Journal of Housing Economics 28 (2015) 59–75

Contents lists available at ScienceDirect

Journal of Housing Economics

journal homepage: www.elsevier.com/locate/jhec

Strategic, unaffordability and dual-trigger default in the Irish mortgage market ☆

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ARTICLE INFO

Article history:
Received 3 December 2013
Revised 24 December 2014
Accepted 24 December 2014
Available online 5 January 2015

JEL codes:
R30
G21

Keywords:
Strategic default
Irish mortgage market
Negative equity

ABSTRACT

A mortgage holder whose property is worth less than the repayment value of the mortgage may decide to strategically default, i.e., renege on the cash flow liability of the mortgage loan and surrender the property to the mortgage issuer. In other circumstances a mortgage holder may default due to personal income decline which makes payment infeasible (unaffordability default) or for a combination of strategic and affordability causes (dual-trigger default). This paper utilizes a database of troubled Irish mortgages to model the default decisions of Irish mortgage holders. We include both affordability-related and strategic-related explanatory variables. We find that both types of explanatory variables play a role in the explosive growth in Irish mortgage default after the Irish banking crisis and temporary legal prohibition of property repossession. We find that a dual-trigger model of default best fits the Irish data. Given the unusual features of the Irish market, our findings both complement and strengthen existing empirical findings from other national mortgage markets.

1. Introduction

During the period 2002–2012, Ireland experienced a spectacular credit bubble and subsequent financial collapse. This credit bubble and bust was roughly coincident with the global credit–liquidity crisis, but was notably extreme both in the exuberance of the upswing and severity of the crash.[1] Following the collapse of the Irish credit bubble, Irish residential property prices fell sharply and mortgage arrears grew explosively. From the peak in the second quarter of 2007, residential property prices fell 50.3% to the trough in the second quarter of 2012, subsequently recovering 1.2% by the second quarter of 2013. The number of home mortgages in default (greater than 90 days of accumulated arrears) grew by a truly spectacular 272.6%, from 26,271 in quarter three of 2009 to 97,874 in quarter two of 2013; as of quarter two 2013, 12.7% of home loan mortgages were in default. Aggregate data on buy-to-let defaults is only available for a short period so the growth path is not known, but 20.4% of buy-to-let mortgages were in default as of quarter two of 2013.

In addition to the large credit bubble and bust, the Irish mortgage market had unusual institutional features during this period. Most existing Irish residential mortgages are contractually written to be full recourse and with unhindered security against the property. However, following

☆ We wish to acknowledge support from the Science Foundation of Ireland under grant 08/SRC/FM1389. We would like to thank Permanent TSB for provision of the data used in this study; Liam Delaney, Conall MacCoille, Donal O'Neill, and participants at the National University of Ireland Maynooth economics seminar and the Dublin Economics Workshop for helpful comments; and Anita Suurlaht for excellent research assistance.

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[1] See Connor et al. (2012) for a comparison of the US and Irish credit crises.

http://dx.doi.org/10.1016/j.jhe.2014.12.003

the Irish financial collapse there were a number of legislative and regulatory changes that altered the *de facto* nature of mortgage claims. In July 2009, near the beginning of the crisis, the Irish government passed a new law which contained a legal error (called a "lacuna") which rendered virtually all mortgage property repossessions impossible until the lacuna was fixed. This outcome was not the stated intention of the law, but the legal lacuna was politically convenient at the time, and was not corrected via amending legislation until May 2013. Also in response to the crisis, in February 2010 the Irish Central Bank implemented regulations severely restricting the ability of banks to contact or harass delinquent borrowers; these restrictions were subsequently relaxed in July 2013. For most of our sample, Irish residential mortgages were, in practice, limited-recourse contracts with strictly limited security against the property asset, and potentially very high transactions costs for the mortgage lender in eventually exercising the security claim.

The unusual economic and institutional environment in Ireland over this recent period makes an examination of property mortgage default behavior of considerable interest. Ireland during this period provides a natural experiment regarding the effects on mortgage holder behavior of a very sharp fall in property prices and a concurrent block on property repossessions. We use a data set of distressed Irish mortgages to model Irish mortgage default behavior during this period. We attempt to distinguish between the three causal channels for mortgage default: strategic default, unaffordability default, and dual-trigger default.

