



IFC workshop on *“Combining micro and macro statistical data for financial stability analysis. Experiences, opportunities and challenges”*

Warsaw, Poland, 14-15 December 2015

## Understanding long-term mortgage arrears in Ireland: insights from macro and micro data<sup>1</sup>

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<sup>1</sup> This paper was prepared for the meeting. The views expressed are those of the author and do not necessarily reflect the views of the BIS or the central banks and other institutions represented at the meeting.

# Understanding Long-Term Mortgage Arrears in Ireland: Insights from Macro and Micro Data

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## Abstract

The financial crisis and a prolonged period of economic downturn in Ireland resulted in a very rapid increase in the number of delinquent mortgage loans. The associated pressure on both household and bank balance sheets raises concerns from a financial stability perspective, particularly in light of the persistent nature of long-term arrears. This paper highlights the importance of both macro- and micro-level data for a thorough analysis of mortgage delinquency in Ireland, and for the formulation of effective resolution policies in this area. The main advantages of macro-level data on mortgage arrears are their frequency, timeliness and comprehensive coverage, providing regular updates on developments in the entire Irish mortgage market. While these data point to an improving situation at an aggregate level, the persistent increase in the number of accounts in very long-term arrears remains a cause for concern. Detailed micro-data facilitate a more rigorous analysis of this cohort, providing an insight into the characteristics of those loans and borrowers in long-term arrears. An analysis of the flows by depth of arrears shows that while the rates of transition towards improved states have increased over time, they remain particularly low for those accounts in very long-term arrears. Loan-level data allow comparisons between the resolution strategies for mortgages that have successfully exited long-term arrears and those that remain in deep arrears. In addition, mortgages in deep arrears can be further split between those that have begun repayment and are showing some improvement in their arrears balance, and those whose situation continues to deteriorate.

Keywords: Banks; Mortgages; Arrears

JEL classification: G21

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## Introduction

Maintenance of financial stability depends on detailed, timely and reliable data in order to successfully identify challenges, assess risk, and formulate adequate and effective policy measures. This paper highlights the importance of both macro and micro-level data for addressing a prominent financial stability issue in Ireland over the past five years, namely the level of mortgage arrears. Since the onset of the financial crisis and the broader economic recession in Ireland, mortgage repayment difficulties have become increasingly prevalent. Mortgage arrears rose rapidly during the period from 2009 to 2013, with the value of accounts in arrears over 90 days peaking at 17.3 per cent of total mortgages on principal-dwelling homes (PDH), and despite the recent recovery in the economy and the labour market, the data suggest a degree of persistence among the long-term arrears cases. Understanding the underlying causes and dynamics is critical for the successful resolution of the arrears problem.

The remainder of the paper is structured as follows. Section 2 describes the development of the mortgage arrears crisis in Ireland, as evidenced by the aggregate statistics. It highlights the significant benefits of comprehensive and timely data in providing regular updates on an issue of such importance for Irish households, the financial sector and the wider economy. Section 3 introduces the micro-data on mortgage arrears and describes the detailed information contained in these data that facilitate a more rigorous analysis, particularly of those cases in long-term arrears. The data are used to examine rates of transition into and out of the various states of arrears over time. Building on this analysis of flows, Section 4 addresses the issue of arrears resolution. It focuses on a cohort of accounts that have exited long-term arrears and discusses the resolution strategies that may have contributed to this. Section 5 concludes, and discusses the potential for such data to inform policy-making in the area of arrears resolution.

## Section 2: Mortgage Arrears in Ireland

The financial crisis and economic downturn in Ireland resulted in a very rapid increase in mortgage arrears between 2009 and 2013. Unemployment, falling property values and a decline in income levels were the key drivers of mortgage distress over this period (McCarthy 2014). The unemployment rate rose from just 4.6 per cent at the end of 2007 to a peak of 15 per cent in early 2012. Average house prices fell by over 50 per cent from their peak in 2007, leaving a significant proportion of mortgage holders in positions of negative equity. Furthermore, many borrowers who remained in employment suffered a decline in their income levels due to wage cuts and tax increases. These factors, combined with high pre-crisis debt levels, contributed to the very rapid increase in incidences of mortgage delinquency over the period. At end-September 2009, 4.1 per cent of mortgage

loans on principal-dwelling homes (PDH) were in arrears of more than 90 days. By end-September 2013 this figure had increased to over 17 per cent.<sup>2</sup>

The Central Bank of Ireland collects aggregated data relating to the number of, and outstanding balance on mortgage accounts in arrears, as well as information relating to restructured accounts and repossessed properties. The data are provided on a quarterly basis by all entities<sup>3</sup> that hold loans secured on properties located in the Republic of Ireland. They are published by the Central Bank of Ireland in its quarterly *Residential Mortgage Arrears and Repossession Statistics*, and provide a comprehensive update on the performance of the entire mortgage market.<sup>4</sup> Specifically, they cover arrears broken down by duration; legal proceedings and repossessions; forbearance arrangements broken down by type; and the performance of restructured mortgage accounts.

The sharp deterioration in the performance of PDH mortgage loans is clearly evident in Figure 1, which shows the value of loans in arrears of more than 90 days from September 2009 (when the data were first collected) to June 2015. The arrears crisis peaked in September 2013, when loans in arrears of more than 90 days accounted for 17.3 per cent all PDH loans, in value terms. The outstanding balance on these non-performing loans was almost €19 billion at that time. The overall arrears situation has improved since then, as the share of loans in arrears of more than 90 days has fallen to 13.4 per cent. However, the collection of more detailed data since September 2012 on the duration of arrears has revealed some important compositional issues. These data highlight the growing proportion of loan accounts in very deep arrears, i.e. more than 720 days past due<sup>5</sup>. Figure 2 shows the quarter-on-quarter change in the value of loans in arrears of more than 90 days, broken down by the various duration categories. At the shorter-term end, the trend has been encouraging for a number of years, insofar as it suggests that the formation of new arrears cases has been declining since late 2012. However, the value of loans in longer-term arrears continued to grow throughout 2013 and 2014. Over this period the average quarter-on-quarter rate of growth in accounts in arrears over 720 days was 7 per cent. As a result, loans in this cohort now account for 60 per cent of loans in arrears over 90 days, having increased from a share of 25 per cent in late 2012 (Figure 3). The outstanding balance on these loans was €8.3 billion at end-June 2015, equivalent to 8 per cent of the total outstanding value of all PDH mortgage loans at that time. The data suggest that these loans in deep distress are showing no signs of improvement and are simply transitioning through to more advanced stages of arrears. The magnitude and the persistent nature of long-term arrears are a cause for concern from both a financial stability perspective and a wider

<sup>2</sup> These figures are in value terms, rather than the number of accounts.

