



Households in long-term mortgage arrears: lessons from economic research

Robert Kelly and Fergal McCann¹

Vol 2015, No. 11

Abstract

The resolution of the long-term mortgage arrears (those in arrears greater than one year; LTMA) crisis represents one of the key policy challenges in Ireland today. In this *Letter* we highlight the range of economic and demographic characteristics associated with the experience of LTMA in Ireland. Our analysis suggests that unemployment shocks, changes in mortgage affordability, the accumulation of non-mortgage debt, higher originating loan-to-value ratios and weak housing equity positions all have an important explanatory role. We also outline repayment patterns among households at differing levels of mortgage arrears. It is shown that in 2014, over three quarters of those in LTMA had continued increases in their arrears balances. This contrasts with those in the early stages of arrears, where less than half of all borrowers had arrears increases.

1 Introduction

The recent economic recovery in Ireland has been characterised by falling unemployment, improving house prices and a decline in the number of households in mortgage arrears. However, despite this improving aggregate picture, there remains a large cohort of households in long term mortgage arrears (LTMA), generally defined as having missed more than either one or two years worth of repayments. Previous research on the Irish mortgage market (McCarthy, 2014; Kelly and O'Malley, 2014; Connor and Flavin, 2015) has generally compared all defaulted loans to all performing loans. The research outlined in this *Letter* is the first in an Irish setting to treat those in LTMA as a separate and distinct group and observe whether there are char-

acteristics that distinguish this group from those in less severe mortgage distress.

LTMA households represent an area of great policy concern for a number of reasons. From a prudential perspective, loans with higher arrears balances are known to have lower “cure probabilities” (Kelly and O'Malley, 2014; McCann, 2014). This pattern suggests that lenders' provisioning requirements will be higher, all else equal, when LTMA loans comprise a higher share of their defaulted mortgage book. Further, the existence of such a large share of long-term non-performing loans on banks' balance sheets may render the bank a less attractive proposition for investment, while the need to resolve these cases may lead to a reallocation of bank staff and resources away from growth-enhancing activities such as new lending.

¹E-mail: robert.kelly@centralbank.ie; fergal.mccann@centralbank.ie. We thank Reamonn Lydon and Gerard O'Reilly for helpful comments. The views presented in this paper are those of the authors alone and do not represent the official views of the Central Bank of Ireland or the European System of Central Banks. Any remaining errors are our own.

From a housing perspective, the rise in LTMA has raised the spectre of an increase in home repossessions, which has the potential to put unprecedented strain on the state-supported housing sector.

The aims of this *Letter* are twofold. Firstly, we highlight recent research findings on the household financial circumstances of those in LTMA (Kelly and McCann, 2015). We show that those in LTMA are significantly more likely to have the following characteristics: lower income, higher mortgage burdens relative to income, larger mortgage affordability shocks, unemployment shocks and divorce since origination. They are also more likely to have accumulated large stocks of non-mortgage debts, such as Buy-to-Let mortgages, credit card, auto loans and other consumer debt. We also show that LTMA borrowers face higher interest rates, and that LTMA are more prevalent among more vulnerable family types, such as single borrowers with multiple children. Finally, housing equity positions are also weaker (higher loan-to-value ratios) among borrowers in LTMA, suggesting that the extreme shock experienced in the Irish housing market has played a role in the current arrears crisis.

In our second piece of analysis, we provide information on the way in which borrowers flow between different states of mortgage distress on a quarterly basis. These data again highlight crucial differences between those in LTMA and other types of borrowers. While decreases in the “stock” of mortgage arrears have been well-highlighted using Central Bank of Ireland data, there is currently no information in the public domain regarding the heterogeneous *flows* that underlie such quarter-on-quarter changes. These flow data reveal that arrears continued to grow in 2014 for roughly 80 per cent of loans in the 720+ category (more than 24 missed payments), and 70 per cent of those in the 360+ (12 to 24 missed payments) category, suggesting that repayments have virtually ceased in this portion of the market.