Strategic default can be understood using options theory. The owner of a residential property subject to a nonrecourse mortgage who is willing to renege on his loan essentially holds a put option against the market value of the property. If the market price of the property falls sufficiently, the owner can surrender the property to the mortgage lender and in exchange receive full offset of his cash flow liability from the mortgage loan. In options terminology, the homeowner has a long-term American put option on a dividend-paying asset (the implicit rental yield of the property serves as the dividend flow) with exercise price equal to the cash-equivalent value of the mortgage liability. The moneyness of the put option is one minus the reciprocal of the loan-to-value ratio of the mortgage; the put option has positive moneyness if and only if the mortgage holder is in negative equity (loan-to-value ratio greater than one). A similar, but diluted, put optionality holds for recourse mortgages, since there are legal and practical limits to a mortgage lender's recourse claim against the owner's future income, for example, relief from this claim through personal bankruptcy. In a perfect-markets theory with no transactions costs nor any other market imperfections, a mortgage holder will only default on a full-recourse mortgage if there is both an inability to pay and negative equity (otherwise the property can be immediately sold to clear the debt). With a no-recourse loan in this perfect-markets world, the mortgage holder will default whenever there is negative equity (inability to pay does not impact the decision).

Strategic default often involves reputational costs and social/ethical considerations for the homeowner, since in doing so the homeowner violates the terms of an agreed contract for personal gain. In many cases, the mortgage lender will continue to receive (more valuable) required mortgage payments even when options theory predicts that it will be forced to accept surrender of the property.

Unlike strategic default, unaffordability default is caused by a lack of personal income to pay the mortgage; by definition, unaffordability default is not caused by the options value of default. Dual-trigger default refers to a mixed-caused case in which the mortgage holder has stressed mortgage affordability but also is influenced by the positive options-exercise value of default due to negative equity in the property.

In most situations, both the homeowner and mortgage lender incur substantial transactions costs from repossession. This two-sided transactions-cost feature of the put option leads to a bargaining game between the homeowner and mortgage lender, with the homeowner potentially able in some circumstances to gain mortgage payment concessions by threatening to surrender the asset but not doing so. The bargaining power of the mortgage borrower in default seeking repayment concessions increases with the moneyness of the put option. Stressed affordability can also impact upon the bargaining power of the mortgage holder, since the lender cannot easily distinguish between strained affordability and true unaffordability. This bargaining game aspect can explain dual-trigger default in which both the strategic (options-exercise) value of default and stressed affordability play an interactive role.

This paper empirically examines the causal variables explaining the behavior of Irish mortgage defaulters. We include both affordability-related and strategic-related explanatory variables. We rely on a large database of Irish mortgages provided to us by one of Ireland's largest mortgage lenders, Permanent TSB. The database covers all mortgages at Permanent TSB for which the holder has submitted a Standard Financial Statement (SFS), giving a sample of 28,377 mortgage accounts. Submitting an SFS is a required component of the Central Bank of Ireland's mandated mortgage arrears resolution process (MARP). The entry of a mortgage borrower into MARP is either at the initiation of the bank after one or more missed mortgage payments or, less commonly, by the mortgage borrower looking to engage with the bank for help with their mortgage payment difficulties. The sample is not representative of all mortgages; it consists only of mortgages which have been brought into MARP. The sample therefore has two different sources of sample selection. One, the sample does not include mortgages which have had no income stress or payment difficulty and so justifiably are not in MARP. Two, the sample does not include troubled mortgages which should be in MARP but where the mortgage borrower has refused to submit the required SFS. Our data consists of information from the SFS collated with information from the original loan application and some other loan-specific data items. Roughly half the mortgages in our sample are in default, defined as greater than 90 days worth of accumulated payment arrears, and half are performing loans. The dataset is a static, cross-sectional sample (September 2013) but includes some historical information for each mortgage as of that date.

Our main empirical task is to build a model explaining which of this observed subset of all mortgages, i.e. the