Institution: Aberystwyth University

Unit of Assessment: 19 (Business and Management studies)

Title of case study: Understanding the impact of the housing market on consumer spending levels

1. Summary of the impact (indicative maximum 100 words)

Research at Aberystwyth has enhanced the capacity of forecasters to calibrate the scale of the impact on consumer spending of movements in house prices. Specifically research has provided improvements in the methodology used for estimating the impact of housing market shocks on consumer spending .This has impacted upon policy debates, including those in Central Banks, and informed methods of forecasting the impact of house prices on household economic behaviour. Thus a clearer understanding of an important macro-economic transmission mechanism has been provided. The research has also helped implementation of policy by assisting forecasters to calibrate the scale of the impact on consumer spending growth of movements in house prices, in particular taking into account the importance of controlling for expectations, and the distinction between behaviour in response to unanticipated versus anticipated housing market fluctuations.

2. Underpinning research (indicative maximum 500 words)

This case study focuses on the impact of the research conducted by Andrew Henley at Aberystwyth, between 1996 and 2004 and since returning to AU in 2011, on the linkage between housing market activity and the wider economy. It was prompted by the apparent inability of the macro-economic forecasting models used by governments and central banks in the early 1990s to account for the scale of wealth effects on consumer spending. One aspect of this research highlights the international comparative angle (3.2). The main body of this research shows that housing market volatility has important and variable effects on household spending decisions (3.3, 3.5, 3.6) and labour market activity (3.1), and shows that policy makers have faced considerable uncertainty about policy impact and therefore appropriate macroeconomic policy stance. Specifically policy makers and central bankers face challenges for accurate timing and scale of monetary policy, and with a need for sophisticated analyses to underpin the calibration of policy forecasting models. This research, in contrast to earlier macro-econometric work, shows that household responses to house price shocks can be heterogeneous, asymmetric to prices rises and falls (due to rigidities created by negative equity), and dependent on whether wealth shocks were anticipated or not (and therefore previously incorporated into household forward spending plans).

Supported in part by ESRC funding (3.4), Henley, as PI, developed a longitudinal micro-econometric methodology for matching local house data, along with imputations of household personal wealth, which offers a specific methodology for policy analysts to follow. Early findings identified important asymmetries in behaviour between household in positive and negative equity positions – the latter being significantly less likely to spend in response to becoming wealthier (3.3). Subsequent research focused on older age groups and the importance of demographic considerations to the housing market-macroeconomic policy relationship (3.5). Further refinement was also undertaken to extract information on unanticipated local house price shocks and match this to UK household micro-longitudinal data (3.6). This further highlighted the important asymmetry of response between households in positive and negative equity, and that once adequate controls are made for variation in household financial and housing market expectations, the extent to which households spending housing wealth gains may be rather small.

Specifically three major research findings had significant impact on policy analysis and formulation:

1. Heterogeneity in the way households respond to house price shocks and specifically that households respond proportionately more to adverse price movements than positive ones, particularly if house price falls push household into negative equity and therefore induce "precautionary saving" behaviour (3.3, 3.5, 3.6).
2. The construction of data to capture shocks to housing wealth which are unanticipated by a particular household, and which therefore will not have already been incorporated into forward household budget patterns (3.4, 3.6).

A more nuanced understanding of variation in the underlying transmission mechanisms between the housing market and household behaviour (3.2, 3.1).

3. References to the research (indicative maximum of six references)

3.1 A. Henley, "Residential mobility, housing equity and the labour market", *Economic Journal*, 108(447): 414-427 (March 1998). URL: http://dx.doi.org/10.1111/1468-0297.00295

3.2 A. Henley, A. and B. Morley, B. (2000) 'European House Price Volatility and the Macroeconomy: The Implications for European Monetary Union', Royal Economic Society Annual Conference paper, July 2000, and Aberystwyth Economic Research Paper 99-5, 1999.

