



## The Other “Fed Model”

Many investors are familiar with the so-called “Fed Model” that compares the relative value of stocks to bonds. Popularized by Wall Street strategist Ed Yardeni in the 1990s, the model compares the earnings yield on stocks (which is the inverse of the price-earnings ratio) to the yield on 10-year government bonds.

As shown in Chart 1, the Fed Model currently gives some comfort to stock investors because it shows that stocks are undervalued relative to bonds by nearly 25%.

That suggests that investors may already be pricing in a good deal of potential bad news about earnings that may be forthcoming as the economy begins to slow. The bull case for the market is that the Federal Reserve should pause soon in raising rates and reverse course in 2007. Against a backdrop of reasonable valuations, the return of pro-growth monetary policy should then set the stage for prolonged economic expansion and further market gains.

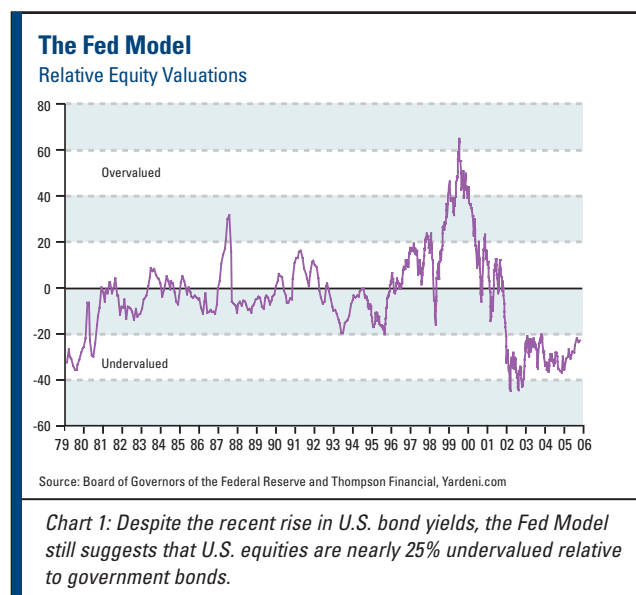
In contrast, the bear case for equity markets is that the approaching economic slowdown may turn out to be much worse than expected. In particular, a number of prominent economists are now predicting that the Fed will keep raising rates until the Fed funds rate reaches 6% or so. If such views are correct, the risk of an economic recession – and severe earnings disappointments – cannot be ruled out.

In that context, there is another “Fed Model” that may provide useful perspective on the investment climate not only for the United States but for other major industrial nations as well. We are referring to work done by Federal Reserve economist Jonathan Wright, who used historical data to

estimate the probability of a U.S. economic recession over the next 12 months based on two simple variables: the level of the Fed funds rate and the slope of the yield curve. (See Jonathan Wright, “The Yield Curve and Predicting Recessions,” U.S. Federal Reserve Board, February 2006.)

### Why the Yield Curve is Such a Good Indicator

The model is based on the fact that the yield curve – as measured by the gap between 10-year U.S. Treasury bond yields and three month Treasury bill yields – has historically



been one of the best single leading indicators of the economy's future prospects. That's because it reflects the collective judgment of thousands of investors about whether short-term rates will remain high or not. Logically, bond investors will only be willing to lock into relatively low short-term rates if they think that an economic slowdown is around the corner. Slowdowns typically bring short-term interest rates tumbling down and give bond investors the opportunity to make attractive capital gains on their bond holdings.

The model also takes into account that the level of interest rates – not just the slope of the yield curve – seems to matter as well. That stands to reason because the higher short and long-term interest rates are, the greater the challenges for both consumers and businesses who must borrow to finance their economic activity.

What is this other Fed Model now saying about the odds of a recession in the U.S. over the next 12 months? Not surprisingly, with the Fed having raised interest rates 17 times since mid-2004, the model is sounding a cautionary note. The Fed funds rate is currently set at 5.25% while yields on both three month Treasury bills and 10-year Treasury bonds are trading around 5.1%. Accordingly, the yield curve is basically flat, which is a classic sign of a coming economic slowdown. As shown in Table 1, which summarizes the results of this new Fed Model, the risks of a recession in the U.S. over the next 12 months currently appear to be close to 40%.

One way of understanding recent market jitters is to note that if the Fed does not pause soon, and continues to raise interest rates to the 6% level, the odds of a recession become significantly higher – on the order of 60% or so. That would

**The Other “Fed Model” –  
Probability of a Recession Over the Next 12 Months**

Yield Curve	5.00	5.25	5.50	5.75	6.00
1.00	12%	14%	16%	18%	20%
0.75	16%	19%	21%	23%	26%
0.50	21%	24%	27%	30%	33%
0.25	27%	30%	33%	36%	40%
0.00	34%	37%	40%	44%	47%
-0.25	41%	45%	48%	51%	55%
-0.50	48%	52%	55%	59%	62%
-0.75	56%	60%	63%	66%	69%
-1.00	63%	67%	70%	73%	76%

Source: Trilogy Advisors, Bloomberg and Political Calculations

*Table 1: The current configuration of U.S. interest rates puts the odds of a recession at nearly 40%, but continued Fed tightening could raise those odds to nearly 60% later this year.*

assume that the yield curve would become even more inverted as the Fed ratchets up short-term interest rates, which we believe is a very reasonable assumption. And even though many market participants are probably prepared for a substantial slowdown in earnings growth as the economy slows in coming quarters, we think that few would be prepared for a sharp drop in earnings that is typical of recession periods.

Our own strong belief is that there will soon be enough evidence of a developing economic slowdown that the Fed will pause and permit the more bullish “soft landing” scenario to unfold – i.e., a so-called mid-cycle economic pause that will bring slower growth but no recession. This belief is reinforced by the fact that labour cost growth – which is a key determinant of inflation – remains well contained despite the recent upward pressure on energy and commodity prices.



