

# *Discussion*

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**Jack Selody**

## **Introduction**

This paper provides a well thought out answer to the question: has the run-up in household indebtedness experienced by many OECD countries over the past decade reduced the resilience of the financial system? The paper is well executed, and provides useful insights into this very difficult question.

I should start by noting that in what follows my interpretation of the results in the paper will be less nuanced than those offered by the authors since my role is to provoke discussion.

My reading of the paper is that it broadly supports the view that the run-up in household indebtedness observed in some countries has not adversely affected the resilience of their financial systems. First, the authors find that the most likely cause of the run-up is that households can now carry a higher level of debt comfortably because of the lower nominal interest rates that accompany low inflation. Since lower inflation is likely to persist, higher levels of household indebtedness should be sustainable. Second, they find that persistent factors such as low inflation and the demographic composition of the population are sufficient to explain almost all the run-up in household indebtedness; there is no 'excess' indebtedness that needs to be explained. Third, even if indebtedness is now somewhat higher by historical standards, we should not be too concerned because households are wealthier and credit may have been unduly restricted in the past.

I do not find these observations surprising or contentious. The question I would like to pose is the following: would a sceptic be convinced by the analysis offered in the paper? I will discuss three areas where I think more research would be helpful in convincing a sceptic.

## **Underlying behaviours**

The identification of low inflation, lower unemployment and lower output growth volatility as the main explanations for the run-up in household indebtedness is based on correlation analysis. However, because these variables are highly endogenous, and we know that correlation between highly endogenous variables does not imply causation, an unidentified third factor may be responsible for the coincident movement in inflation and household indebtedness. The paper would be more convincing if it identified the underlying behavioural determinants of the coincident movements in these variables.

For example, changes in the monetary policy framework (such as the move to inflation targeting in many countries) may have caused the reduction in inflation, unemployment and output growth volatility, which in turn caused the increase in

household indebtedness. In this case a sceptic should be convinced that the run-up in household indebtedness is sustainable since it is highly likely that the better monetary policy framework will be maintained.

Alternatively, the reduction in inflation may be the result of a positive supply-side shock, with changes to the monetary policy framework little more than a sideshow. Hence, the rise in household indebtedness might be the result of the cyclically relaxed credit constraints that typically accompany positive supply shocks. This makes it harder to be certain that the run-up in household indebtedness is sustainable.

More worrisome, it may be that the positive supply shock created an unusually long string of good news that led to a bout of 'irrational exuberance' in housing prices. Given this possibility it might be difficult to convince a sceptic that the run-up in household indebtedness is sustainable.

Clearly, knowing the behavioural determinants of co-movements in interest rates and debt is important for determining whether the current situation will be sustained.

## **The supply of funds**

The paper provides convincing analysis that households can support these higher levels of indebtedness provided interest rates stay low and their access to funds does not again become restricted. The demand-side of the household borrowing equilibrium does not seem to be out of line with fundamentals. This is important because it suggests that we are unlikely to see a large wave of household defaults, provided economic conditions remain favourable.

However, the demand-side story starts with the assumption that households have taken on more debt because they can afford to. The paper uses a model, correctly in my view, that some households are credit-constrained. In this case, households have taken on more debt partly because they are able to – the credit constraint has been relaxed. But what is the probability that the credit constraint will stay relaxed? What would be the effect on the financial system if this supply-side constraint tightens again?

The relaxing of credit constraints has been facilitated by the aggregation and restructuring of household loans so that the resulting asset is more desirable to investors. But, is this financial innovation durable? Is there a chance that investors will lose their appetite for this new asset class? Is it possible that a bout of financial instability could begin with problems in the market for mortgage-backed assets and spread so as to constrain households' ability to borrow and spend?

The paper would benefit from a deeper analysis of the financial developments that have caused credit constraints to become more relaxed so that the sustainability of the changes can be assessed. A sceptic would want to know that investors would continue to be willing to supply credit to households at low interest rates.

## **General equilibrium**

The analysis in the paper focuses almost exclusively on the sustainability of household indebtedness independently of the changing debt levels of other important economic agents in the economy – commercial enterprises, governments and foreigners. Although this approach is useful for analysing the isolated effect of a single factor, it is less useful for determining whether the system as a whole is suffering from a build-up of unsustainable pressures.

I like to think of the financial system as a balloon – if you push in one place it will bulge in another. Similarly, the stress placed on the financial system by the rise in household indebtedness could show up in its effect on other borrowers whose traditional sources of funding have dried up. Alternatively, the euphoria created in the housing market by easier access to mortgage credit could spill over into other financial markets, leading to inappropriate relaxation of lending standards more generally. The bottom line is that it is difficult to know the resilience of the financial system to a shock in one area without knowing the linkages between that area and the rest of the financial system.