

Commentary: Whither Monetary and Financial Stability? The Implications of Evolving Policy Regimes

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Let me begin by stating that I have an enormous amount of respect for both Claudio Borio and Bill White. They have performed a valuable service to the central banking community by constantly reminding it—some might say nagging it—about the need to maintain a vigilant watch for exposure in the financial system. This paper, however, is not about financial crises per se, but rather it is about the appropriate role of monetary policy. The discussion is balanced and thoughtful on the whole. But as the authors openly concede, the analysis is based largely on speculation. My job as a discussant is to ask whether there is any hard evidence to support this speculation.

The research agenda is ambitious. It consists of three main objectives:

- (1a) Identify a set of robust indicators of financial imbalances, i.e., a set of financial variables that measure potential financial distress and that have stable and significant predictive power for future economic activity.
- (2a) Offer a theory of how financial imbalances arise, based on the general notion that these imbalances are the spontaneous product of good macroeconomic times along with a central bank mainly focused on price stability.

- (3a) Devise a “pre-emptive” monetary policy strategy that has the central bank adjust short-term rates to lean against impending financial imbalances.

Let me first give my broad reactions to each of these issues before going into detail.

- (1b) The financial indicators that the authors propose are unlikely to have stable predictive.
- (2b) Financial imbalances (that truly induce undue risk exposure) are not simply the product of good times, but rather arise fundamentally due to an inadequate system of financial market supervision and regulation. In this regard, the appropriate pre-emptive policy involves adjustments of the regulatory system and not monetary policy.
- (3b) There is no existing evidence or theory to show that a pre-emptive monetary policy response to financial imbalances yields quantitatively significant benefits without the risk of considerable damage. This is particularly true given any kind of reasonable assumptions about the informational constraints that central banks face.

I now develop each of these arguments in detail. Let me begin with the issue of the stability of financial indicators. Conventional wisdom holds that financial variables have no stable predictive power for macroeconomic variables (Stock and Watson 2003, Friedmann and Kuttner 1992). There are good theoretical reasons for this to be the case. The predictive power of any financial variable depends on the institutional and policy environment in place at the time, as well as the aggregate disturbances that are driving the economy. Strong credit growth, for example, could be symptomatic of efficient financial development. It could, however, also reflect on economy in distress with a poorly regulated banking system that has opened up the lending spigot. Similarly,

booming asset prices could reflect high favorable news about fundamentals, but might also be driven by a speculative bubble.

The authors propose considering as indicators of financial imbalance sharp deviations from historical trend of the ratio of private credit to output and of real equity prices. For the reasons I have just discussed, it is not immediately obvious that these sharp movements should always signal imbalances. But let me put this matter aside for the moment and concentrate on the issue of the forecasting power of these variables.

The evidence that the authors provide comes from studying a cross of OECD countries over the period 1974-1999. Importantly, neither of these financial variables has any significant predictive power for any single country such as the United States. Rather, the statistical correlations appear to come from the cross section and be driven a particular period: the global boom/bust that occurred over the mid-1980s through the early 1990s. Over this period, across many of the OECD countries there were sharp swings in asset prices and credit, followed by banking distress and a global downturn.

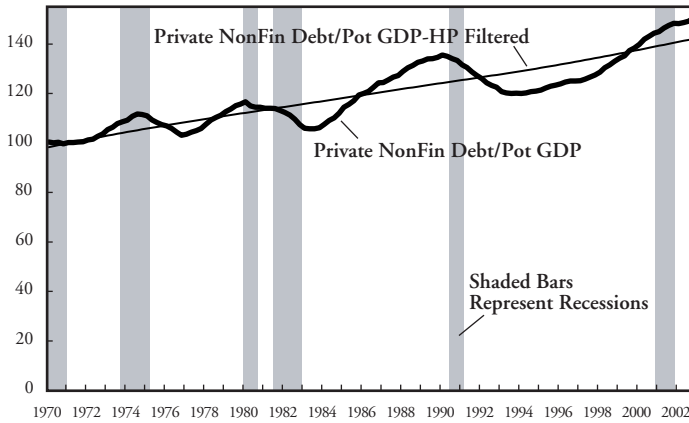
The financial imbalances that played out over this period, however, were not the spontaneous outcome of good times. Rather, they were largely the product of ill-designed financial deregulation. (Indeed, Claudio Borio and others at the BIS were among the first to make this observation). Across the OECD countries, governments expanded banking powers without accompanying these changes with an appropriate adjustment of bank supervision and regulation. As a consequence, in many countries weakly capitalized banks ventured into highly risky commercial lending. When the downturn began, heavily exposed banks experienced significant losses, resulting in a capital crunch that, in turn, was the key underlying source of the “financial headwinds” that undoubtedly contributed to both the depth and length of the recessions in many countries.

