Referee Report: Funding retirement with public reverse mortgages

Summary

The authors use a stochastic model (with two components: disability/mortality status and economic scenarios) to measure the utility-adjusted CEV of household consumption and bequest streams with and without access to reverse mortgages in an economic context calibrated to the institutional and economic details of Australia, where there is (1) compulsory superannuation, with drawdown limits (2) a means-tested age pension received by some 2/3rds of retired households and (3) a government-operated reverse mortgage program. The program is utilized by some 1% of households. The paper analyzes the benefits of the reverse mortgage program for 20 stylized households in different categories by comparing their utility of consumption and bequests under various types of reverse mortgage strategy to an assumed baseline strategy. The paper finds that CEV's are very high (~20-30%) for all households other than those in the top wealth quintile, with single females in the third quartile and below having especially high CEV's.

Major strengths

Reverse mortgages are especially important, given (1) the documented lack of retirement preparedness of many households coming up to retirement in many countries (2) the fact that in many countries, most households in this age range are owner-occupiers, and that their residence comprises their primary asset and (3) the documented desire of many people to age in place (that is, the significant utility losses associated with having to move house in retirement). The paper is thus of high policy interest in many countries.

The paper is very thorough and I congratulate the authors on their comprehensive work.

Major weaknesses

The model appears to be well calibrated, and contains enough institutional detail to be practically useful in an Australian context. As it is, the paper would therefore be a good fit for a domestic journal. But from the perspective of an international reader, the paper is too narrowly focused. I am left wondering whether the results are the consequence of (1) modelling assumptions (2) technical details of the Australian program or the Australian pension system or (3) the underlying economics. For an international or US journal you would need to tease out broad implications from the Australian experience more clearly, instead of just modelling Australia and telling us about it.

This is not to say that you need to redesign or recalibrate your model – I would simply suggest that you relegate technical details to appendices and focus the main text of the paper more on how your model shines a light on the lessons that the Australian experience has for other countries. The Australia-specific results could be published in a separate paper aimed at a domestic audience.

Although the modelling is very detailed, some details that would be of potential interest to international researchers are left out (or at least, I could not find them). In particular, does the reverse mortgage program capitalize interest payments, or require individuals to meet these out of current income? Also, when exactly is the indebtedness test (at which point further withdrawals from the reverse mortgage are not permitted) applied to the value of the house? - at the then-date of potential withdrawal, or at inception? In other words, if house prices appreciate, then could individuals potentially start drawing again from their reverse

mortgages even if at some point in their lives, they had previously reached the maximum? Or is the test applied to the value of the house at inception, so once they reach the maximum level, no further withdrawals would be permitted regardless of the then-market value of the house? (Perhaps these are explained in the paper, and I have misread, in which case I apologize.)

I think that the following are potentially three important factors driving demand for reverse mortgages that are broadly relevant, and that the authors could emphasize in the main text of the paper. In particular, are their modelling choices in dealing with these appropriate? And to what extent are the results capturing modelling choices, the underlying economics, or Australia-specific things? And what are the lessons for people outside Australia?

First, bequest motives. One would expect that reverse mortgages give people without children (and hence, presumably, without bequest motives) the ability to spend down their capital and age in place. Yet according to their model, couples with and without children appear to value reverse mortgages almost identically – as can be seen by the similarity of the results for couples with and without children in figures 7, 8 and 9. This suggests that bequest motives are almost entirely irrelevant to the model results, which is a surprise. Is this a general conclusion, or is it driven by modelling assumptions, or Australian conditions, and if so, which ones exactly? One possibility: the weakness of bequest motives relative to the utility individuals derive from their own consumption, as captured by the parameters b and k. Another: the absence of liquidity constraints in Australia: as far as bequest motives are concerned, financial assets and reverse mortgages are close substitutes (depending on the interest rate and expected returns on financial assets and housing), in the absence of liquidity constraints.

Second, the importance of liquidity constraints. Individuals whose non-housing retirement resources are insufficient to provide a comfortable retirement could conceivably benefit from reverse mortgages, as these allow them to consume their housing wealth while still alive. It is not clear how this is captured in the model, other than through the definition of non-housing consumption on page 23. Yet it is not clear why individuals should finance D(t) through a reverse mortgage rather than through spending down financial assets (it seems to me that the model sets FA(t), by assumption, to equal the deemed return on financial assets, potentially precluding this option). This modeling choice may be overstating the benefits of reverse mortgages. Is this assumption reasonable, and to what extent is it driving their results?

Third, the important role played by the utility benefit of aging in place. The fundamental idea here would be that reverse mortgages allow individuals to remain in their house, if, without reverse mortgages, they would be forced to move – either because they would need to sell their home in order to access their capital to meet regular consumption needs, or because the expenses associated with a minor disability or other consumption shock (e.g. in the US, unanticipated health expenditures) could only be met by selling their house, and moving, at substantial utility cost. The difference between housing and non-housing consumption, captured in the equation on page 25, captures the benefits of ageing in place. Perhaps this modelling choice is reasonable, perhaps not. But it seems to me – and again, apologies if I have misread – that another important modeling aspect, which is the extent to which reverse mortgages allow individuals to remain in their homes for longer, is not included in the model because the authors assume that moving out of the house is entirely exogenous. If this is true, then this would seem to underplay some of the potential benefits of reverse mortgages. But again, perhaps I have misread.

The authors emphasize the importance of the reverse mortgage interest rate in determining welfare. From a policy point of view, this is important: which interest rate should policymakers choose? But this is not surprising. Economic insight alone would suggest that reverse mortgages would be preferred to spending

down financial assets even in the absence of liquidity constraints if the reverse mortgage interest rate is lower than the risk-adjusted expected return on financial assets (which I assume is well proxied by the deemed return used in the model). The opposite would be true if the reverse mortgage interest rate is higher. Their analysis of the effect of interest rates on welfare could highlight this point more carefully for the benefit of international policymakers.

The final issue that I think would warrant more discussion is the low take-up rates of reverse mortgages in Australia relative to the very high benefits of reverse mortgages indicated by their analysis. Although this sounds Australia-specific, it appears to me to be of very general relevance. The authors report that only around 1% of aged Australian households use reverse mortgages, despite average model-implied CEV's of 30% of consumption for ~80% of the population. Is this a modeling issue (ie something left out / mis-specified in the model), an institutional issue related to the conditions under which the program can be accessed (in which case, which feature of the Australian program exactly should international policymakers avoid if they want to encourage high take-up rates), or something else, if so what? Some more discussion of this point would be useful, particularly for policymakers aiming to introduce or tweak reverse mortgage programs in their countries.