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Impairment and negative equity in the Irish mortgage market

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ABSTRACT

Amongst the many housing markets across the OECD presently experiencing difficulties, the Irish case stands out. Between 2004 and 2007, a significant house price bubble emerged in Ireland, while the real economy was enjoying persistently strong growth rates. The sharp decline in house prices post 2007 coupled with the significant increase in unemployment has generated a combination of difficulties for the Irish residential market. To date, much of the analysis and discussion of the Irish market has tended to focus on either the concept of mortgage repayment distress or potential negative equity. By examining the issue of credit default in the Irish mortgage market, we focus on the interaction between delinquency (repayment distress) and solvency (negative equity). Building on earlier work, which used the Survey on Income and Living Conditions (SILC), we marry existing estimates of repayment distress with estimates of negative equity for a representative sample of Irish households. Using copula modelling we then examine the dependence structure across the distributions of mortgage delinquency and solvency for these households. As a result, we are in a position to estimate the probability that a household experiencing repayment distress might also be in negative equity.

1. Introduction

At present it is particularly useful to couch analysis of distressed mortgage markets in the context of credit default. With respect to secured loans such as residential mortgages, most definitions of credit default are typically underpinned by two concepts. One is delinquency – defined as the failure to meet a loan payment by a particular time, while insolvency is a situation whereby assets are worth less than the associated liabilities. For example, Moody's defines credit default as a situation involving both delinquency and the notion of expected loss to the lender. Therefore, under this definition, neither delinquency nor insolvency alone is sufficient to cause a credit default. Both are necessary and sufficient for credit default.

In the Irish mortgage market, it is necessary to think of present difficulties as the potential combination of delinquency (heightened levels of mortgage distress leading to default) and insolvency (negative equity). The potential scale of the problem in an Irish context is quite sizable. Since they reached a peak in early 2007, Irish house prices have, as of late 2011, fallen by 47 percent. Over the period 2004–2006, when house prices were at their peak, almost 340,000 mortgages were approved. Estimates would suggest that the total number of outstanding mortgages in the country at this time is approximately 800,000. During this period the Irish economy was experiencing significant improvements in living standards and hence, the general ability within the economy to sustain such mortgages was quite high. However, the severe decline in the performance of the Irish property sector allied to the post 2007 global economic downturn has had a distinctly harsh impact on the Irish economy with unemployment rates, in

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particular, experiencing a swift increase from 4.5 percent in 2006 to over 14 percent by 2011. A significant degree of credit default within the Irish residential market is a distinct possibility.

This paper assesses the concept of credit default in the Irish market by examining the degree of correlation between negative equity and mortgage repayment distress across a representative sample of Irish households. The paper builds on existing research in McCarthy and McQuinn (2011), which explicitly examines the issue of potential delinquency in the Irish market. McCarthy and McQuinn (2011) use information from the Irish component of the 2007 EU-wide Survey on Income and Living Conditions (SILC) to examine the financial sustainability of mortgage repayments amongst Irish households. Using information in the survey they calculate a mortgage-repayment-to-income ratio (MRTI) for mortgaged Irish households, which measures the cost of mortgage payment (including principal and interest) as a share of household income.

In this paper, using the 2009 version of the Irish SILC, we match the information on mortgage repayment distress with an estimate of mortgage solvency for our sample of mortgaged households. This is possible since questions in the SILC allow for the value of the original mortgage outstanding at a point in time to be calculated, as well as an estimate of the value of the mortgaged property. As a result, we are able to compile distributions for both repayment distress and mortgage solvency across the sample. Using a particular methodological approach, we model the dependence structure across the distributions of both variables and, in particular, the dependence across the tails of these distributions. Therefore, for those households experiencing negative equity, we estimate the probability of such a household facing mortgage repayment distress. Modelling this dependence is particularly useful in facilitating counterfactual and sensitivity analysis to be conducted. In that context, we examine the implications for these probabilities of potential changes in income levels and further house price falls faced by these households. This is especially appropriate given the decidedly uncertain macroeconomic outlook for the Irish economy.[1]

We believe that the methodology proposed and the empirical estimates provided in the paper arrive at a particularly important juncture in policy terms. The increasing number of Irish households confronted by the dual problem of mortgage repayment distress and negative equity raises fundamental policy issues. Namely, what are the expected losses for mortgaged homeowners and, in particular, owner occupiers likely to be? The difficulties experienced in global financial markets since mid-2007 impacted the Irish financial sector in a particularly acute manner. Given the very high exposure of Irish banks to commercial and residential property lending, the substantial declines in these asset prices reported since 2007 has had significant implications for the balance sheets and, hence, required capital levels of these institutions. Heightened levels of credit default in the Irish mortgage market will obviously compound this already fragile situation.

As part of the programme of support agreed by the Irish government and the European Union and IMF in November 2010, the Irish Central Bank undertook a detailed prudential capital exercise (PCAR) in March 2011 of the four covered financial institutions.[2] This exercise, in the main, focussed on forecasting the potential losses from the growing difficulties experienced in the respective mortgage books of these institutions. Therefore, examining the potential interaction of both delinquency and solvency enables a more complete picture of the situation confronting the Irish mortgage market and, hence, provides important context for the PCAR exercise.

The structure of the remainder of the paper is as follows: in the next section we provide a brief introduction to the SILC. We follow with a review of work examining the delinquency problem amongst Irish households. We then present our empirical estimates of insolvency in the Irish mortgage market before examining the dependency between both distributions. A final section offers some concluding comments.

2. The survey on income and living conditions

The data used in this paper are from the Survey on Income and Living Conditions (SILC). The SILC is a voluntary household survey which is conducted under European legislation and in Ireland, the survey is conducted on an annual basis by the Central Statistics Office (CSO). The survey is designed to produce a nationally representative sample of Irish households (see CSO (2009) for further details), and in 2009, this resulted in a sample of 5183 households and 12,641 individuals. Of the 5183 households surveyed, about 80 percent own their own homes, while mortgaged households represent about one quarter of the total sample of households.

While the SILC is primarily aimed at collecting information on the income and living conditions of different types of households, as discussed in McCarthy and McQuinn (2011), it also provides the perfect landscape for micro level analysis of mortgage related topics. The SILC collects information which allows for the calculation of mortgage burdens facing surveyed households, the amount of the mortgage outstanding at a point in time and the value of the house for which the mortgage exists; each of these is a vital ingredient in the analysis of credit default among our sample of households, as discussed in later sections.

There are, however, a number of caveats which apply to the use of the SILC in the current analysis. Firstly, it is important to note that the mortgage information in the SILC relates specifically to owner-occupied premises and does not take

[1] On the 28th of November 2010, the Irish Government announced details of a joint EU – IMF Programme for Ireland. The programme consists of financial support of a potential 85 billion euros from the IMF, the European Financial Stability Facility (EFSF) and the European Financial Stability Mechanism. In parallel with this, a four year recovery plan of austerity measures aimed at returning the Irish exchequer deficit to 3 percent of GDP by 2014 was also outlined.

[2] These are Allied Irish Bank (AIB), Bank of Ireland (BOI), the Educational Building Society (EBS) and Irish Life and Permanent (ILP). These institutions are referred to as being "covered" as all of their assets and liabilities were guaranteed by the Irish State in September 2008. As of December 2010, these four institutions accounted for 70 percent of mortgage credit in the Irish market.