

Comments on:

"Housing Market Bubbles and Business Cycles in an Agent-Based Credit Economy"

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This paper adopts an agent-based approach to investigate the macroeconomic effects of an easy access to mortgage loans. In the model, economic agents (households, firms, construction firms, banks, an equity fund, the government, and a central bank) interact through various markets (the consumption goods market, the labor market, the credit market and the housing market) using simple behavioral rules. The setup is largely based on the EURACE model and simulator (Cincotti et al. 2012), which ensures stock-flow consistency both at the single agent and at the aggregate level. One central point concerns the mortgage market. In order to get a mortgage, households must show to be able to repay interest and principal, and the total payment must not exceed a fraction β of their net income. Parameter β captures banks' attitude when evaluating the eligibility of an household for a mortgage loan, in the sense that a higher β means "looser" creditworthiness conditions required by the banking system. Parameter β turns out to be crucial for the model behavior. Under loose credit conditions in the mortgage market, the economy is initially characterized by fast growth, growing households' housing expenditure (up high average levels) and a bubble in house prices; however, the economy also becomes more unstable and prone to recessions. In the numerical experiments, recessions are usually triggered by fire sales (some households are forced to sell their house in order to get sufficient liquidity to pay back the mortgage), which results in falling house prices and mortgage defaults. Moreover, despite a subsequent recovery phase, firms remain in a fragile state and a further crisis may lead to mass bankruptcies with catastrophic effects on the credit sector and on the real economy. These are the main results from the numerical simulation of the model.

The paper tackles an up-to-date research issue and offers a very interesting contribution to the literature. It is certainly worth publishing. The analysis provides a plausible description of the main endogenous mechanisms and interactions behind financial crises in a credit network economy.

I just have a few additional remarks, that the authors may want to comment upon.

The first is about the role played by agents' expectations (and speculation) in generating *positive feedback* effects during expansions and recessions. Although this factor is explicitly left outside the model (see the discussion in Section 2.3), I think it is somehow implicit in the assumed behavior of buyers and sellers in the housing market: the rationale behind equation (10) is that large prices are expected to be followed by large prices, which is similar to a naïve expectations scheme.

As a second suggestion, a slightly more extensive discussion of the policy implications of the results (not just as regards parameter β) would be beneficial.

Minor comment

I could not find any formula including parameter Γ (characterizing government fiscal policies), discussed in section 2.6, page 16. It looks like there is a missing equation in that section.