Discussant remarks on John Muellbauer and David M Williams' paper "Credit conditions and the real economy: the elephant in the room"

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I would like to begin by thanking the MAS and the BIS for organising this workshop and inviting me to discuss this excellent paper by John Muellbauer and David Williams. The key finding of the paper is that non-price credit supply conditions have had important structural influences on the Australian macroeconomy. At the Reserve Bank of Australia (RBA), we have spent a lot of time analysing the effects of financial sector liberalisation and innovation on the Australian economy and financial sector. Credit conditions are clearly important and have played a major role in explaining trends in Australian household sector saving, borrowing and investment patterns over recent decades. One of the difficulties, though, is measuring credit conditions. This is something the authors have tackled in this paper, deriving some interesting and useful results.

The authors employ a novel empirical approach to estimate a mortgage credit conditions index (CCI) for Australia as a single latent variable in a system of four error correction models for consumption, house prices, mortgage debt and housing equity withdrawal. They find that the CCI has significant effects on the intercepts of the long-run cointegrating relationships of each equation, and also interacts with key parameters in sensible ways. For example, their results suggest that the marginal propensity to consume out of housing wealth increases with the CCI, consistent with an easing of credit constraints making it easier for people to access the accumulated equity in their homes.

The estimated CCI points to an almost continual easing of non-price credit conditions in Australia since the early 1980s. This overall direction is broadly sensible and consistent with the financial deregulation, competition and innovation that have taken place over this period. That said, some of the shorter-term movements in the CCI seem difficult to explain, though it is hard to verify in any case given the lack of alternative measures. For example, the relatively large increase in the estimated CCI between 1990 and 1992 seems hard to reconcile given the difficulties in the Australian banking sector at the time, as is the flat period around the mid-1990s when a lot of financial innovation in the mortgage market was taking place, spurred by the rise of non-bank mortgage originators using securitisation as a funding source. I was also surprised to see that the increase in the estimated CCI over the 1980s was almost as large as the rise over the remainder of the authors' sample period (to 2008). The initial effects of financial deregulation in Australia in the 1980s were mostly focused on expanding the availability of business credit rather than housing credit, and this was one of the factors behind the boom and subsequent bust in commercial property lending in the late 1980s and early 1990s. It was not until the 1990s that lenders began to focus more on expanding the availability of housing credit, particularly given the competitive pressures associated with the rise of the non-bank mortgage originators.

In regard to the estimation process, I note that the authors have imposed a fair bit of structure on their CCI – using priors to define periods when the index is either non-increasing or non-decreasing – together with a lot of smoothing. Given the questions that arise about some of the short-term movements in the CCI, it would be interesting to see the results from

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an approach that imposes less structure, such as an unobserved components framework where the CCI is assumed to follow a random walk with drift.

Another broad comment I have about the paper is that it does a nice job of motivating the consumption and house prices equations in the four-equation system, drawing on the established theory, but relatively less time is spent motivating the equations for mortgage debt and housing equity withdrawal. The inclusion of these latter two equations, however, is arguably one of the paper's innovative features.

Among the factors that have contributed to the rise in mortgage debt in Australia, one factor that I think deserves more discussion in the paper is the role of the disinflation in the early 1990s and the associated shift to lower nominal interest rates. One of the ways lenders traditionally restrict lending in Australia, apart from the usual down payment constraint, is to set the maximum loan size such that initial repayments are no more than a given share of a borrower's income. For example, it was common for this repayment constraint to be about 30 per cent of gross income in Australia, although it has been relaxed over time. A decline in inflation that reduces nominal interest rates therefore eases this credit constraint by allowing people to borrow more for the same initial repayment ratio. Moreover, to the extent that lower inflation also implies lower nominal income growth, the repayment-to-income ratio will diminish more gradually over time (the so-called "mortgage tilt" effect), and borrowers' debt-to-income ratios will remain higher for longer.[2] Together, these effects suggest that a permanent disinflation would raise the equilibrium debt-to-income ratio.

