Sterling's
World Report

Reading the Fed's Playbook

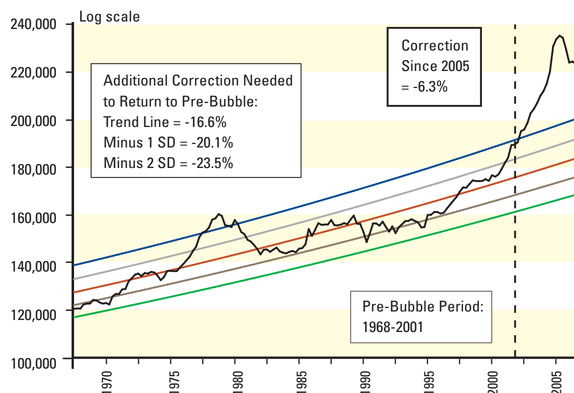
Every August, central bankers from around the world get together for some high-altitude training in Jackson Hole, Wyoming. If they were football players, they would huddle around whiteboards filled with X's and O's and then get out on the field and run some plays. But, as central bankers, they talk shop for hours and hours in windowless rooms using daunting mathematical equations and impenetrable jargon.

What they learn from each other at this summer camp ultimately influences the path of interest rates in all of the world's major economies. Their discussions can deeply affect the valuation of tens of trillions of dollars of financial assets. So it is worthwhile for investors to be aware of what was discussed in Jackson Hole.

In view of the recent mortgage crisis in the U.S., the topic for this year's conference could not have been timelier: "Housing, Housing Finance, and Monetary Policy." For those of us who believe that the ongoing deflation of American home prices is a major economic event, this year's discussions at the Jackson Hole conference provided an unusual degree of transparency into how U.S. Federal Reserve policy is likely to respond to the current housing slump.

U.S. Real Home Prices Remain Far Above Pre-Bubble Trend

Median Home Price, 2007 Constant Dollars



Source: National Association of Realtors, Trilogy Global Advisors

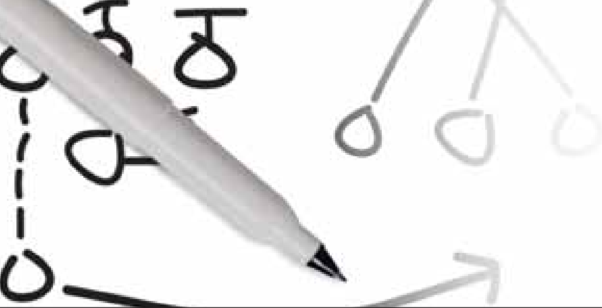
Chart 1: U.S. real home prices rose by an extraordinary amount in recent years and have been declining since 2005. Based on this data, Mishkin's 20% decline scenario makes sense.

Bubble Background

In particular, a paper by Fed Governor Frederic Mishkin may give investors a chance to read almost directly from the Fed's playbook on how to respond to declining home prices. The paper has the sizzling title "Housing and the Monetary Policy Transmission Mechanism," and is laden with technical jargon. Its conclusions, however, should be of great interest to investors. And the paper is almost as interesting for what it *doesn't* say.

The paper clearly lays out what a very influential member of the Fed thinks about how monetary policy should respond if real home prices were to fall by 20% in 2007 and 2008. It is interesting to us that he should have picked the 20% figure because we believe it is a realistic estimate of how far real home prices may need to fall to get back to the historic trend line consistent with a housing slump.

As we show in Chart 1, real home prices in the U.S. were a "five standard deviation event" by late 2005 relative to the trends that had been in place from 1968 to 2001, or what we have named the "pre-bubble" period. That means that a naive statistical model from 2001 would have put the odds at less than three million to one (or essentially zero) that home prices would have soared by as much as they did over the following few years. That sounds to us like a bubble: a situation where home prices were going up because they were expected to keep going up, not because they were supported by



other fundamentals like growth in incomes or rental values. We show in the chart that if real home prices overshoot modestly to the downside (minus one standard deviation), the nationwide decline would be about 20% from the current level (which is already 6% below the peak of late 2005). Naturally, some overshooting to the downside is typical in a slump when a lot of excess inventory has to be cleared at fire-sale prices.

Participants at the Fed's summer camp heard from housing experts like Yale professor Robert Shiller, who warned policy-makers that they must consider the possibility that the United States could be facing "a substantial downtrend in home prices over many years" and that 50% declines in home prices in some regions were entirely possible.