<sup>3</sup> These include banks, building societies, retail credit firms and a small number of unregulated entities.

<sup>4</sup> Data are collected separately for loans on PDH and buy-to-let (BTL) properties. For the purpose of this analysis the focus is solely on PDH loans.

<sup>5</sup> Borrowers with loans in arrears of more than 720 days have not necessarily failed to make a single repayment for a period of 720 days. They do, however, possess an arrears balance equivalent to 720 days past due.

macroeconomic perspective, given their implications for the balance sheets of the lenders and the borrowers.

In light of the rapidly evolving nature of the mortgage arrears crisis over the past six years, the availability of timely and detailed statistics is essential for comprehensive monitoring of developments and formulation of effective resolution policies. These macro-level data have delivered some crucial insights into the developments in arrears and the level of progress towards resolution achieved to date. The data are comprehensive, designed to cover all mortgage loans secured on properties in the Republic of Ireland, including those loans held by non-bank institutions and a small number of unregulated entities. The data are collected and published quarterly and on a consistent basis, providing a common template and set of definitions for all institutions, thus facilitating accurate analysis over time. The *Residential Mortgage Arrears and Repossessions Statistics* are widely recognised as the official source of information on mortgage arrears in Ireland, providing a frequent, timely and definitive understanding of the trends in mortgage arrears over time.

Notwithstanding this significant contribution, these data lack sufficient granularity to provide meaningful insights into the characteristics of the loans or the borrowers, to permit a more thorough analysis of long-term arrears cases. For example, they tell us nothing about when the loans were originated, what type of interest rate applies, or how the loan-to-value ratios have evolved. They provide us with no information on the borrowers, and they do not permit us to track movements into and out of the various states of arrears. In the absence of more granular information, it is difficult to formulate a policy response that adequately targets problem cases with an appropriate solution.

### Section 3: Micro-Data on Irish Mortgage Arrears

Loan-level data have been collected by the Central Bank of Ireland from Irish headquartered credit institutions since 2011. The initial collection of data was to satisfy the requirements of the Prudential Capital Assessment Review (PCAR), a stress test of the capital resources of the domestic banks, undertaken in 2011 to calculate the level of recapitalisation required at that time. Since then, the Central Bank has continued to collect loan-level data twice yearly. The data contain over 250 fields describing loan, borrower and collateral characteristics. *Kennedy and McIndoe Calder (2011)* and *McCarthy (2014)* provide a detailed description of the data including the most pertinent fields.

One of the drawbacks of these data, relative to the aggregate statistics described in Section 2, is their coverage of the market. The data are collected from the five largest mortgage providers in Ireland, and according to the figures for June 2015, their coverage of the PDH mortgage market at that time was around 91 per cent by number of accounts, or 88 per cent by outstanding balance. While this obviously suggests a very comprehensive coverage of the overall market, their share of very long-term arrears cases is lower – 75 per cent by count or 73 per cent by

balance. The relative importance of non-bank entities in the Irish mortgage market has increased significantly. These include authorised retail credit firms, as well as other entities holding mortgage loans that were previously on the balance sheets of Irish resident banks. At end-2013, non-bank entities held 2.5 per cent of all mortgage loans (in value terms). By June 2015 this share had increased to 6.5 per cent, following sales of mortgage loans by a number of banks during that period. The higher relative share of long-term arrears cases by these non-bank entities indicates that sales by credit institutions have been predominantly concentrated in delinquent loans (Cassidy, 2015). The coverage of around three quarters of long-term arrears cases within these micro-data is, however, considered sufficient for analysis purposes. Nonetheless, it is worth exercising caution when making inferences on the wider population.

On the other hand, the primary advantage of the loan-level data is the granular detail contained within. Information on loan origination, geographic location, loan-to-value (LTV) ratio, interest rate and other important variables for understanding the profiles of mortgage borrowers is available, and allows for deeper analysis of the mortgage arrears crisis, and the identification of the factors that may be driving long-term arrears. Previous research on mortgage arrears in Ireland has shown that distressed borrowers exhibit quite different characteristics to performing borrowers. Loan-level data can uncover some of these important differences.

### 3.1 Point-in-Time Analysis<sup>6</sup>

Figure 4 shows the distribution of mortgages in arrears of more than 360 days by year of origination of the loan. It shows that loans originated between 2005 and 2008 account for a very large share of those mortgages that are currently in arrears of more than 360 days (approximately 63 per cent). This is unsurprising given that this period was the height of the property boom in Ireland, and overall mortgage approvals peaked around this time. However, the data also indicate that issuances of loans that are now in deep arrears grew at a relatively faster during these years than all other loans. Figure 4 shows the share of loans that are currently in arrears of more than 360 days in the total number of mortgages issued in each year. This share increased significantly from 2005 and peaked in 2007. The figures imply that 7.6 per cent of all loans originated in 2007 are now in arrears of more than 360 days. This compares to an average share of 4.4 per cent in the years from 1995 to 2004.

In terms of interest rates, there are three distinct types in Ireland: fixed rates, standard variable rates (SVR) and other variable rates with a contractual obligation to a fixed margin above a policy rate (tracker). During the 2003-2009 period, tracker mortgages increased in popularity, and the average margin over the ECB main refinancing rate was 110 basis points (Kelly et al, 2015). Tracker mortgages are no longer offered to new borrowers, although their share of outstanding mortgages remains relatively high. Figure 5 indicates that for the sample of mortgage loans in the loan-level data, 37 per cent are currently on tracker rates, while 54 per cent are

<sup>6</sup> The most recent micro-data refer to end-June 2015.

on SVRs. Looking at the cohort of loans in long-term arrears, SVR mortgages are over-represented, accounting for 64 per cent of loans in arrears over 720 days. While interest rates on tracker loans have trended downwards in recent years in line with policy rates, SVR rates have moved in the opposite direction. For these loans, the lender is permitted to unilaterally change the interest rate, independent of any changes to policy rates. Funding pressures on Irish banks in recent years and efforts to improve their interest margins have resulted in an upward trend in SVR rates. Therefore it is not surprising that SVR mortgages are over-represented among the cohort of loans in deep distress. Goggin et al (2012) suggests that costs relating to increased credit risk may be a factor in variable interest rate price-setting, i.e. banks with higher arrears rates exhibit higher variable mortgage rates. Of course such a strategy could be counterproductive in that it may contribute to further upward pressure on arrears.