While financial imbalances were undoubtedly a key factor in the global recession over this period, it is again worth stressing that these imbalances were the product of a regulatory failure and not a failure of monetary policy. In this regard, theory (not to mention common sense) dictates that the appropriate policy response should involve prudential policy and not monetary policy. Indeed, this is what occurred: The banking distress of this period led to the Basel Accord and other regulatory initiatives that tightened capital standards and increased supervision. As a consequence, bank capitalization improved steadily over time.

One manifestation of this (regulatory induced) improvement in banks' financial health is that the type of financial headwinds that were so prominent in the 1990-91 downturn were not a noticeable factor in the most recent recession. A corollary implication is that this change in the institutional environment is likely to change the future statistical correlations between the authors' financial indicators and economic activity. For example, the predictive power of these indicators for banking distress is likely to weaken considerably in light of the dramatic regulatory changes.

I now turn to the question that lurks heavily in the background of the authors' analysis: Should the Federal Reserve have responded directly to financial imbalances, beginning around 1996? Before turning to the issue of whether it makes any sense to do so, one has to ask whether it was at all possible to identify any imbalances *a priori*. It has been suggested, for example, that the problem of measuring fundamental asset prices is analogous to the problem of trying to measure potential output. From a practical standpoint, however, I believe this analogy is dead wrong. The standard deviation of the estimate of potential output is about one and one-half percentage points, implying that with 95 percent probability, the true value of potential output is within three percentage points in either direction of its point estimate. Given the range of beliefs about the true value of the S&P 500, for example, it is not ridiculous to suggest that the percentage error in the estimate of fundamental equity prices is at least 10 times as large as that of potential

Chart 1
Ratio of Private Debt to Potential GDP (1970:1 to 2002:4)



output, if not more. Put differently, just because two variables are measured with error does not imply the percentage measurement error is the same. From a practical standpoint, the measurement error in fundamental stock prices may be so great as to render the estimate effectively unreliable for policymaking purposes.

A perhaps more important consideration, in contrast to measures of potential output, the central bank has no comparative advantage in constructing estimates of fundamental asset prices. Because it collects the data and has a large expert staff, focused to develop the measures, it is arguably true that the government is better suited than the private sector to produce estimates of potential output. The same, however, clearly does not apply to forecasting fundamental asset prices. For obvious reasons (i.e., strong profit incentives), the private sector is likely to be best equipped at determining proper market valuations.¹

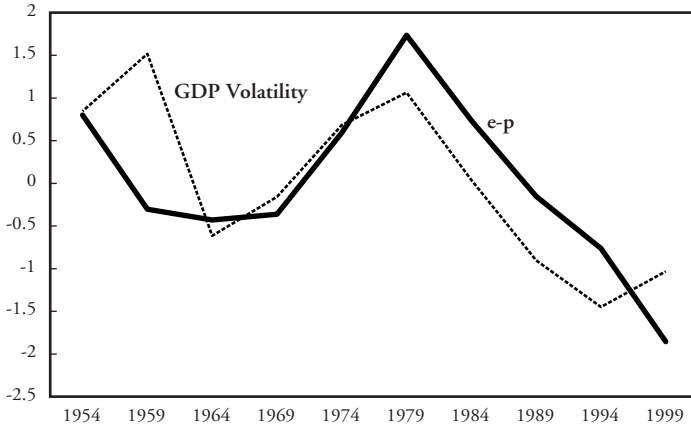
The authors clearly recognize the problems associated with trying to identify fundamental asset prices. It is for this reason that they propose an alternative set of indicators. But would their indicators have been useful in practice?

Consider first the ratio of private credit to GDP. Chart 1 plots this ratio over the period 1970:1 to 2002:4 along with its trend value (following the authors' detrending procedure.) The shaded areas reflect NBER recessions. Note that the ratio is well above trend prior to the 1990-91 recession, reflecting the post liberalization expansion of bank lending. However, for most of the period prior to the recent recession, the private credit to GDP ratio is actually well below trend. Thus, this indicator would not have signaled a need to tighten in the key period 1996-1999. It is true that the ratio began to climb as the recession began. Much of this increase, however, reflected a rise in mortgage refinancing in response to monetary policy easing, as opposed to the kind of risky real estate lending that was prominent in the late 1980s upsurge. The implications for financial stability may thus be quite different.

