losses, but I am thinking of risk premiums as the extra compensation for the uncertainty around anticipated economic and financial outcomes. This compensation is determined by both perception of risks and investor preferences, or risk aversion.

Among the risk premiums that we monitor regularly at the Federal Reserve are those on equity returns, equity volatility, corporate bonds, and Treasury securities. Each contains information about a different risk around a different expected outcome. Clearly, the separation of market prices into distinct pieces reflecting expected values and risk is a difficult task that relies heavily on modeling assumptions about underlying processes and investor behavior. Indeed, think of all the constituents of, say, a long-term corporate bond yield. Such a yield encompasses compensation for expected real rates, for expected inflation, for expected default, and for the expected liquidity in the instrument, and it contains conceptually separate risk premiums for uncertainty about each of these underlying factors. In principle, an ideal model would account for each of those components separately. In practice, however, we have yet to achieve such a fine breakdown, and the estimate of any one or group of those components is likely to be highly dependent on the estimates of the others. Although some promising research on modeling these components--jointly or individually--is under way, we need to be especially aware of our theoretical and empirical limitations when interpreting market price movements. But these qualifications do not diminish the point that risk premiums

are certainly relevant for monetary policy deliberations, and we do pay attention to our best estimates of them.

We, as policymakers, form our own independent view of the expected path of a number of macroeconomic and financial variables, but we are also obviously interested in gauging investors' expectations about the future paths of those same variables. Investor expectations shape the market reaction to new economic data and to our policy actions, and when those expectations differ from our own, they could embed information that we might wish to factor into our own analysis. Investors' expectations are reflected in asset prices, but so are risk premiums, and inferences about future economic conditions obtained from market prices are conditional on estimates of those premiums. Neglecting or grossly misestimating risk premiums will lead to misperceptions of the market's outlook and thus potentially to market moves that we did not anticipate. Nothing better illustrates the need to properly account for risk premiums than the current interest rate environment: To what extent are long-term interest rates low because investors expect short-term rates to be low in the future due to some underlying softness in aggregate demand, and to what extent do low long rates reflect narrow term premiums, perhaps induced by well-anchored inflation expectations or low macroeconomic volatility? Clearly, the policy implications of these two alternative explanations are very different.

While judging investors' expectations is important when setting monetary policy, so is understanding investors' sense of the distribution of possible outcomes around those expectations. Market risk premiums may well be an input into our own perceptions of the range of possible economic outcomes, and our policy actions can be influenced by those perceptions. For example, our reaction to a scenario in which inflation is low and is expected to vary within a narrow band would presumably be different than our reaction to

an alternative scenario in which our inflation uncertainty was high and there was a significant chance of entering a deflationary environment. Thus, we are also interested in risk premiums as indicators of uncertainty and not solely as inputs into accurate readings of investors' mean economic outlook.

So far I have largely considered risk premiums as indicators of economic conditions, but they can also directly affect real economic activity. For example, the decline in term premiums in the Treasury market of late may have contributed to keeping long-term interest rates relatively low and, consequently, may have supported the housing sector and consumer spending more generally. Also, risk premiums may be, in part, a manifestation of investor sentiment, which in turn may be correlated with consumer and business sentiment. Accordingly, it is possible that risk premiums may reflect broader "animal spirits" in a Keynesian sense, and thus they could be a marker for shifts in underlying business and consumer spending trends. Consider the dramatic example of the turnaround in equity markets from 2000 to 2003: The pullback of both real and financial risk-taking that accompanied it surely was a significant drag on the economy. Risk premiums may even have a role in credit cycles: Some research here at the Board has shown that corporate bonds issued when risk premiums are low default at a higher rate than bonds issued when risk premiums are high, even when conditioning on their observable risk.² Other research has drawn similar underperformance conclusions about stock returns following initial public offerings.³

Finally, risk premiums are also important tools for monitoring financial stability. A strong, stable financial system is of vital importance both for a robust economy and as

² See Paul Harrison (2004), "Issuance and Default Waves in Junk Bonds: The Role of Cyclical Factors and Easy Credit," unpublished paper, Board of Governors of the Federal Reserve System.

³ See Tim Loughlin and Jay R. Ritter (1995), "The New Issues Puzzle," *Journal of Finance*, vol. 50 (March), pp. 23-51.

a support for an effective monetary policy. Information that bears on investors' attitudes toward risk and on the functioning of financial markets and financial institutions is thus undoubtedly valuable. It certainly was, for example, in the fall of 1998, when virtually every risk premium measure that we monitor appeared to indicate a sharp withdrawal from risk-taking on the part of investors. That withdrawal threatened financial stability and, as a consequence, real activity; the Federal Open Market Committee's (FOMC) risk-management approach to policy dictated that the target rate be eased enough to substantially reduce the odds on a very adverse outcome.

