## Referee report on "Stock prices and monetary policy. Re-examining the issue in a New Keynesian model with endogenous investment"

## **Summary**

The paper re-examines the question whether monetary policy should respond to stock price movements based on a New Keynesian model with endogenous investment. The way stock prices are integrated in the model is similar to Dupor (2005), but stock prices are in addition explicitly modelled so that monetary policy can have an effect on the bubble. The paper explores the performance in terms of macroeconomic and stock price volatility of traditional rules (i.e. rules reacting only to inflation and output) and financial rules (i.e. rules with an explicit reaction to financial variables). The main result is that among the traditional rules the best performing one is output aggressive (i.e. reacts strongly to output), while among the financial rules the best performing one responds to Tobin's q. Which of these rules performs best depends on the driver of stock pries, whether it is fundamentals, or bubbles or a mix of the two

## **Comments**

The paper is well written and addresses a relevant topic in a competent way. I have five main (constructive) comments on the paper:

- 1) In the introduction, it would be useful to point out more clearly what the main contributions of the paper are: (i) to develop a model that enables a meaningful analysis of the interaction between stock prices, the economy and monetary policy and (ii) to assess based on this model the usefulness of policy rules that respond to stock market indicators. In this context, it would be important to also highlight more clearly the main differences to the existing literature, in particular Dupor (2005).
- 2) One interesting finding of the paper that is not sufficiently highlighted is that, in the model, a stock market boom can, via its effects on investment, have disinflationary effects. This is in fact what could be observed in the run-up of the global financial crisis: asset prices were booming but inflation stayed low and stable, inducing an accommodative monetary policy stance that reinforced the asset price boom. This is in my view worth mentioning.
- 3) The presentation of the results is not very accessible and could benefit from a reorganisation. Instead of presenting the results for the different assumptions about the underlying driver of stock prices, i.e. pure fundamentals (case A), pure bubbles (case B) and a mix of fundamentals and bubbles (case C) separately one after the other, it might be better to present them in a more condensed form. A possibility would be to have a table showing first the volatilities of output, prices and the interest rate for the different rules and highlighting the best performing ones. A second table could then show the same for investment, consumption and stock prices. The discussion of the results could be reorganised accordingly. Importantly, the volatility of the interest rate should be included in the analysis in order to see how much policy activism would be induced by a financial rule.
- 4) What is currently missing from the paper is a discussion of the role of limited information on the side of the central bank about the underlying driver of stock prices. Dupor (2005) explores this issue in some depth. Maybe a discussion of this issue and what it means for the analysis and results could be added to the paper.
- 5) The authors should include a discussion on the relevance of their model for the more recent global financial crisis. The recent crisis was mainly caused by a credit and house price boom. It would be useful to discuss whether the mechanisms of the model are also useful to understand the interaction between monetary policy, asset prices and credit more generally. As it stands now, the paper is linked primarily to the discussion of the role of asset prices in

the context of the dot.com bubble. It would be important to link it also to the recent global crisis.

## **Minor issues:**

- 1) On p. 4, Tobin's q is defined as the rate of change in stock prices relative to the capital stock. Tobin's q is defined as the market value of capital relative to its replacement cost. Would that not mean that, in the model, Tobin's q should be defined as the level of stock prices relative to the capital stock?
- 2) In Table 2 on p. 18, does the calibration with a unit coefficient on expected inflation ensure determinacy? At least to me, this is not self-evident and warrants a short discussion. References

Dupor (2005), "Stabilizing Non-Fundamental Asset Price Movements Under Discretion and Limited Information", Journal of Monetary Economics, 52, pp. 727-747.