

<p>Institution: University of Oxford</p>
<p>Unit of Assessment: 18 - Economics and Econometrics</p>
<p>Title of case study: Shaping the UK Housing Market and Advising on the Role of Housing and Credit Markets in the Global Financial Crisis</p>
<p>1. Summary of the impact</p> <p>Oxford research on consumption, credit and housing has played a central role in guiding the policy advice provided to UK government departments, planners and regional bodies on housing affordability and housing provision and on policies to support homeowners. The research has provided policymakers worldwide with important insights into the key role of credit and housing markets in the recent global financial crisis and the lessons for central bank modelling and the design of monetary policy.</p>
<p>2. Underpinning research</p> <p>Oxford research on consumption, credit and housing has been led by Professor John Muellbauer. John Muellbauer has been a Fellow of Nuffield College, Oxford University since 1981 and a Professor of Economics since 1997. Other Oxford contributors to this research include: Janine Aron, Research Fellow in the Department of Economics since 1994. Gavin Cameron (deceased), University Lecturer and Fellow of Lady Margaret Hall from 1998 to 2007; Anthony Murphy, Fellow of Hertford College, Oxford, 2006 to 2010 (now senior researcher at the Dallas Federal Reserve).</p> <p>An important strand of Oxford research has been the specification and estimation of models of the UK housing market and of its interactions with the labour market. The research highlighted the volatility of UK house prices and their tendency to overshoot, and identified the importance of ‘sticky’ expectations and credit conditions [R7]. In subsequent work, Cameron and Muellbauer analysed the way in which the housing and labour markets interact in determining inter-regional commuting and migration decisions [R3], and analysed the role of house prices in determining earnings and employment across UK regions [R4]. In 2004, Cameron, Muellbauer and Murphy were senior members of a the team of researchers commissioned by the Office of the Deputy Prime Minister to develop a fully-integrated econometric model of house prices, earnings, migration, employment and unemployment across UK regions, henceforward referred to as the Regional Affordability Model. [R6]. Research by Cameron, Muellbauer and Murphy lies at the core of the Regional Affordability Model. Cameron and Muellbauer’s methodology for modelling inter-regional migration [R3] provides a key element of the demographic module [R6, p.14]. The labour market module is based on Cameron and Muellbauer’s work on the interrelationship between house prices, earning and employment [R6, p.18]. The specification of the housing module draws heavily on the analysis of Muellbauer and Murphy [R7], developed to capture the spatial dimension, in which house prices are determined in a spatial system of inverted demand equations (see [R6, p.15-18]).</p> <p>In recent research, Muellbauer, with Aron and Murphy, has focused on the interrelationship between the credit and housing markets; estimating and forecasting mortgage arrears and repossessions [R1, R2]. A key innovation in this work is estimating the joint effects of policy interventions and of lending quality on repossessions and arrears, highlighting their sensitivity to interest rates and demonstrating that forbearance and government support policies can play a major role in reducing the rate of repossessions [R1]. This research highlights the crucial role of credit and housing markets and other institutional differences in determining cross-country differences in consumption [R2]; and from this, wider lessons regarding the role of credit and housing markets in the global financial crisis can be drawn. [R5].</p>
<p>3. References to the research</p> <p>[R1] Aron, J. and J. Muellbauer. (2010). “Modelling and Forecasting UK Mortgage Arrears and</p>

Possessions.” Spatial Economic Research Centre (SERC), London School of Economics, Discussion Paper No. 0052 SERCDP (August).

[R2] **Aron, J., Duca, J., Murata, K., Muellbauer, J., and A. Murphy, (2012), “Credit, housing collateral and consumption: evidence from Japan, the UK and the US”, *Review of Income and Wealth*, 58, 3, pp 397-423.

[R3] Cameron, G., and J. Muellbauer, (1998), “The Housing Market and Regional Commuting and Migration Choices”, *Scottish Journal of Political Economy*, 45, pp 420-446

[R4] *Cameron, G., and J. Muellbauer, (2001), “Earnings, Unemployment and Housing in Britain”, *Journal of Applied Econometrics*, 16, 3, pp 203-220

[R5] **Duca, J.V., Muellbauer, J., and A. Murphy, (2010), “Housing markets and the financial crisis of 2007–2009: Lessons for the future” *Journal of Financial Stability*, 6, 4, 203-217.