Finally we highlight the continuing existence of a steady flow of borrowers into the early stages of arrears. Despite improving economic conditions in 2014, 1.6 of all performing mortgages entered default in the last quarter of 2014, a rate that was only slightly below the 2 per cent quarterly transition rate seen in 2011, 2012 and 2013. It is also higher than the transition rates of between 0.5 and 1 per cent that are reported for the UK mortgage market by McCann (2014). This emergence of new

early-arrears cases provides cause for a continued focus on the early and swift resolution of cases of household financial distress.

2 Data

Our analysis of the differing characteristics of LTMA borrowers draws on two interlinked data sources: the Central Bank of Ireland’s loan-level data (LLD), and borrowers’ Standard Financial Statement (SFS). The data sources, and the way in which they are joined together, are discussed in detail in Kelly and McCann (2015). The LLD contain information on all mortgages outstanding at four domestic Irish banks. The data are delivered to the Central Bank of Ireland at a six-monthly frequency and contain a wealth of information on the originating terms of the mortgage, and characteristics of the borrower at origination. The LLD, however, do not contain updated socioeconomic information on borrowers at the date of data delivery. The SFS, on the other hand, are filled out by borrowers seeking to renegotiate the terms of their loan with their lender. Audited information on *current* income, employment status, family composition, and mortgage and non-mortgage debt burdens are contained in each SFS entry. The final data set using the combined LLD-SFS data provides information on 21,086 households.

3 Are LTMA borrowers different?

We use the LLD to show how loan characteristics differ for those in LTMA. In Table 1, the sample includes all primary dwelling mortgages at the four lenders for which data are available at December 2014. Those on fixed-rate mortgages are much less likely to be in LTMA, with the share of borrowers in 720+ days past due (DPD) being 0.79 per cent, compared to 4.76 and 3.42 per cent for SVR and Tracker borrowers, respectively. Dublin is the region with the lowest share of LTMA borrowers, while the Midlands and Border regions are those where LTMA is most prevalent. Previous-owner mortgage holders are marginally more likely to be in LTMA than First-Time Buyer mortgage holders.

We also report the average balance drawn down at origination by arrears category. Those in ar-

rears of greater than 90 days all have average originating balances above €200,000, while the comparable figure among those with no arrears is €174,583. This more risky profile at origination is confirmed by the average originating loan to value ratio (LTV), which was 65 among all borrowers with no arrears at December 2014, but was eight points higher at 73 among those in LTMA, echoing findings from Kelly, O'Malley, and O'Toole (2015) who show that originating credit conditions are important drivers of subsequent mortgage distress. LTMA borrowers also have higher *current* LTVs, with the average value being 100 in the 720+ category, compared to just 62 for those without arrears.

In recent research, Kelly and McCann (2015) present a far more detailed picture than can be presented using the data in Table 1 by exploiting the combined SFS-LLD data set to report on *current* socioeconomic and demographic information for 21,086 Irish households. Table 2 reports the key characteristics of borrowers in three states of mortgage distress: those with no or under 90 days past due, those between 90 and 360 days, and those in arrears greater than one year.² The share of borrowers in LTMA is much lower in Table 1 than in Table 2 because in the latter, the sample comprises only those mortgages experiencing repayment difficulty, while in the former, all mortgages are considered. A number of key findings emerge. LTMA are more prevalent among:

1. Those having experienced an unemployment shock since origination
2. Those having experienced a divorce since origination
3. Single borrowers with three or more children

Borrowers in LTMA are also more likely to have:

1. Lower net incomes
2. Higher mortgage debt service ratios (monthly repayment over monthly income)
3. Large shocks to the debt service ratio since origination
4. Higher ratio of non-mortgage debt to total debt

5. Higher ratio of non-mortgage debt to income

The above differences between LTMA borrowers and those in the early stages of mortgage distress are all shown to be statistically significant in a multinomial logit model in Kelly and McCann (2015).

4 Analysis of mortgage flows

LTMA borrowers have been shown above to differ from borrowers in earlier states of arrears in their socioeconomic characteristics and their experience of economic shocks. In this section we show how these differing characteristics are manifested in the way in which loans transition between differing depths of mortgage arrears. Data on flows between states of mortgage delinquency in Ireland have not previously been available in the public domain.