3.3 R. Disney, A. Henley and D. Jevons, "House price shocks, negative equity and household consumption in the UK in the 1990s", unpublished paper University of Nottingham, and Royal Economic Society Annual Conference paper, 2002.

3.4 A. Henley and R. Disney, *Housing Wealth and Saving Behaviour in the UK*, Final Report to Economic and Social Research Council, (August 2002). URL: http://esrc.ac.uk/my-esrc/grants/R000223349/outputs/read/3979e6f6-de83-4f02-91d4-d88b6d9fa9b2

3.5 R. Disney, A. Henley and G. Stears, "Housing costs, house price shocks and savings behaviour among older households in Britain", *Regional Science and Urban Economics*, 32(5): 607-625 (September 2002). URL: http://dx.doi.org/10.1016/S0166-0462(01)00086-2

3.6 R. Disney, J. Gathergood and A. Henley, "House price shocks, negative equity and household consumption in the UK", *Journal of the European Economic Association*, 8(6): 1179-1207 (December 2010). URL: http://dx.doi.org/10.1111/j.1542-4774.2010.tb00552.x (An earlier version is unpublished paper, University of Nottingham, 2007).

3.1, 3.5 and 3.6 are in world-leading or internationally excellent peer-reviewed journals. 3.6 is listed in REF 2. 3.2 is a conference paper and unpublished discussion paper. 3.4 is the final report of an ESRC Research Grant (R000223349). 3.3 is a conference paper and unpublished discussion paper, and is an early version of work which, after significant further development, became 3.6..

4. Details of the impact (indicative maximum 750 words)

The research has benefitted Central Bank and central government researchers and analysts in enabling the refinement and calibration of appropriate models to forecast the impact of monetary policy. It both informed international policy debate and informed the methodology that in turn frames that debate. (3.2) was cited by HM Treasury in its 2003 assessment of tests for single currency membership, supporting the policy conclusion that UK housing market instability presented risks for membership. The importance of capital windfall gains on consumer spending levels is an issue that has only relatively recently been addressed through detailed micro-econometric investigation. High levels of volatility in national housing markets raise important macro-economic modelling and forecasting considerations for

central bank and finance ministry research departments internationally. Of particular importance is the extent to which fluctuations in housing market activity are transmitted through to the aggregate economic prosperity via a direct wealth effect (mortgage equity withdrawal) or via indirect household confidence effects. Such housing market concerns have recently been re-expressed as the UK economy emerges from current austerity.

The impact of the first major research finding described above, that households respond proportionately more to adverse price movements than positive ones and therefore induces "precautionary saving" behaviour, is seen in the public comments of a former member of the UK Monetary Policy Committee, citing (3.6): "An added uncertainty is whether consumers might respond proportionately more to downside news on house prices than to upside. There is only one recent study of which I am aware that investigates such asymmetric behaviour in the UK. This concludes that there was no significant tendency for spending to respond more to falling house prices than to rising." (5.1) A number of international central bank research departments, including those of the European Central Bank and the Bank of England, have also noted the significance of this research result (a non-exclusive list includes 5.2, 5.4, 5.5).The UK Office for National Statistics has also noted the importance of this finding in the context of how the phenomenon of negative housing equity might affect monetary and financial stability (5.3). Project research findings, identifying other differences such as those between age groups, have also attracted the attention of central bank researchers and advisors (5.9, 5.10). The research has therefore informed public policy, internationally, of the significance of housing market activity to monetary stability.

The impact of the second research finding, extracting unanticipated house price shocks from local data, is seen in (5.7). Alongside this the importance of controlling for household expectations (confidence) is recognised. A recent survey for the ECB, based on an evaluation undertaken for the United States Federal Reserve (5.8), cites (3.7) as one of three recent studies providing the "best available microeconomic evidence and methodologies". Other ECB work (5.5) includes citation and discussion of the body of this project work, (3.7) and related work, as a component of the evidence base which informs policy-makers on how evidence from household finance and consumption micro-data for macroeconomic policy formulation.