[R6] Allmendinger, P., Andrew, M., Ball, M., Cameron, G., Evans, A., Gibb, K., Goody, J., Holmans, A., Kasparova, D., Meen, G., Monk, S., Muellbauer, J., Murphy, A., Whitehead, C., Wilson, A. (2005) *Affordability Targets: Implications for Housing Supply*, Department for Communities and Local Government et al (2005) “Affordability Targets: Implications for Housing Supply” Research Report, Office of the Deputy Prime Minister, December
<http://webarchive.nationalarchives.gov.uk/20081205143343/http://www.communities.gov.uk/documents/housing/pdf/142730.pdf>

[R7] Muellbauer, J., and A. Murphy, (1997), “Booms and Busts in the UK Housing Market”, *The Economic Journal*, 107, pp 1701-1727

Research quality:

Economic Journal is a leading general-interest journal; it is the UK’s top economics journal. It is classed as “AA” in the Coombes-Linnemer (2010) ranking and was rated as “4**” by the ESRC-RES International Benchmarking Review of UK Economics 2008

Journal of Applied Econometrics is a leading field journal, classed as ‘A’ in the Coombes and Linnemer (2010) ranking of economics journals.

Review of Income and Wealth is a general interest economics journal classed as ‘A’ in the Coombes and Linnemer (2010) ranking of economics journals.

Scottish Journal of Political Economy is a general interest economics journal classed as ‘B’ in the Coombes and Linnemer (2010) ranking of economics journals.

* denotes publication returned as part of RAE 2008

** denotes publication returned as part of REF 2014

4. Details of the impact

Oxford research on the housing market and its interaction with other areas of the economy has guided UK housing policy over a number of years, influencing UK housing provision and government policy to support mortgage holders in arrears. The research highlights the important role of housing and credit markets in the macroeconomy and has influenced policy on macro-economic rebalancing following the global economic crisis.

Since its initial development, the Regional Affordability Model (RAM) **[R6]** has played a central policy role in guiding the advice of the National Housing and Planning Advisory Unit (NHPAU) to regional and local planning authorities. From 2007 until its abolition in 2010, the NHPAU was tasked with advising government, planners and regional bodies on housing affordability and the consequences of different levels of housing provision, with the aim of improving the link between demand for homes and planning permissions for new housing. The NHPAU used the RAM to estimate the effect of housing supply on housing affordability, and to provide advice to Ministers on the housing supply ranges to be tested by the Regional Planning Authorities [for example **C1**, **C2**]. These estimates of housing supply ranges were influential because the Regional Assemblies had

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to take the NHPAU evidence into account in determining housing provision and provide evidence should they wish to set a supply level outside of the NHPAU range. The NHPAU also used the model for policy analysis and simulation of scenarios. For example: the impact of changes in housing affordability on the demand for social housing [C3]; the effect of the credit crunch and house price falls in 2007 and 2008 on affordability and long term trends in the housing market [C4].

The econometric model of mortgage arrears and possessions developed by Aron and Muellbauer [R1] is used by the Department for Communities and Local Government (DCLG) for forecasting purposes, and has contributed to policy responses to the mortgage market crisis since 2009. The report's evidence was used in support of the Mortgage Rescue and Homeowners Support scheme, and it influenced the decision of the Housing Minister to maintain the policy following the 2010 General Election [C5]. In 2012, the DCLG commissioned Aron and Muellbauer to update their forecasts to incorporate data through to Q3, 2011 [C6]. The information on the new forecasts, indicating an improved outlook for arrears and repossession through to 2015, was included in the briefing note for MPs on mortgage arrears and repossessions provided by House of Commons Library [C7]. The models developed for forecasting possessions and arrears have been given to DCLG for their own use in forecasting, and the work has been shared with the Ministry of Justice, the Financial Services Authority (FSA), the Council of Mortgage Lenders (CML), the IMF Stress Testing Unit, and the Financial Stability Unit of the Bank of England.

