

Stock Prices and Monetary Policy: Re-examining the Issue in a New Keynesian Model with Endogenous Investment

Referee report #3

Here we address the two main comments of the referee.

1) The best performing traditional rule (in terms of volatility reduction) is always "output aggressive" because of one of the key results of our model, namely that stock price booms trigger investment (aggregate demand) but also capital accumulation (future aggregate supply) which raises potential output and compresses future output gaps and inflation. For instance, this seems in line with largely reported evidence of stock price booms and excess investment with low and stable goods price inflation (e.g. Borio and Lowe (2002), Christiano et al. (2007)). The non-fundamental part of increased capacity is a real distortion (see also Dupor (2005)) that the central bank would like to dampen by rising the interest rate, but expected inflation is a poor indicator of the cyclical position of the economy compared with current output. Whether an output-inflation trade-off is implied or not is not an issue here.

2) Our aim in this paper is to assess the so-called "Fed Consensus" that inclusion of some stock-market indicator in the interest-rate rule does not improve, or actually harms, stabilization *in terms of output and inflation volatility*. This argument presupposes, like a large class of policy models, that this is the central bank's aim, and we take it for granted. Hence, the "metric" of comparison across the various rules is the standard deviation of the relevant variables. As noted by the referee, we also deal with a class of phenomena where there exists no conflict of objectives between output and inflation volatility, so that deploying an explicit loss function for the central bank may be more elegant but inessential. It may be added that most common loss functions (like the quadratic one) are monotonic in the standard deviations of the relevant variables, so that filtering standard deviations through the loss function does not change the preference ordering of the rules.

Introducing some welfare-based reaction function would of course be relevant in the perspective of further *normative* work about the optimization of rules with (or without) stock-market indicators. In this perspective, however, some available results should be considered. First, it is now well-established that optimized policy rules, typically, include some stock-market indicator (e.g. Dsyatat (2005), Dupor (2005)). As we write in the paper, "The reason is purely technical. In an optimization programme the central bank should take account of the functions determining the output and inflation gaps as constraints. If say stock prices appear among these determinants (and nobody denies this) then they will also appear in the optimal policy rule as independent arguments, even though they are simple co-

determinants of inflation and output" (p. 2). The second is that, as said above, non-fundamental stock price booms generate a real distortion in the form of excess capacity. Consider a consumer-based welfare loss function as in Dupor (2005); hence the real distortion affects the intertemporal distribution of consumption, and a benevolent policy maker would like to correct it. So we are back to our point: expected inflation offers poor guidance compared with output. We do not expect dramatic departures from this result.

- Borio C., Lowe P. (2002), "Asset Prices, Financial and Monetary Stability: Exploring the Nexus", BIS Working Papers, no. 114.
- Christiano L. J., Ilut C., Motto R., Rostagno M. (2007), "Monetary Policy and Stock Market Boom-Bust Cycles", Northwestern University, mimeo.
- Disyatat P. (2005), "Inflation Targeting, Asset Prices and Financial Imbalances: Conceptualizing the Debate", BIS Working Paper, n. 168.
- Dupor (2005), "Stabilizing Non-Fundamental Asset Price Movements Under Discretion and Limited Information", *Journal of Monetary Economics*, 52, pp. 727-747.