Professor Shiller was almost certainly thinking of California, where the ratio of home prices to income reached more than 10 times in 2006, according to data from HSBC's economics team. That is nearly double its average since 1975 and implies that homeowners who bought their homes recently face painful levels of debt. The situation will be especially challenging for those facing higher interest rates due to mortgage reset provisions on loans taken out several years ago. That's because the ultra-low "teaser" rates on such loans are now expiring and being replaced by much higher market rates. Of course, easy terms on sub-prime or so-called "no documentation" loans – also known as "liar loans" – are now a thing of the past.

The Mishkin Manifesto

Governor Mishkin was very careful to pose his discussion as a hypothetical question: *If* real home prices *were to decline by 20%* over the 2007 to 2008 period, what would be the best course of action for the Fed? His analysis showed that the central bank may need to lower interest rates more quickly and more aggressively than standard practice would call for – and perhaps by nearly two percentage points over the course of about two years, measured from the time home prices begin falling. At least that is the optimal policy if the central bank wants to prevent a recession from developing and if the drop in home prices causes consumers and homebuilders to curb their activities significantly.

Interestingly, since real home prices have already been declining for over a year, Mishkin's analysis seems to imply that the Fed should cut rates by 2% by the end of 2008 if it wants to achieve its dual goals of promoting price stability and maximum sustainable employment. Although Mishkin's paper was couched in hypotheticals and central-bank jargon, his message to Fed Chairman Ben Bernanke and his colleagues seemed to us to be clear: If you think home prices were in a bubble and are moving in reverse, this is no time to by pussyfooting around.

Mishkin's paper carefully reviews various estimates about how much a decline in home prices is likely to affect consumer spending and concludes that such estimates are "all over the map." He notes that the Fed's standard model assumes that for every dollar decline in home prices, consumer spending is likely to fall by nearly four cents after the passage of a number of quarters. However, he also concedes that the effect could easily be nearly twice as large. That would imply that declining home prices will deliver a rather large macroeconomic shock to the U.S. economy. Under his scenario of a 20% decline in real prices – which represents more than a $4 trillion loss in wealth – he argues that real GDP could end up falling by nearly 1.5% relative to baseline. He did not need to spell it out to his fellow central bankers, but with the U.S. economy currently experiencing sluggish growth of only about 2% on a year-over-year basis, a drag on the economy of 1.5% of GDP could easily tilt the economy into recession.

That's the bad news. The good news he offers is that a timely and material reduction in interest rates in response to the decline in home prices should be able to offset most of the drag from housing and keep the economy on an even keel. Rather than discuss in great detail how that would play out, he simply presented a set of charts based on the Fed's model of

the U.S. economy depicting the likely paths of real GDP, housing investment, consumer spending and inflation.

Read the Footnotes!

In our opinion, some of the most interesting aspects of the Mishkin Manifesto are not related to what he said, but instead involve what he chose not to say. And just as students of company financial reports can attest that the most interesting information in the reports is to be found in the footnotes, the same is true for Mishkin's paper.

Here are some key implications from Mishkin's paper that were not explicitly stated:

First, if the negative effects of declining home prices are as large as some reasonable estimates suggest, even a two percentage point decline in interest rates will take a very long time to turn around consumer spending or residential investment. In one of his key scenarios, negative momentum from residential investment does not abate until 2010, while a slowdown in consumer spending persists until mid-2009 (See Chart 2). His projections imply protracted recessions for both housing and consumer spending – despite rate cuts.

Second, if consumer spending and housing together account for nearly 70% of the economy, major sectors involved in the other 30% will need to boom in order to keep the overall economy on a growth path. The other 30% of the economy consists primarily of net exports, business capital formation and the government sector. Since his scenario did not assume expansionary fiscal policy in the form of tax cuts or government spending increases, the implication is that net exports and business capital spending will have to do yeoman's work to keep the economy on track.

Third, in order to ensure that business capital spending and net exports are booming, the Fed needs to engineer a major rally in the stock market and a significant decline in the dollar.