The research by Aron, Muellbauer and Murphy on the interrelationships between household behaviour, credit markets and the macroeconomy [R1, R2, R5] has highlighted the role played by housing and credit markets in the recent global financial crisis, and the potential lessons for central bank modelling. In 2009, Muellbauer addressed the annual conference of the Bank for International Settlements (BIS) in Basel on the theme of lessons of the global financial crisis for policy modelling at central banks, drawing on his research with Aron and others [C8]. He has delivered keynote addresses at numerous international meetings for senior policymakers including: a Banque de France conference on the macroeconomics of housing markets (December 2009); a National Central Banks (NCB) Experts Meeting organised by the European Central Bank (ECB) on how central banks could make better use of information on credit and housing market developments and flow of funds data more generally (November 2011); and the BIS-Reserve Bank of Australia annual conference attended by senior central bankers from the Asia-Pacific region on 'property markets and financial stability' (August 2012). Subsequently, Muellbauer was appointed to the Wim Duisenberg Visiting Fellowship at the ECB for 2012-13, where he worked with central bank economists on analysis of the responses of household consumption, portfolio behaviour and house prices to credit conditions, asset prices and housing supply, inter alia, in Germany, France and Spain. This research now feeds into the work of the ECB on flow-of-funds data. The Senior Adviser to the Directorate of Monetary Policy at the ECB describes the research as of "considerable policy relevance for the euro area in the context of the need for macroeconomic rebalancing and asset price adjustments (namely in the housing market) in the wake of the debt crisis" and states that the research findings have contributed significantly to the analysis and briefings provided to senior policy-makers and the ECB executive Board [C11].

Further global impact has occurred thanks to Muellbauer's engagement with the Dallas Federal Reserve. Muellbauer's collaborative research and publication with the Senior Economist and Vice-President at the Dallas Federal Reserve has had a significant impact on US monetary policy towards mortgage and housing markets [C9]. The co-authored research [R2, R5] contributed prominently to a special briefing by the Senior Economist and VP to the Federal Reserve's Open Market Committee [FOMC] in January 2012 and was influential in briefing the FOMC before the September 2012 decision to embark on a third phase of quantitative easing [C10].

5. Sources to corroborate the impact

[C1] Meeting the housing requirements of an aspiring and growing nation: taking the medium and long-term view – Advice to the Minister about the housing supply range to be tested by Regional Planning Authorities NHPAU, June 2008, (see Technical appendix A).

<http://webarchive.nationalarchives.gov.uk/20120919132719/http://www.communities.gov.uk/nhpau/keypublications/reports/meetinghousingrequirements/>

- [C2]** More homes for more people: building the right homes in the right places. – Advice to the Ministers on housing levels to be considered in regional plans. NHPAU, July 2009
<http://webarchive.nationalarchives.gov.uk/20120919132719/http://www.communities.gov.uk/documents/507390/pdf/1276301.pdf>
- [C3]** Impact of worsening affordability on demand for social and affordable housing: tenure choice and household formation, July 2008, NHPAU
<http://webarchive.nationalarchives.gov.uk/20081205143343/http://www.communities.gov.uk/documents/507390/pdf/867691.pdf>
- [C4]** Affordability still matters, June 2008, NHPAU
<http://webarchive.nationalarchives.gov.uk/20081205143343/http://www.communities.gov.uk/documents/507390/pdf/867681.pdf>
- [C5]** Hansard Written answers to questions, Monday July 19th 2010, column 39W.
<http://www.publications.parliament.uk/pa/cm201011/cmhansrd/cm100719/text/100719w0002.htm>
- [C6]** New Forecast Scenarios for UK Mortgage Arrears and Possessions, Department for Communities and Local Government Report, January 2012
<https://www.gov.uk/government/publications/mortgage-arrears-and-possession-forecasts>
- [C7]** Wilson, W (2012), “Mortgage Arrears and Repossessions”, SN/SP/4769, 9 November 2012. Library, House of Commons. www.parliament.uk/briefing-papers/SN04769.pdf
- [C8]** Muellbauer, J., (2009), “Household decisions, credit markets and the macroeconomy: implications for the design of central bank models”, Bank of International Settlements Annual Conference in Basel (<http://www.bis.org/events/conf090625/index.htm>)
- [C9]** Duca, J.V., and D. Luttrell, (2010), “Recovering from the Housing and Financial Crisis”, *Economic Letter – Insight from the Federal Reserve Board of Dallas*, vol. 5 no. 7, FRB Dallas (See notes, p. 4.)
(<http://www.dallasfed.org/assets/documents/research/ecllett/2010/el1007.pdf>).
- [C10]** Corroborating statement from Senior Economist and Vice-President at the Dallas Federal Reserve (on file) confirms the impact of the research on the special briefing made to the Federal Reserve’s Open Markets Committee
- [C11]** Corroborating statement from the Senior Adviser to the Directorate of Monetary Policy at the European Central Bank (on file) confirms that the research findings have contributed significantly to the analysis and briefings provided to senior policy-makers and to the ECB Executive Board.