The loan-level data also permits an analysis of arrears by geographic location. To facilitate this, the Nomenclature of Territorial Units for Statistics (NUTS) geocode is assigned to the borrower location data fields. The NUTS 3 classification splits Ireland into eight separate regions: Border, Midlands, West, Dublin, Mid-East, Mid-West, South-East and South-West. Table 1 ranks these regions by their share of total mortgage loans, showing that Dublin has the highest mortgage population – almost 29 per cent of total loans. Table 1 also shows loans in arrears of more than 360 days as a proportion of total outstanding loans in the respective region. For the country as a whole, 4.5 per cent of all mortgage loans are in arrears of more than 360 days. The Midlands and Border regions have the highest shares of long-term arrears, at 6.1 per cent and 5.7 per cent respectively. The lowest shares of long-term arrears are found in the South-West, Dublin and West regions.

This finding can be explored further using additional data relating to loan-to-value (LTV) ratios. Both the original LTV and current LTV are available in the loan-level data, and the median values of these are presented by NUTS 3 region in Table 2. Firstly, current LTVs are higher among those loans in long-term arrears compared to those of total mortgage loans – this is expected as borrowers in arrears are not obviously reducing their outstanding loan balances as quickly as borrowers of performing loans. Higher LTV ratios can be associated with either higher outstanding loan values or lower house price valuations. Comparing the current LTVs to the original LTVs indicates that among the longer-term arrears cases, housing valuation drops have been significant. For the total cohort of loans in arrears over 720 days, Table 2 shows that the median current LTV is 21 percentage points above the original LTV. The differential is highest among the Mid-East and Border regions, but is considerably lower in Dublin, the West and South-West regions. This is unsurprising, given that these regions include Ireland’s three largest cities. As noted above, these three regions also display the lowest shares of long-term arrears, suggesting that developments in house price valuations are an important factor in the transition into longer-term arrears.

### 3.2 Flows Analysis over Time

Using a time series of the loan-level data, it is possible to observe movements in to and out of the various states of arrears over time. This is a particularly useful

feature of the data, as it uncovers some interesting dynamics that are not available through the aggregated statistics. In particular, these details provide meaningful insights that may assist in the formulation of policy measures and the effective targeting of resolution strategies.

Table 3 illustrates such a flows analysis, by examining movements across arrears states between June 2014 and June 2015. The diagonal of this transitions matrix displays the percentage of each arrears category that showed no movement over the year. For example, starting at the top left, of all the accounts that were performing in June 2014, 97.8 per cent of them were still performing in June 2015. At the opposite end, 80.1 per cent of accounts that were in arrears of more than 720 days in June 2014 were still in this category a year later. The useful feature of such a presentation is that anything to the right of the diagonal shows a deterioration in the arrears position over time, while anything to the left indicates movement towards an improved state. So for the cohort of loans that were in arrears of more than 720 days in June 2014, 12.4 per cent of them had cured completely a year later, while almost 20 per cent of them had moved to an improved arrears state. This uncovers a positive development in the arrears situation that is simply not visible in the aggregated statistics. For the same group of reporting institutions, the aggregate statistics indicate an increase of 2 per cent in the number of accounts in arrears over 720 days between June 2014 and June 2015. On the other hand, however, the transitions matrix shows that 35.1 per cent of accounts in arrears of between 361 and 720 days deteriorated further over that period, moving into deeper arrears.

Table 4 focuses on loan accounts there were in long-term arrears in June 2014, by combining the last two categories of arrears duration to consider all those in arrears of more than 360 days. Almost 74 per cent of these accounts were in a similar or worse position one year later. On the other hand, almost 19 per cent of these accounts had exited arrears completely, and were back to zero days past due by June 2015. This raises the question of whether these loans have different characteristics that might shed some light on their divergent path over that period. Understanding what has contributed to “curing” that 19 per cent of long-term arrears cases could provide valuable policy lessons.

It is worth noting that transition rates to improved states of arrears have increased over time. Figure 6 uses transition rates over six month periods to illustrate this point, and it shows the percentage of accounts in each arrears category that had moved to any lower arrears state six months later. For example, 28.1 per cent of accounts in arrears up to 90 days in June 2012 had exited arrears six months later. The share of “improving” accounts was much greater by December 2014 – at this time over 45 per cent of accounts in arrears up to 90 days had exited arrears by June 2015. Figure 6 indicates that progress in transitions to improved states has been slowest among the cohort of loans in very long-term arrears. For loans in arrears over 360 days in December 2014, 18 per cent of them had moved to an improved arrears state six months later. This figure represents just a 6.3 percentage point increase in the share of “improvers” in this category in June 2012.



## Section 4: Resolving Mortgage Arrears

Arrears resolution strategies have been concentrated, for the most part, on forbearance arrangements, whereby the terms and conditions of the loan are altered in such a way that makes repayment more manageable for the borrower.<sup>7</sup> Forbearance techniques include a variety of short-term arrangements such as interest-only repayment periods, and other temporary deferral of or reductions in the repayment amount. Extending the term of the mortgage and/or capitalisation of the arrears balance have also been widely used as resolution measures, and in recent years banks have increasingly considered advanced modification options such as split mortgages, which involve warehousing a portion of the loan at a low interest rate, for future repayment.