**The Other “Fed Model” –  
International Probability of Recession**

Market	Central Bank Rates	Yield Curve: 10-Year Less 3-Month	Probability of Recession
Canada	4.25%	0.2%	18%
US	5.25%	0.0%	37%
Europe ex. U.K.	2.75%	1.0%	3%
U.K.	4.50%	0.1%	28%
Japan	0.25%	1.6%	0%
Pacific ex. Japan	5.55%	0.2%	38%
World	3.93%	0.4%	14%

Source: Trilogy Advisors, Bloomberg and Political Calculations

*Table 2: Interest rates and yield curves in other major nations indicate much lower odds of recession over the next twelve months than in the U.S.*

**The International Picture is Rosier**

We also think that it is interesting to consider what the message from this Fed Recession Model is with respect to other major economies, since we live in a global economy where the U.S. is playing an increasingly smaller role on a relative basis. In Table 2, we have taken the liberty of applying the Fed Recession Model to other major industrial economies on the reasonably well-documented view that yield curves and short-term interest rate levels have been pretty good leading indicators of economic activity around the world.

These results are encouraging since the central banks of many other major industrial economies have lagged far behind the Fed in raising interest rates. That means that average short-term rates in the Group of Seven economies outside of the U.S. are generally much lower than in the U.S. while most yield curves remain positively sloped. As is evident in Table 2, that means that the odds of economic recessions in most other major industrial economies remain far lower than in the U.S. Interestingly, only in the

Asia-Pacific region excluding Japan is the risk of recession comparable to that in the U.S., reflecting the fact that the Australian and New Zealand central banks have tightened monetary policy significantly.

We have also calculated weighted averages for both short-term interest rates and the slope of the yield curve in order to get some idea of what the odds of a global economic recession happen to be at this point. Not surprisingly, the odds of a global recession by this method seem to be reasonably low at under 15%. Put differently, the odds of no global recession would appear to be greater than 85%. That suggests to us that global investors should refrain from jumping out of any windows despite recent market jitters.

We are also encouraged by the fact that most analysts expect further monetary tightening in Europe and Japan to continue to proceed in baby steps in coming quarters. While Japan is in the process of beginning to normalize interest rates after years of maintaining a zero-interest rate policy, it is in no rush since domestic inflation pressures

**Valuation Comparison: International Stocks vs. Bonds**

Data as of June 30, 2006

Market	12 - Month Forward P/E Ratio	Earnings Yield	10 - Year Nominal Bond Yield*	Relative Valuation Stocks vs. Bonds
Canada	15.3	6.5%	4.5%	-32%
U.S.	14.2	7.0%	5.1%	-28%
Europe ex. U.K.	12.2	8.2%	4.1%	-51%
U.K.	12.1	8.3%	4.6%	-44%
Japan	17.7	5.6%	1.9%	-67%
Pacific ex. Japan	12.2	8.2%	5.2%	-36%
World	13.6	7.4%	4.3%	-42%

Source: Trilogy Advisors, Bloomberg and Political Calculations

*Table 3: Stocks still look undervalued relative to bonds in most major nations, most notably in Europe and Japan where risks of recession appear lower than in the U.S.*

remain very subdued. The European Central Bank (ECB) has also been slow and deliberate in its policy of monetary tightening, partly because a flood of cheap imports and the strong euro has helped dampen inflation pressures in Europe.

### **International Valuations Are Attractive**

Let us provide one more perspective on the international investment climate by reverting back to the original Fed Model for a look at the relative valuations of stocks versus bonds in the major industrial nations. This is shown in Table 3, which shows the estimated price-earnings ratios, 10-year government bond yields, and relative stock-versus-bond valuation comparisons for major regions.

What stands out from this comparison is that stocks appear undervalued relative to bonds in all of the major industrial nations, but especially so in Europe and Japan. That's largely because bond yields remain quite low in Europe and Japan and implies that equities are undervalued relative to bonds on the order of 40% plus in much of Europe and by more than 60% in Japan. Of course that is no guarantee that equities will outperform bonds by such margins anytime soon, but it does suggest that equity investors overseas generally remain cautious and are demanding substantial compensation for the risk of owning equities.

What is also striking from Table 3 is that equities appear most undervalued relative to bonds precisely in those areas where the risk of recession appears to be lowest. That, together with prospects for further U.S. dollar weakness ahead, helps support the case for tilting global portfolios toward non-U.S. equities.

One final observation is that there is a very good reason for international policymakers to pursue policies that will maintain stronger growth overseas even as the U.S. economy begins to slow: stronger growth overseas and slower growth in U.S. consumption represents one of the only ways for the world to unwind the large U.S. trade deficit in an orderly fashion. The other way is for a weaker U.S. dollar to help boost U.S. exports while encouraging U.S. consumers to reduce their appetite for imported goods. We continue to assume that policymakers will prefer an orderly rather than disorderly unwinding of global trade imbalances. As we have argued before, we believe that this process will tend to favour non-U.S. equity markets over the U.S. market for some time to come.

To be sure, as the recent jitters in global markets have demonstrated, many investors will still act in the short term as if the old maxim applies: "When the U.S. sneezes, the rest of the world will catch a cold." That said, we think that a reasoned analysis suggests that business cycles and monetary policies around the world have diverged sufficiently that risks of a global recession are pretty low – despite understandable concerns about the U.S. economy. If we are correct, the type of volatility we have experienced recently should permit patient long-term investors to benefit from misperceptions about a global economy that is becoming progressively less U.S.-centric.



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