The third research finding on the relationship between the housing market and household spending benefitted policymakers across the world by providing a more nuanced understanding of the underlying transmission mechanism. The housing "wealth effect" is on average very small. Best estimates including those estimated by this research suggest that only £1 of every £100 gain in personal housing wealth is spent (3.6 cited in 5.3, 5.6, 5.8). On the other hand wealth effects on consumption may be quite significant for those households who in future might be lifted from negative equity (3.6 cited in 5.4). Policy makers are therefore able to benefit by appreciating that macro-economic forecasting models need to incorporate these considerations in order to achieve greater accuracy. This research provides benefit by highlighting particular risks for monetary authorities in setting interest rates and regulating housing finance markets.

5. Sources to corroborate the impact (indicative maximum of 10 references)

5.1. Barker, K. "Policy dilemmas", Speech given to North Staffordshire Chamber of Commerce President's Dinner, (Bank of England Monetary Policy Committee), 19th February 2008, available at: http://www.bankofengland.co.uk/archive/Documents/historicpubs/speeches/2008/speech335.pdf

5.2. Hellebrandt, T. and Kawar, S. "The economics and estimation of negative equity", *Bank of England Quarterly Bulletin*, 2009, Quarter 2, available at: http://www.bankofengland.co.uk/publications/Documents/quarterlybulletin/qb090203.pdf

5.3. Chamberlin, G. "The housing market and household balance sheets", *Economic and Labour Market Review, UK Office for National Statistics*, 3(9): 24-33, September 2009, available at: http://www.ons.gov.uk/ons/rel/elmr/economic-and-labour-market-review/no--9--september-2009/economic---labour-market-review.pdf

5.4. Flood, K., Morin, S., and Kolet, I., "House Prices and Consumer Spending", *Bank of Canada Review*, Summer 2008, available at: http://www.bankofcanada.ca/wp-content/uploads/2010/06/flood.pdf

5.5. European Household Finance and Consumption Network of the European Central Bank, *Survey Data on Household Finance and Consumption: Research Summary and Policy Use*, Occasional Paper No. 100, European Central Bank, January 2009, available at: http://www.ecb.int/pub/pdf/scpops/ecbocp100.pdf

5.6. Homeownership and Mortgage Initiatives, Research Subcommittee of the United States Federal Reserve Board, *Synopses of Selected Research on Housing, Mortgages and Foreclosures*, September 2008, available at: http://www.newyorkfed.org/regional/Synopses.pdf

5.7. Skudelny, F. *Euro Area Private Consumption: Is There a Role for Housing Wealth Effects?,* European Central Bank, Working Paper No. 1057, May 2009, available at: http://www.ecb.europa.eu/pub/pdf/scpwps/ecbwp1057.pdf

5.8. Carroll, C.D., Otsuka, M. and Slacalek, J. *How Large are Housing and Financial Wealth Effects?,* European Central Bank, Working Paper No. 1283, December 2010 (paper based on material originally prepared for Academic Consultants' meeting of the Board of Governors of the Federal Reserve System), available at: http://www.ecb.europa.eu/pub/pdf/scpwps/ecbwp1283.pdf

5.9. Carroll, C.D. "Implications of Wealth Heterogeneity for Macroeconomics", unpublished paper, Johns Hopkins University, prepared for Academic Consultants' meeting of the Board of Governors of the Federal Reserve System, May 2012, available at: http://www.econ2.jhu.edu/people/ccarroll/papers/W-Hetero-Fed/

5.10. Arondel, L. Savignac, F. and Tracol, K. "Wealth effects on consumption plans: French households in the crisis", Banque de France, Document de travail, No. 244, September 2011, available at: http://www.banque-france.fr/en/economics-statistics/research/working-paper-series/document/344-1.html