The micro-data includes information relating to loan modifications, which facilitates an analysis of the types of forbearance that have been applied to accounts in deep arrears. Using the accounts in long-term arrears in June 2014 (i.e. Table 4), it is possible to distinguish between the resolution strategies employed for those accounts that had “cured” by June 2015 and those that remained in long-term arrears. Figure 7 displays the breakdown of modification types for both cohorts. The most notable feature of this analysis is that among the loan accounts that exited long-term arrears and returned to a zero arrears balance by June 2015, 91 per cent of them had undergone some sort of permanent modification. Arrears capitalisation and split mortgages were the most widely used modification types among these “cured” loans. On the other hand, 85 per cent of the loans that remained in long-term arrears over this period had received no permanent modification at all. Even looking beyond the permanent modification types, the data also indicates that the use of temporary restructuring options has been very low among this group. Less than 30 per cent have been granted a temporary arrangement, and for those that have, the vast majority have been interest only arrangements of up to one year, many of which have expired.

It should be noted that these data do not cover all possible resolution strategies put forward by the reporting institutions. Under the Central Bank of Ireland’s Mortgage Arrears Resolution Targets (MART) framework, there are other options that may be deemed to be “sustainable solutions” aside from the usual forbearance measures discussed here. The most common of these involves loss of ownership of the property, either voluntarily or through repossession proceedings. It is likely that a number of the persistent long-term arrears cases analysed here have gone down this route.<sup>8</sup> Repossession is considered to be the final resolution option, once other possibilities have been exhausted, as it implies a realisation of losses by the lender. Over half of the cases analysed above in persistent long-term

<sup>7</sup> Home repossession figures are very low in Ireland, by international standards. This has been influenced, in some part, by a legal loophole that made it difficult for lenders to initiate such proceedings. This loophole was closed by the Government in 2013, and it is expected that the number of repossessions will increase over the coming years.

<sup>8</sup> New micro-data covering all types of sustainable solutions under the MART framework will shortly be available.

arrears have a current LTV of over 100 per cent, while 36 per cent of them have a current LTV of over 120 per cent.

The data also contains information on arrears balances. Examining the evolution of these balances over time can reveal whether or not any of the deep arrears cases are showing a reduction in arrears, even if it isn't sufficient to move them out of the long-term arrears cohort. Looking again at the loans that remained in arrears over 360 days over the period from June 2014 to June 2015, only 7 per cent of these accounts recorded a reduction in their outstanding arrears balance. The remaining accounts continued to add to their large accumulated arrears balance over that period. The lack of progress on these cases is clearly a cause for concern from a policy perspective, as they represent over 4 per cent of the entire sample of mortgage loans in this analysis. Extrapolating this to the wider population implies that there is a significant quantity of loans that are in very deep distress and continuing to deteriorate.

## Conclusion

This paper highlights the merits of both macro and micro data in deepening our understanding of important financial stability issues. Both types of data have made a significant contribution to the mortgage arrears debate in Ireland, and continue to shape the formulation of policy measures in this area.

Aggregate data have crucial advantages in terms of their frequency, timeliness and broad coverage of the mortgage market. They provide a valuable snap-shot of the current state-of-play, and their harmonised and consistent nature make them highly suitable for publication, meaning that vital updates can be communicated to lenders, borrowers, policy-makers and the general public. The Central Bank of Ireland's *Residential Mortgage Arrears and Repossession Statistics* are widely used by these audiences, and they have served as a reliable source of information on mortgage arrears since 2009.

The aggregated nature of these data facilitates speedy processing and timely availability for users, but it is also the source of their limitations. These data are incapable of addressing the in-depth issues at the heart of the mortgage arrears crisis. The characteristics of the loans themselves, the arrears profiles, and the resolution strategies are delivered only at a high level, and there is no information at all relating to the borrower or the collateral. Such detail requires the collection of micro-data to complement the aggregate statistics and provide crucial insights and answers to the most pertinent questions. Although their coverage is rarely as comprehensive, and the timeliness and frequency considerably less favourable, the wealth of information available in the micro-data makes them an invaluable resource in terms of understanding and addressing financial stability issues.

Using both data sources, this paper has provided some new, meaningful insights into developments in long-term arrears cases, which have become the crux

of the mortgage arrears crisis in Ireland. While the aggregate statistics indicate that the overall arrears situation has been improving for two years now, they highlight the persistent growth of long-term arrears. The loan-level data facilitate a more detailed analysis of this cohort, providing valuable information relating to the interest rate type on the loan, the geographic location of the borrower, and the development of the loan-to-value ratio over time. The data also allows us to examine the flows in to and out of long-term arrears over time, which serves two useful purposes. On the one hand, it allows us to identify the successful cases – those accounts that were in deep distress and have now exited arrears. Close examination of this group suggests that permanent modification has played a vital role in these positive outcomes. On the other hand, the data also allow us to delve into cases of persistent long-term arrears and to distinguish further between those that may be making incremental steps towards progress by reducing their arrears balances, and those that continue to deteriorate and appear to be beyond the reach of traditional forbearance measures. Such analysis highlights the heterogeneous nature of the long-term arrears cohort – an observation that is simply not feasible using aggregated data alone.

The micro-data in particular are useful for informing policy, and in this regard there are still some unanswered questions. Further detail is required to assess the extent to which repossession and voluntary loss of ownership is playing a role in arrears resolution. In addition, as outlined in Section 3, the coverage of the loan-level data is currently restricted to a small number of credit institutions. While they account for a very large share of the mortgage market, their coverage of arrears and particularly long-term arrears is lower. Expanding the data to cover other credit institutions as well as non-bank mortgage holders would address the issue of representativeness. In this regard, initiatives such as the Irish Central Credit Register and the European Central Bank's AnaCredit project are to be welcomed.