The share of mortgages that have had an increase, a decrease, or no change in their arrears balance is reported in Table 3. Among loans more than two years in arrears, over 80 per cent had a further increase in arrears in the following quarter in 2014, suggesting an extremely high level of non-payment among this group of borrowers. Among loans more than one year in arrears, the share of loans with an arrears increase in 2014 was around 65 to 70 per cent in each quarter in 2014. Loans with lower DPD levels are shown to have higher likelihood of lowering their arrears, with arrears growth occurring for 30-40 per cent of those in the lowest-arrears category.

In Figure 1 we plot the quarterly transition rate between 2011 and 2014 from six starting DPD states into an *improved* state in the following quarter. For example, the first observation on the purple line in the graph indicates that between March and June 2011, 32 per cent of those with less than thirty days' arrears returned to the zero days past due category by the end of the quarter. The first observation of the green line indicates that just two percent of those in deep arrears in March 2011 had moved to any of the lower-arrears states by June 2011. What is clear from Figure 1 is that across the mortgage market there have been great improvements in 2013 and 2014, but that these improvements have been much less prevalent among LTMA borrowers.

²LTMA loans cannot be split between those in 360+ and 720+ days past due in the SFS sample due to a data issue.

Finally, in Figure 2 we plot the percentage of all performing loans at each t that move into arrears at $t + 1$. This percentage remained constant at close to two per cent of the performing stock per quarter through 2011, 2012 and 2013. The 2014 numbers show that, despite an improving economy, the transition rates into arrears have remained close to those seen in a more distressed economy in previous years, with the most recent figure being 1.6 per cent. Such a pattern suggests that, despite an improving aggregate arrears picture, many households continue to enter into periods of repayment difficulty.

5 Conclusion

This *Letter* has outlined a range of new statistics on the characteristics of households in long-term mortgage arrears (LTMA) in Ireland. The data reveal that there are important differences between those in LTMA and those in the early stages

of mortgage arrears. Households in LTMA are shown to have experienced far more severe negative shocks during the crisis period, leading to much more onerous repayment burdens. Further, these households have also taken on higher levels of non-mortgage debt and are experiencing weaker housing equity positions.

Our analysis also highlights that repayment rates are extremely low among those in LTMA, with continued growth in arrears occurring in 2014 for 84, 73 and 69 per cent of households in greater than 720, 540 and 360 days past due. Conversely, the data reveal that almost half of those in very early-stage arrears were returning to full loan performance in 2014. Finally, we also show that the flow into arrears remained high relative to historical patterns in 2014, at 1.6 per cent of the pool of performing mortgages, suggesting that vigilance must be maintained among lenders and policy makers to ensure that cases of household financial distress are resolved early and rapidly.

References

- CONNOR, G., AND T. FLAVIN (2015): "Strategic, unaffordability and dual-trigger default in the Irish mortgage market," *Journal of Housing Economics*, 28(C), 59–75.
- KELLY, R., AND F. MCCANN (2015): "Some defaults are deeper than others: understanding long-term mortgage arrears," Research Technical Papers 16/RT/04, Central Bank of Ireland.
- KELLY, R., AND T. O'MALLEY (2014): "A Transitions-Based Model of Default for Irish Mortgages," Research Technical Papers 17/RT/14, Central Bank of Ireland.
- KELLY, R., T. O'MALLEY, AND C. O'TOOLE (2015): "Designing macro-prudential policy in mortgage lending: do First-Time Buyers default less?," Research Technical Papers 02/RT/15, Central Bank of Ireland.
- MCCANN, F. (2014): "Modelling default transitions in the UK mortgage market," Research Technical Papers 18/RT/14, Central Bank of Ireland.
- MCCARTHY, Y. (2014): "Dis-entangling the mortgage arrears crisis: The role of the labour market, income volatility and housing equity," Research Technical Papers 02/RT/14, Central Bank of Ireland.