What about the other indicator: sharp movements in asset prices? The problem here is that sharp asset price booms are not often followed by busts. A recent study by Bordo and Jeanne 2002 examines asset price movements in OECD countries over the period 1970-2001. These authors found that only three of 24 equity price booms were followed by busts. The incidence of a bust is somewhat higher for property prices. However, property price busts are typically associated with single cities. For countries with many large cities, such as the United States, there is little evidence of property price booms leading to subsequent boosts.²

Thus, absent any additional context, simply the fact that stock prices rose sharply during the mid-1990s did not by itself justify a monetary tightening. Could it be argued that by examining earnings-price ratios, it may have been possible to detect nonfundamental asset prices movements? After all, even given very optimistic earnings forecasts, price-earnings ratios climbed to record levels during the latter 1990s. The problem here, however, is that asset prices depend not only on earnings forecasts but also on discounts rates. The appropriate discount rate for equities, for example, is the sum of the equity premium and the riskless real rate. In principle, a sharp decline in the equity premium could account for the observed high price-earnings ratio.

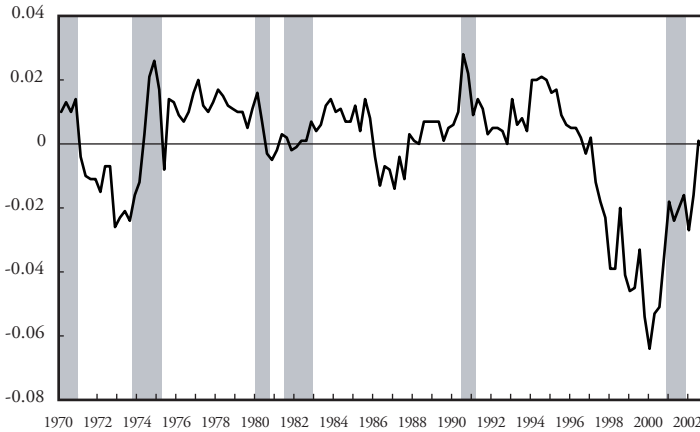
Chart 2
5-Year GDP Volatility Estimates and
the Log Earnings/Price Ratio



Indeed, some interesting recent work by Lettau, Ludvigson, and Wachter (2003) provides some evidence that a declining equity premium might have been at work. They report a strong positive correlation between the volatility of GDP growth and macroeconomic risk, as measured by the standard deviation of GDP growth. In particular, Chart 2 plots five-year averages of the standard deviation of GDP growth against the log of the earnings-price ratio for the S&P 500. Interestingly, the percent decline in GDP growth volatility is roughly of the same magnitude as the decline in the earnings-price ratio. This is significant because macroeconomic risk is a principle determinant of the equity premium. The authors go on to show, using a formal model, that the decline in macroeconomic risk can, in fact, explain the upward trend in earnings-price ratio via its impact on the equity premium.

While it is possible to account for much of the upward trend in the price/earnings ratio by appealing to declining macroeconomic risk, it is still not easy to explain all the high frequency variation in the market. On the other hand, it is not at all clear that this high-frequency variation translates into spending. In particular, the evidence suggests that

Chart 3
Consumption/Wealth (1970:1 to 2002:4)



the recent sharp run-up in wealth was not met with a proportionate upward adjustment in consumption. Chart 3 plots the behavior of the log of the consumption/wealth ratio (more specifically a variable that approximates the behavior of the log consumption/wealth ratio), based on work by Lettau and Ludvigson 2003. Most notably, there is a sharp contraction in the consumption wealth ratio from 1996 to 2000. One interpretation is that the strong likelihood in households' minds that the run-up in the market was not fully sustainable led to caution in the adjustment of spending. The evidence of only a weak impact of high-frequency variation in the market for household spending is similarly true for investment spending. All this suggests another important reason why central banks shouldn't chase high-frequency variation is asset prices: Since this high-frequency variation has little impact on private spending, by adjusting policy in response a central bank may simply be adding undesirable interest rate volatility.

To summarize, it is difficult to point to explicit real-time indicators of financial imbalances in the period 1996-1999 that might have warranted a monetary tightening. Credit to GDP ratios were low relative to trend. The sharp asset price increases were not inconsistent with fundamentals, especially given the plausible likelihood of a

decline in the equity premium. In addition, the high-frequency variation that is difficult to explain with fundamentals does not appear to have much impact on spending.