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Figure 1: Mortgage Accounts in Arrears over 90 Days (by value)

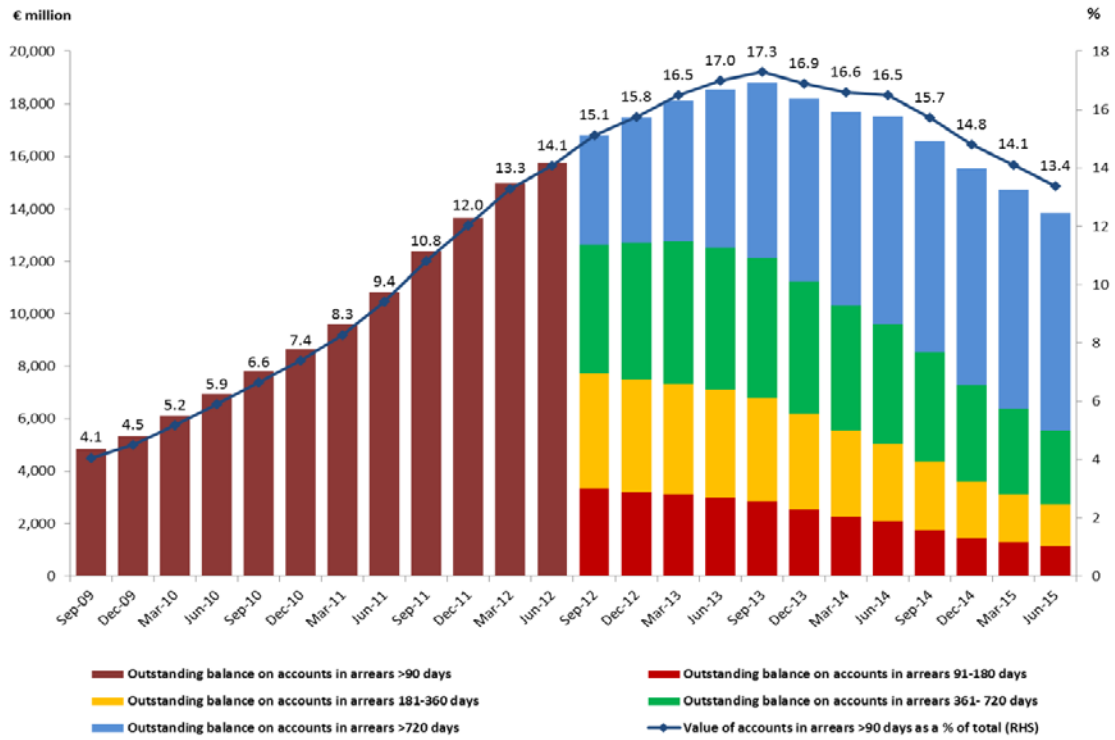


Figure 2: Quarter-on-Quarter % Change in Value of Accounts in Arrears



Figure 3: Mortgage Accounts in Arrears over 90 Days

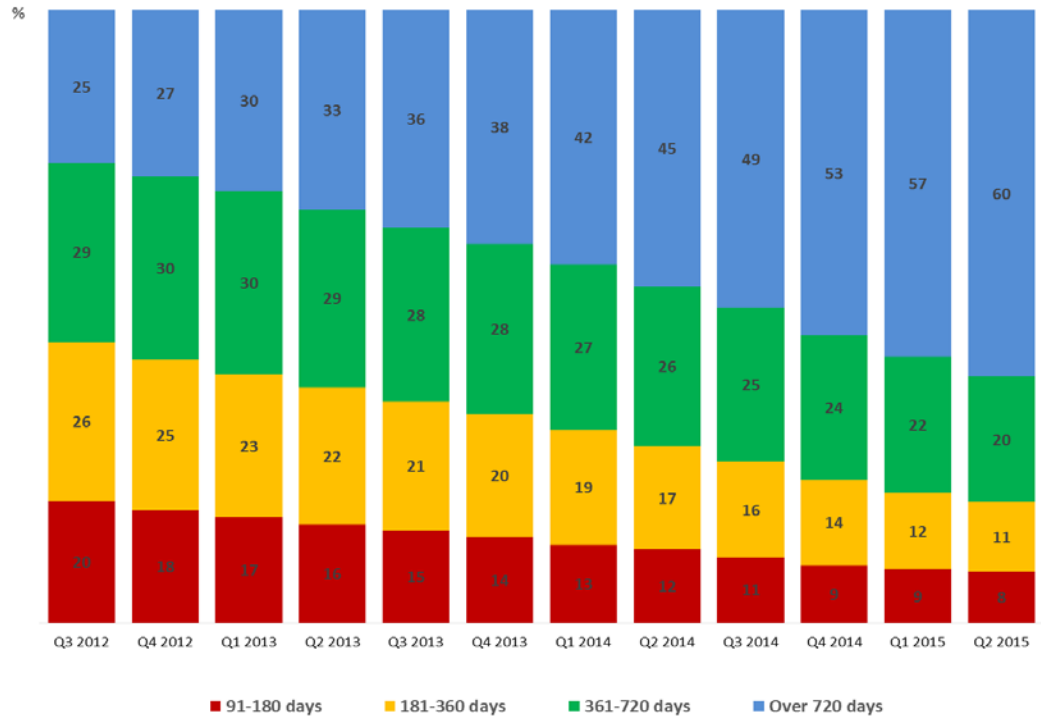


Figure 4: Mortgage Accounts in Long-Term Arrears by Year of Origination

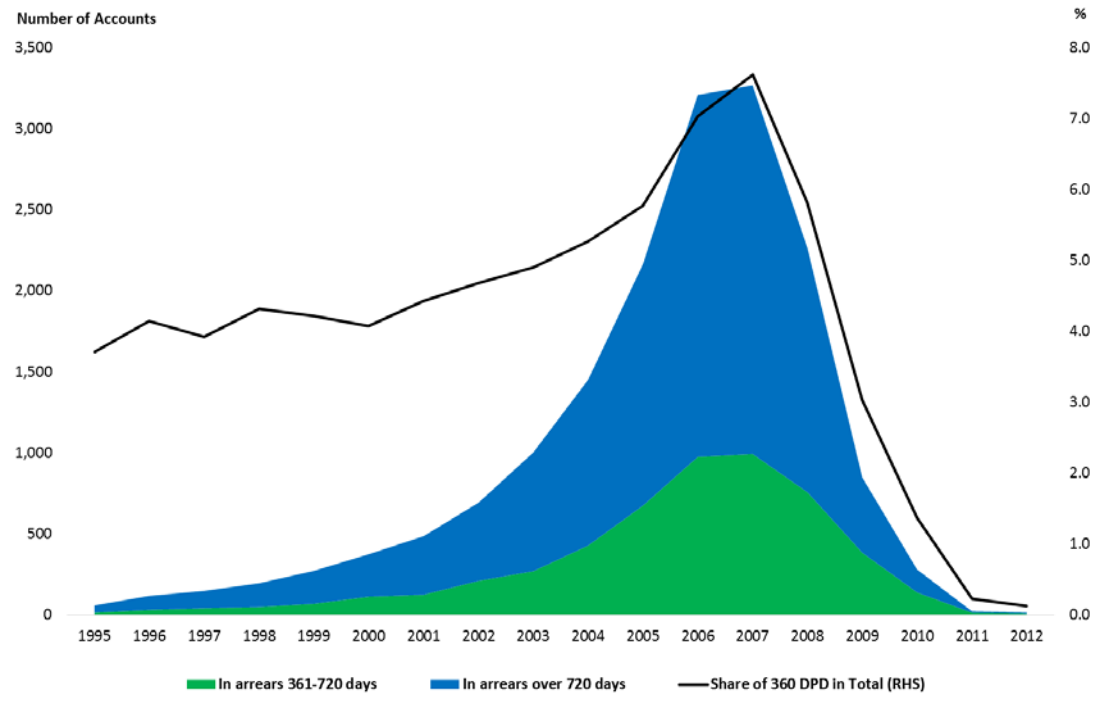


Figure 5: Long-Term Arrears by Interest Rate Type

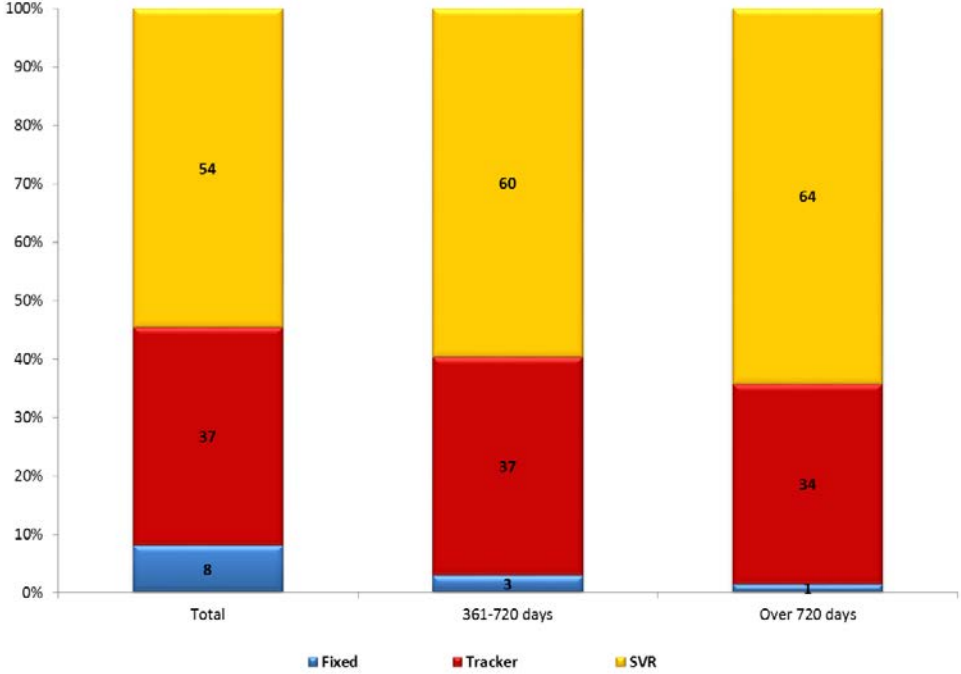


Figure 6: Transition Rates to Improved Arrears States

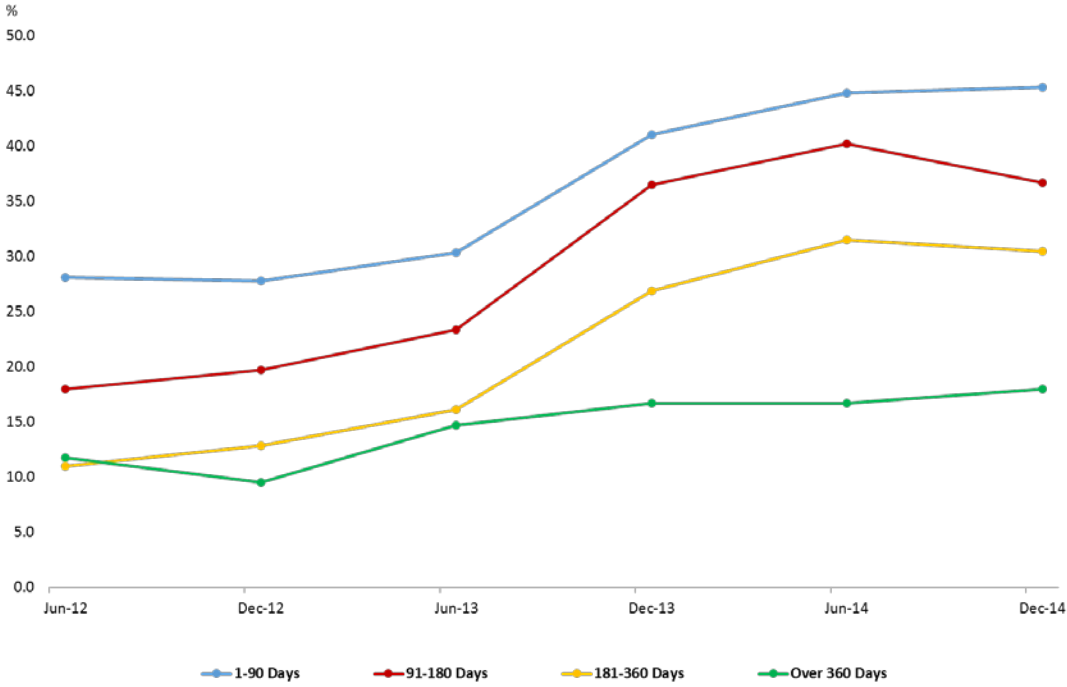
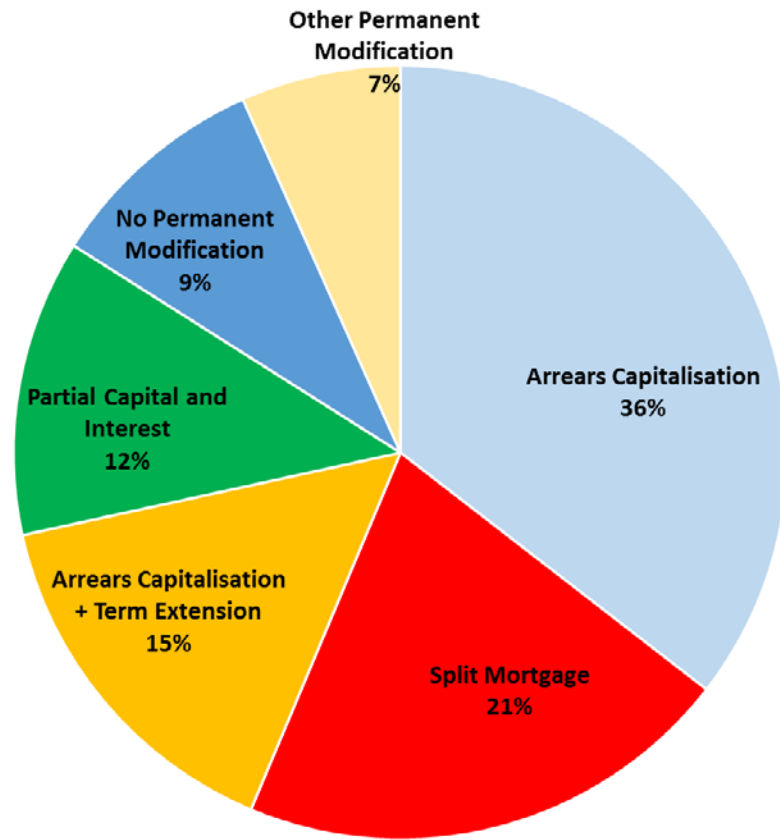
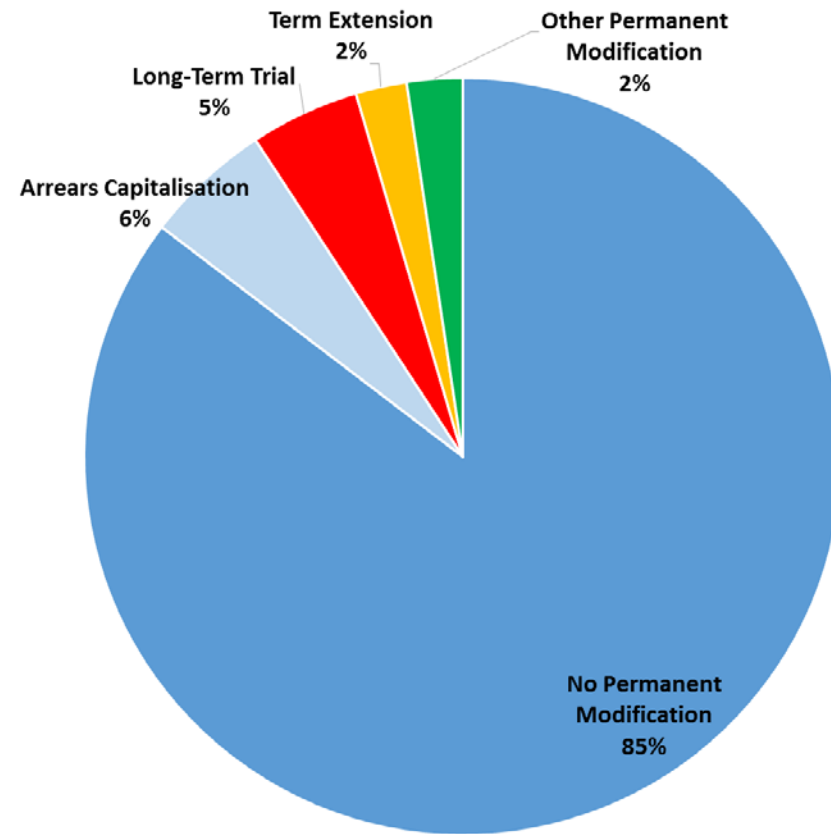