Tables and Figures

Figure 1: Transition rates to an improved DPD state, 2011q1-2014q4

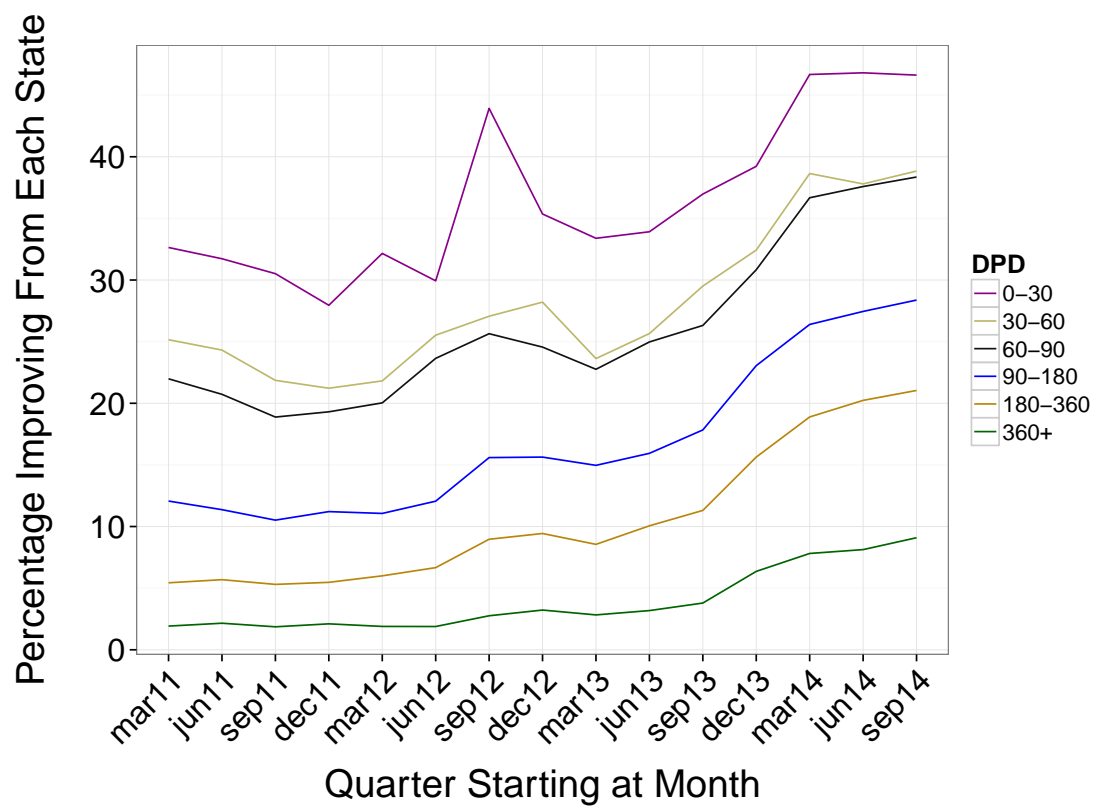


Figure 2: Transition rates from performing status, 2011q1-2014q4

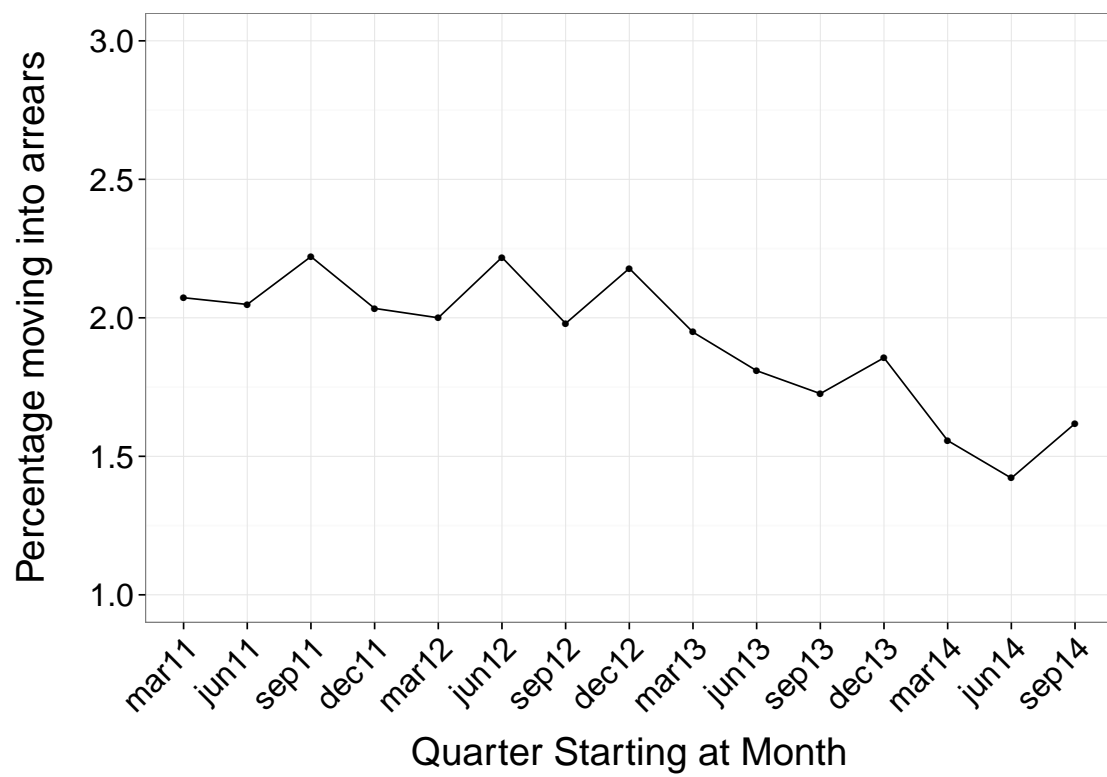


Table 1: Breakdown of key loan-level variables by arrears states

Past Due:	0 DPD	1-90 DPD	90-360 DPD	1 Year	2 Years
Total	88.2	3.5	2.3	1.9	3.9
Share of arrears group by category:					
Fixed	95.4	2.0	1.1	0.7	0.8
SVR	86.6	3.9	2.6	2.2	4.8
Tracker	89.2	3.2	2.3	1.9	3.4
Border	85.4	4.2	2.7	2.4	5.4
Dublin	90.2	3.3	2.1	1.8	2.7
Mid East	86.4	4.0	2.8	2.3	4.5
Mid West	88.2	3.7	2.5	1.9	3.8
Midlands	85.1	4.0	2.8	2.5	5.7
South East	87.5	3.6	2.6	2.1	4.2
South West	90.7	3.0	1.9	1.6	2.8
West	89.4	3.0	2.2	1.7	3.7
Previous Owner	87.6	3.7	2.4	2.1	4.1
First Time Buyer	89.1	3.4	2.2	1.8	3.5
Average Values for Continuous Variables:					
Originating Balance	174,583	186,569	205,927	218,333	204,009
Originating LTV	65	69	70	72	73
LTV Dec 2014	62	75	82	92	100

Sample comprises all primary dwelling mortgages at AIB, BOI, EBS and PTSB at December 2014.

Table 2: Breakdown of key *current* socioeconomic variables by arrears states, SFS sample

	Early Distress	90-360	360+