Australia is likely to have been particularly affected by this, given the extent of the reduction in inflation that occurred in the 1990s. There has been some research that has tried to model these effects of changing nominal interest rates and income growth on household debt in Australia, with the results suggesting that the 1990s disinflation might explain roughly a doubling of the household debt-to-income ratio.[3] The actual increase in this ratio has been far more than this, however, confirming that other factors have also been in play.

In Muellbauer and Williams' paper, the mortgage debt model does include both real and nominal interest rates as explanatory variables. However, the effect of nominal interest rates on mortgage debt is found to be quite small. This raises the question in my mind of whether the disinflation effect is partly being picked up through the increasing CCI, given potential difficulties in separately identifying these channels. From an econometric standpoint, there may also be problems in trying to identify the impact of what is essentially a step decline in nominal rates that is expected to have an effect on debt levels only over a long period of time.

The authors also estimated a model for housing equity withdrawal (HEW) in Australia to help condition their estimates of the CCI. The results indicate that a large part of the increase in HEW in Australia in the 2000s can be explained by the increase in the CCI. This is attributed to debt product innovation making it easier for people to borrow against their accumulated equity for consumption purposes. One surprising finding, as the authors also acknowledge, is that housing wealth has no effect on HEW in their model. The RBA conducted a detailed household-level survey on HEW in 2005 (Schwartz et al 2006). One of the main findings of this study was that most of the value of housing equity withdrawn in 2004 was associated with property transactions, and less so with people borrowing against the accumulated equity in their existing property for consumption purposes. This suggests that debt product innovation and other forms of easing credit constraints were a less important driver of the increase in HEW than increases in housing wealth and turnover in the property market, contrary to the authors' results. Given the apparent link between HEW and housing market
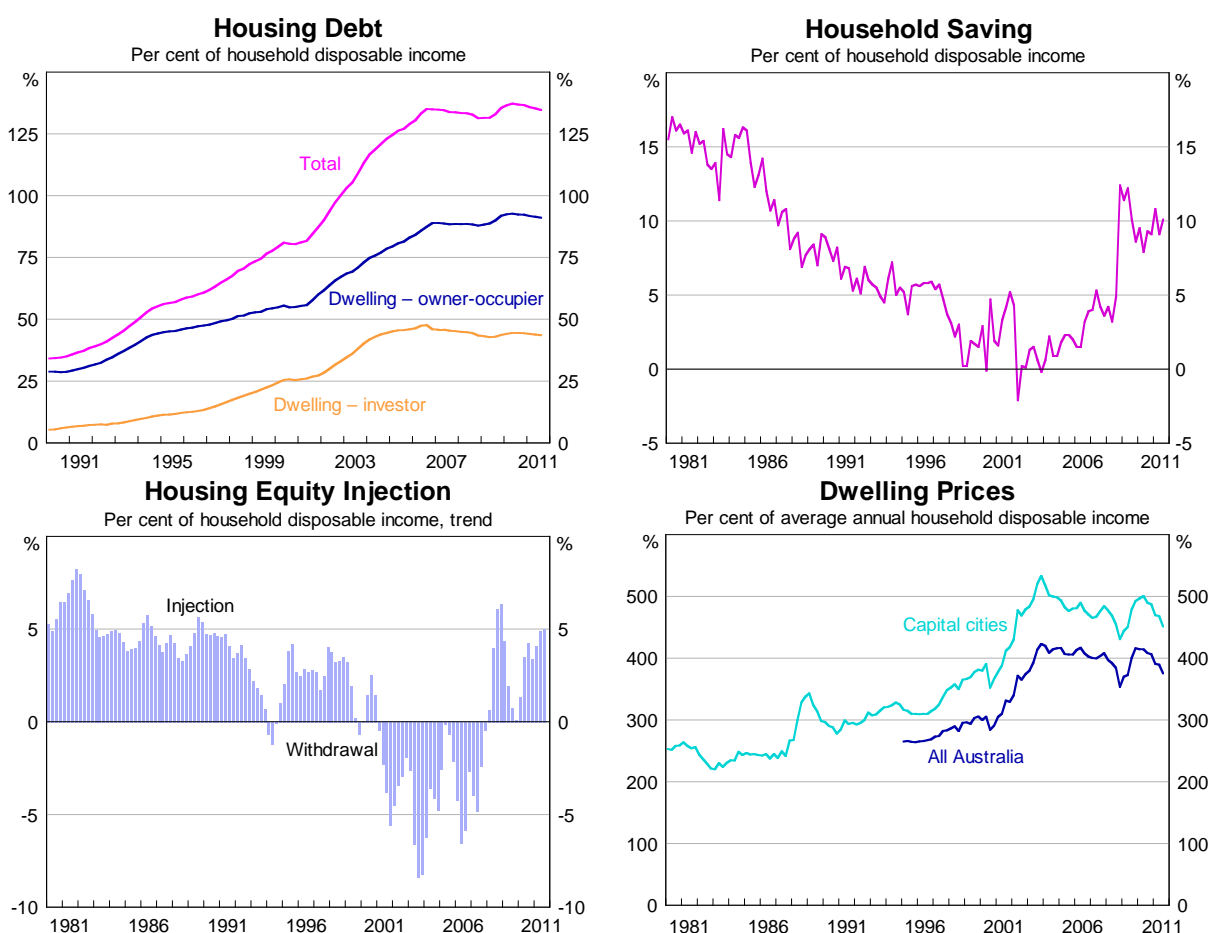
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[2]   See, for example, Stevens (1997), RBA (2003), Debelle (2004) and Ellis (2006).