As you can see, we read risk premiums in a variety of ways and for a variety of purposes. Because we conduct policy in real time, our attention is often drawn to movements in risk premiums as they occur, especially if they appear to deviate from long-established patterns. Thus, we try first of all to develop a good understanding of the historical behavior of risk premiums. The top panel of the exhibit that I have passed around shows crude estimates, put together by the Board's staff, of the risk premium on both equities and corporate bonds going back to 1920. The equity risk premium is constructed by subtracting the real Aaa corporate yield from the ratio of trend earnings to prices as a measure of expected equity returns. The corporate bond risk premium is constructed as the expected excess rate of return of Baa over Aaa corporate bonds using expected default rates from a simple regression model. The configuration of risk premiums in the 1950s presents both similarities and contrasts to the behavior of risk premiums in current times. That earlier decade, like the present, was a time of low interest rates and low inflation, and the corporate bond risk premium was low, just as it is today. But our estimates suggest that the equity premium for that period was substantially higher than it appears to be today. To an extent, that may have been a

manifestation of a lingering reluctance to hold equity for a generation that had been chastened by the Great Depression; asset preferences apparently were skewed in ways that could not be readily attributed to objective differences in the risks of holding credit and equity claims on businesses.

The other aspect of the chart that stands out is the apparent decline in risk measures since the late 1970s and early 1980s. The moderation in real output volatility, along with the decline in inflation and its stabilization around low levels, probably reduced perceptions of how much economic and financial variables would possibly deviate from expectations and may thus account for part of the explanation for the decline in risk premiums. I know part of this has already been discussed this morning, and will, no doubt, also be featured during the remainder of the conference, given its fundamental nature and potential to explain declines in risk premiums across markets. But I am intrigued by efforts to separate the extent to which the decline in risk premiums in recent decades is due to a reduction in inflation versus a reduction in real output volatility. In that regard, does the fact that most of the decline occurred by the end of the 1980s suggest that inflation control played a more important role than the damping of business cycles, which might reveal itself more gradually over time?

However, even if we think we understand the trends, the challenges become more pressing when we look at movements in, and relationships among, risk premiums as they happen. Our first challenge is to determine when a movement is not just noise that will quickly reverse, but rather a signal of something important that we need to understand as we formulate policy. For example, does the backup in the equity risk premium over the past year arise from some deep-seated and long-lasting macroeconomic cause that we need to consider for our policy decisions, or is it a mere blip? To separate signal from

noise, we try to look not only at the persistence of movements but also at their correlation across markets. Is there a widespread increase or decrease in risk aversion or in perceived risk that suggests a shift in underlying attitudes and expectations? If there is, the monetary authority may well need to adjust the stance of policy as the FOMC did in the fall of 1998.

Disparate movements in risk premiums, such as those we witnessed in equity and fixed income markets recently and that are highlighted in the bottom panel of the exhibit, are not unusual and can occur for a number of reasons. For one, we are measuring premiums in various markets that have different risk exposures. Securities with different pay-off structures naturally may react differently to a given shock. For example, a relatively modest downward revision to expected spending may raise more questions about returns on equity than on corporate debt. Alternatively, markets may be reacting to different shocks, or to changes to the capital structure of firms; over the last few years, lengthening debt maturities and increases in liquid asset holdings may have supported debt holders at the expense of equity holders. Or, as in the 1950s, perceptions may shift as a consequence of recent events. From time to time, risk premiums also may be affected by changes in demand and supply driven by legal or regulatory requirements, by exogenous changes in issuance patterns, or by shifting asset preferences for reasons unrelated to changing expectations or attitudes toward risk.

To repeat, divergences in risk premiums are not necessarily unusual if looked at from a historical perspective. And surely different co-movements can reflect different risks--or risk shifts--and different preferences--or preference shifts--which can change the equilibrium relation across markets. But an understanding of what caused the divergent movements could be important for policymakers. For example, changes in perceived risk

in some specific markets might point to certain economic weaknesses that policy may need to address. On the other hand, a shift in asset preferences that raised premiums in some markets but lowered them in others could potentially leave overall financial conditions, and their implications for spending, not much changed. Thus, it is important for policymakers to look at risk premiums in their entirety, rather than in isolation, before reaching policy conclusions.

Today I have mostly characterized policymakers as avid readers of risk perceptions across markets, but our actions could affect risk premiums as well. For instance, an effective monetary policy may well have been one factor in the great moderation of inflation and business cycles that I mentioned earlier. And our efforts in recent years to make the policymaking process more transparent may, almost by definition, have reduced uncertainty and thus compressed risk premiums. We have emphasized the conditional nature of our discussions of future policy to help market participants calibrate their assessments and price risk. To the extent that the decline in risk premiums induced by clearer policy communication has accurately reflected the decrease in uncertainty, assets will be better priced. Finally, some have asserted that our accommodative policy stance in recent years, made necessary by the macroeconomic situation, itself has tended to drive down risk premiums as investors “reached for yield.” Notably, however, most risk spreads have remained narrow even as we have been removing policy accommodation.

My purpose today has not been to interpret or forecast risk premiums or the specific way in which they will affect the future path of monetary policy. Rather, I have taken advantage of a captive audience of researchers on this topic to try to impress on you the importance to the central bank of research along these lines. By outlining how we use

estimates of risk premiums and the complications we have encountered, I hope I have given you a sense that we are a ready market for work that improves our understanding of the topic. Any such improvement will help us interpret financial developments as we conduct monetary policy in pursuit of our goals of economic growth and price stability.

Estimated Equity and Bond Risk Premiums