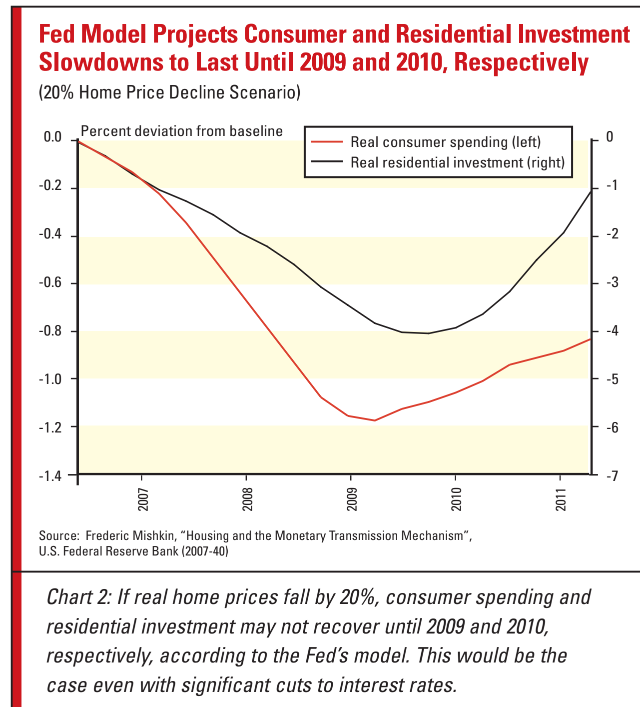


Chart 2: If real home prices fall by 20%, consumer spending and residential investment may not recover until 2009 and 2010, respectively, according to the Fed's model. This would be the case even with significant cuts to interest rates.

Finally, if the stock market boom and the decline in the value of the dollar create a modest burst of upward pressure on inflation, don't fret. The logic of the Fed's model says that a modest acceleration of inflation is a small price to pay for avoiding a very costly recession and related risks of deflation.

Our interpretation of Mishkin's paper requires close attention to both his charts and his footnotes. We suspect that his central banking colleagues would take these interpretations more or less for granted, since they can be gleaned from any standard money and banking textbook. Rather than spelling out how the 200 basis point rate drop would act as an offset to the home price shock, he simply referred to general descriptions of the Federal Reserve Board's U.S. economic model (FRB/US) that can be found in a number of Fed publications.

A key table from one such publication is reproduced in part here as Table 1, which shows how the Fed's model expects a 1% drop in the Fed funds rate to affect the economy over the course of two years. Now recall that one of Mishkin's

Monetary Transmission Mechanism in the FRB/US Model:
Full-model simulated effect of a one percentage point fall in the federal funds rate (percent change from baseline)

Item	Response at end of year 1	Response at end of year 2
Financial markets		
Yield of 10-year Treasury bonds	-0.3	-0.5
Stock market prices	8.8	12.7
Exchange rate value of the dollar	-2.2	-4.7
Aggregate activity		
GDP (chain-weighted 1992 dollars)	0.6	1.7
Unemployment rate	-0.2	-0.7
Consumer price inflation rate	0.2	0.6

Source: David Reifschneider, Robert Tetlow, and John Williams, "Aggregate Disturbances, Monetary Policy, and the Macroeconomy: The FRB/US Perspective," Federal Reserve Bulletin (January 1999).

Table 1: The Fed's model assumes that a two percentage point cut in the federal funds rate is likely to generate a boom in stock prices, a significant decline in the dollar, and a surge in growth and inflation.

key scenarios calls for a timely drop of two percentage points in the Fed funds rate to offset the shock of falling home prices. That implies that the numbers in Table 1 can simply be doubled to estimate what Mishkin's scenario implies for the behaviour of two key variables of great interest to investors, namely stock market prices and the foreign exchange value of the U.S. dollar.

Mishkin to Markets: Buy Stocks, Short the Dollar

Since the numbers are shown relative to baseline projections, let us assume that the Fed's baseline model has the total return from stocks growing conservatively in line with nominal GDP, or 6% per year. Then doubling the numbers in the table and adding them to baseline returns of 6% implies a stock market gain in year one of 23.6% (6% plus two times 8.8%) and in year two of 31.4% (6% plus two times 12.7%). With the magic of compounding, that suggests that the Fed needs to engineer total returns from stocks over two years of 62% to deal with the home price shock. The timing, of course, would depend on how quickly the Fed cut rates.

We suspect Mishkin's paper would have received slightly more attention in the media – all unwelcome – if he had spelled that out. Note also, according to Table 1, that Mishkin's analysis suggests that the exchange rate value of the U.S. dollar needs to fall by a cumulative 13% across the board over two years to help assure a boom in exports and reduction in imports. Once again, we suspect that such a conclusion would have received more attention in the media if it had been spelled out.

Our conclusion is this: Amidst all the gloom in the media about the housing boom and bust, a close read of what key Fed officials are thinking suggests that the implications for the stock market may be far from negative. In other words, just as the Fed's response to the decline in the stock market early in the decade proved to be a boon to home prices, the reverse could well be the case over the next year or so. Needless to say, if Fed officials ignore Mishkin's analysis and permit a recession to develop, the outcome could be different.

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