[3]   See, for example, RBA (2003).

turnover, it would be interesting to explore whether turnover has a significant role in their HEW model.

The final point I wanted to make is to note that a lot has changed in the period since the end of the authors' sample period in 2008 (Figure 1). After a 10–15 year period during which households increased their gearing and reduced their saving rate, they have returned to a more conservative, and traditional, pattern of saving and borrowing behaviour in recent years.[4] With the benefit of hindsight, what appears to have happened is that the period of structural adjustment of household balance sheets to financial deregulation/innovation and the shift to a lower inflation environment ran its course by about the mid-2000s. Since then, the pace of household debt accumulation has been more in line with income growth, so the debt-to-income ratio has been broadly unchanged. The large trend decline in the household saving rate has been reversed, with the saving rate in the past year or so returning to around its mid-1980s level. Slower growth in housing debt has translated into a resumption of positive housing equity injection in the past few years, following the period from around 2001 to 2007 in which the household sector was making net housing equity withdrawals. And compared with the previous decade or so, housing prices in Australia have not grown especially rapidly in most parts of the country in the period since 2004. The apparently more cautious attitude of the household sector in recent years has likely been reinforced by the global financial crisis, which has led some households to rethink their spending and borrowing decisions.

Figure 1

Housing Debt
Per cent of household disposable income

Household Saving
Per cent of household disposable income

Housing Equity Injection
Per cent of household disposable income, trend

Dwelling Prices
Per cent of average annual household disposable income

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[4] For discussions of the recent change in household behaviour, see Stevens (2011), Lowe (2011) and RBA (2011).

The significant shift in household financing behaviour in recent years raises the obvious question of how the authors' model would account for this. It would be interesting, therefore, to see the results of the authors' model estimated over the updated sample period. This would provide an opportunity to examine what has happened to credit conditions, which is a relevant policy issue at the moment, given the slower pace of housing credit growth seen in recent years. While part of the weakness in credit growth is likely to be demand-driven, credit supply conditions are also likely to have tightened since the global financial crisis. We know, for example, that mortgage lending standards have tightened since 2008, which has been evident in a reduced share of high loan-to-value-ratio and low-doc loans (see, for example, RBA 2011). Funding pressures have been a relevant factor here, where the weakness in the securitisation market, in particular, has led to a contraction in the non-bank mortgage originators sector, to the advantage of the larger banks. The authors' estimated CCI was beginning to turn down at the end of their sample, but it would be interesting to see how much further it has declined in the period since then.

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