Share of arrears group by category:			
No Divorce	65.6	18.6	15.9
Divorce Since Origination	54.6	21.3	24.1
No Unemployment	68.6	18.1	13.3
Unemployment Shock	56	20.2	23.8
Couple, no children	61.1	20.4	18.5
Couple 1/2	68.2	17.9	13.9
Couple 3+	64.7	19.7	15.6
Single, no children	65.6	17.3	17.1
Single 1/2	61.1	19	19.8
Single 3+	53.3	21.1	25.6
Mean values for continuous variables			
Net Monthly Income	3,006	2,811	2,470
DSR	0.304	0.347	0.42
Δ DSR	0.025	0.059	0.135
Other Debts to Income	2.26	2.53	3.98
Other Debts to Total Debt	0.18	0.2	0.27

Sample comprises 21,089 mortgage holders having filled out a Standard Financial Statement at or before December 2013, i.e. all households in sample are experiencing mortgage repayment difficulty.

Table 3: How were arrears balances changing in 2014?

Starting group	Increase	Decrease	No Change
0-30	30%	58%	12%
30-60	40%	47%	13%
60-90	46%	44%	10%
90-180	54%	38%	8%
180-360	63%	31%	6%
360-540	69%	26%	5%
540-720	73%	23%	5%
720+	84%	13%	3%

Figures are averages from quarterly data from December 2013 - December 2014. Interpretation is as follows: throughout 2014, of those starting a quarter in 0-30 DPD, 30 per cent had an increased arrears balance in the following quarter.