Figure 7: Permanent Modifications for Accounts in Long-Term Arrears in June 2014



No Arrears June 2015



Long-Term Arrears June 2015



Table 1: Long-Term Arrears by Geographic Location

	<b>% Share of Total Mortgages</b>	<b>&gt; 360 Days in Arrears as a % of Total</b>
Dublin	28.9	3.9
SouthWest	15.2	3.6
MidEast	13.2	5.5
MidWest	10.6	4.6
West	9.6	3.9
Border	9.4	5.7
SouthEast	8.0	5.3
Midlands	5.1	6.1
<b>Total</b>	<b>100.0</b>	<b>4.5</b>

Table 2: Original and Current Loan-to-Value Ratio by Geographic Location

	<b>TOTAL</b>		<b>361-720 days</b>		<b>&gt;720</b>	
	<b>OLTV</b>	<b>CLTV</b>	<b>OLTV</b>	<b>CLTV</b>	<b>OLTV</b>	<b>CLTV</b>
Dublin	80	61	83	86	85	100
South-West	70	57	75	81	78	95
Mid-East	77	66	83	94	83	111
Mid-West	75	61	80	85	83	103
West	70	58	77	84	79	92
Border	71	62	81	93	83	109
South-East	73	62	79	92	82	106
Midlands	77	65	85	100	85	108
<b>Total</b>	<b>76</b>	<b>61</b>	<b>80</b>	<b>88</b>	<b>83</b>	<b>104</b>

Table 3: Transition Rates among Arrears Categories, June 2014 - June 2015

Jun-14	Jun-15						
	0 Arrears	1-30 Days	31-90 Days	91-180 Days	181-360 Days	361-720 Days	Over 720 Days
<b>0 Arrears</b>	97.8	1.1	0.6	0.3	0.2	0.0	0.0
<b>1-30 Days</b>	63.6	18.7	9.4	4.8	2.9	0.6	0.1
<b>31-90 Days</b>	48.3	11.5	17.3	11.1	8.5	3.2	0.1
<b>91-180 Days</b>	42.5	5.9	7.8	13.2	18.7	11.7	0.3
<b>181-360 Days</b>	35.8	5.0	3.7	3.4	17.2	33.2	1.8
<b>361-720 Days</b>	28.1	3.8	2.5	1.7	2.7	26.1	35.1
<b>Over 720 Days</b>	12.4	2.1	1.6	1.0	0.9	1.9	80.1