Even from *ex post* perspective, however, there is really no evidence that a pre-emptive strike against supposed financial imbalances might have been helpful. The economy experienced the longest postwar expansion in history, followed by only a very mild recession. There is no evidence to suggest that with a little extra fine-tuning the central bank could have avoided the most recent downturn. More to the point, the most recent recession did not feature any of the kinds of financial headwinds that clearly played a role in the downturn of the early 1990s. While one can identify some sectors such as tech that were clearly overextended, the kind of broad disruption key financial arteries that was so prevalent in the earlier downturn did not arise this time around. In addition, it is hard to identify a major impact of the stock market decline on consumption spending (perhaps not surprisingly so since consumption did not rise sharply with the market.) The absence of these financial effects in the most recent recession suggests that there would have been little gain from pre-emptive policy actions earlier on.

It is worth considering for a moment why a financial crisis did not emerge in the most recent downturn, despite the sharp fall in the market. Here, several factors were key. First, both bank and firm balance sheets were in reasonably good shape going into the recession. As discussed earlier, regulatory policy was key in inducing banks to adopt prudent financial policies. Second, monetary policy responded quickly to the weakening of the economy. In this regard, the historical evidence suggests that financial imbalances lead to a significant disruption of the economy only when a central bank either stands by passively as the downturn begins or takes actions that reinforce that downturn (e.g., by raising interest rates to defend an exchange rate peg). Overall, the recent U.S. experience suggests a general avenue for dealing with potential financial excess: Use prudential policy to prevent undesired financial risk exposure from building up. Then use active monetary policy to mitigate any harmful effects of a downturn.

Four years ago, Ben Bernanke and I (Bernanke and Gertler 1999) showed that a flexible inflation targeting framework (in conjunction with a cogent prudential policy) accomplishes exactly this goal.³ It induces a central bank to take the appropriate policy actions in response to financial market volatility and does so in a way that properly takes into account the real informational constraints the central bank faces.⁴ In particular, the central bank does not have to get in the business of figuring out fundamental market valuations. Nor does it have to figure out how the market will respond to its policy actions or its perceptions of proper market valuations. Since, in my view, the Federal Reserve in recent years has acted as an implicit inflation targeter and done so in a way that has clearly mitigated any harmful effects from market volatility, it seems that recent events have only served to support our position.

Endnotes

¹Another consideration is that, in the absence of a market crash, there is no way to validate in real time whether asset prices are deviating from fundamentals. By contrast, unexpected movements in inflation provide the central bank with real-time information that its estimates of potential output may be off.

²It is also worth stressing that housing prices have no reliable forecasting power for aggregate economic activity. See Stock and Watson 2003.

³See Bernanke and Gertler 2001, who show that our results are robust to the various criticisms that have arisen.

⁴See Bean 2003 for an elegant rationale for inflation targeting as a response to asset market volatility. As Bean observes, much of the theory that purports to rationalize a central role for asset prices confuses a reduced form policy rule with an overall policy strategy. In the reduced form, any variable that affects aggregate spending will enter the reduced form policy rule, including not only financial market imbalances, but other kinds of shocks, such as fiscal policy, oil shocks, war uncertainty, and so on. Accordingly, these theories do not rationalize any central focus on financial variables, any more so than for other kinds of shocks.

References

- Bean, Charles. 2003. "Asset Prices, Financial Imbalances and Monetary Policy? Are Inflation Targets Enough?" Bank of England, mimeo.
- Bernanke, Ben, and Mark Gertler. 1999. "Monetary Policy and Price Volatility." _____, and _____. 2001. "How Should Central Bankers Respond to Asset Prices?" *American Economic Review Papers and Proceedings* 91(2), May, pp. 253-257.
- Friedman, Benjamin, and Kenneth Kuttner. 1992. "Money, Income, Prices and Interest Rates," *American Economic Review* 82, June, pp. 472-492.
- Lettau, Martin, and Sydney Ludvigson. 2003. "Understanding Trend and Cycle in Asset Values; Reevaluating the Wealth Effect on Consumption," NYU, mimeo, forthcoming *American Economic Review*.
- Lettau, Martin, Sydney Ludvigson, and Jessica Wachter. 2003. "The Declining Equity Premium: What Role Does Macroeconomic Risk Play?" mimeo, NYU.
- Stock, James, and Mark Watson. 2003. "Forecasting Output and Inflation: The Role of Asset Prices," *Journal of Economic Literature*, September, pp. 788- 829.