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Attenuation bias, recall error and the housing wealth effect

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This Bulletin summarises the findings from: Yvonne McCarthy and Kieran McQuinn (2016), "Attenuation bias, recall error and the housing wealth effect". *Kyklos*, Vol. 69, August, No. 3, pp. 492–517.

Attenuation bias, recall error and the housing wealth effect[1]

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INTRODUCTION

One of the many outcomes of the international crisis of 2007/08 is the need to use more microeconomic and survey based data in assessing key financial stability concerns. While there are a number of advantages to such data, a particular benefit is a more precise appreciation of the differing attitudes and responses of individual agents to key economic shocks. However, some difficulties can arise with the use of survey data in this regard; in a number of recent contributions it has been shown that households do not always accurately recall or report their financial information. In an Irish context, it would appear that mortgaged households have considerable difficulty in accurately recalling and objectively stating the monetary amount paid for assets such as housing. This effect appears to be particularly pronounced in cases where house prices have witnessed large appreciation.

While such a finding can have a number of different implications, one area where it can be most significant is in microeconomic assessments of the consumption housing wealth effect. The relationship between consumption and housing has a heightened importance given the strong inter-linkages between housing and the real economy revealed by the recent financial crisis. Understanding the economy-wide benefits of policy responses to the ensuing difficulties being experienced in some property markets is contingent on the wealth effect out of housing. In this paper, using a unique combination of two datasets, we highlight the bias, which is introduced into estimates of the housing wealth effect, when "recall" as opposed to actual house prices are used as indicators of housing wealth.

We use administrative information from mortgage loan-level data (including the actual house price paid) gathered on a regular basis by the Central Bank of Ireland for the three main Irish financial institutions. This information is then combined with data from a representative household survey conducted in

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2012/2013 on the mortgage books of the same institutions, where respondents are asked their original house price.

The interaction between the housing market and the broader economy has assumed an increased importance over the past 10 years. The fluctuations observed in house prices across certain OECD countries are likely to have had significant impacts on key macroeconomic variables such as consumption and investment. Consequently, an increasing number of studies, particularly, at a micro level, are concerned with estimating the consumption wealth effect out of housing.

In the case of the Irish property market, it would appear that mortgaged households have considerable difficulty in accurately recalling the actual house price paid for their property. As most survey based approaches rely on a household's subjective view of its house price as an estimate of housing value, this may lead to significant measurement error and consequent attenuation bias in the estimated wealth effect.

Having difficulty in recalling house prices may also have implications for households' perception of negative equity as this concept is defined as the difference between the value of the property and the value of the loan underlying the property. Whether a household is in negative equity or not has been found to be a key determinant of mortgage arrears. Therefore, if households do not have an accurate estimate of their equity, this in turn may have implications for key household financial decisions.

In an Irish context, were the recall price to be used as the indicator of housing wealth, then the resulting wealth effect would be over 70 per cent less than that estimated with the actual price. The difficulty households have in recalling their house price itself would appear to be both a function of market conditions and individual household characteristics with the scale of house price movements being a particularly important factor. Therefore, survey data in housing markets which have experienced significant house price appreciation would appear to be most susceptible to this bias.