Table 4: Transition Rates from Long-Term Arrears, June 2014 - June 2015

Jun-14	Jun-15						
	0 Arrears	1-30 Days	31-90 Days	91-180 Days	181-360 Days	361-720 Days	Over 720 Days
<b>Over 360 Days</b>	18.6	2.8	2.0	1.3	1.6	11.5	62.3



Irving Fisher Committee on  
Central Bank Statistics

BANK FOR INTERNATIONAL SETTLEMENTS

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IFC workshop on *"Combining micro and macro statistical data for financial stability analysis. Experiences, opportunities and challenges"*

Warsaw, Poland, 14-15 December 2015

## Understanding long-term mortgage arrears in Ireland: insights from macro and micro data<sup>1</sup>

Jean Cassidy, Central Bank of Ireland

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<sup>1</sup> This presentation was prepared for the meeting. The views expressed are those of the author and do not necessarily reflect the views of the BIS or the central banks and other institutions represented at the meeting.



Banc Ceannais na hÉireann  
Central Bank of Ireland

Eurosystem

# Understanding Long-Term Mortgage Arrears in Ireland: Insights from Macro and Micro Data

Irving Fisher Committee Workshop, Warsaw, December 2015

Jean Cassidy, Statistics Division, Central Bank of Ireland.

[Jean.Cassidy@centralbank.ie](mailto:Jean.Cassidy@centralbank.ie)



## Introduction

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- Importance of detailed, reliable data in order to identify risks to financial stability, formulate effective policy
- Role of macro and micro data in identifying and addressing a prominent financial stability issue in Ireland – mortgage arrears
- Increasing prevalence of mortgage repayment difficulties since the onset of the financial crisis
- Persistent nature of long-term arrears, despite economic recovery
- Understanding the underlying dynamics critical for successful resolution

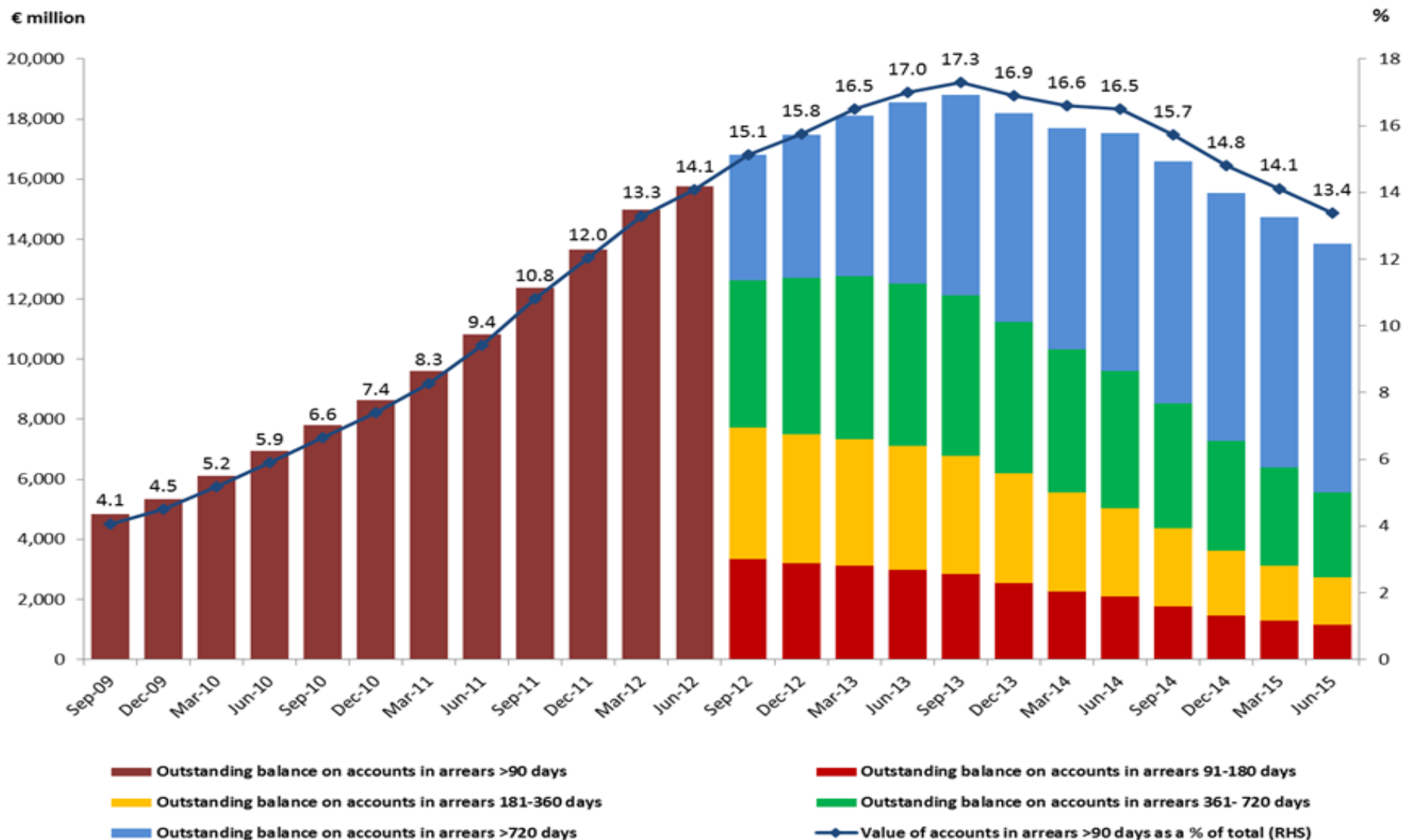


## Mortgage Arrears in Ireland: Aggregate Data

- Financial crisis and economic downturn: sharp rise in unemployment; falling property prices; decline in incomes
- Central Bank of Ireland *Mortgage Arrears and Repossession Statistics* track the rapid increase in arrears; by end-September 2013 over 17 per cent of mortgages were in arrears over 90 days
- Improving situation in line with economic recovery
- Detailed data on the duration of arrears uncover some important compositional differences:
  - decline in the formation of new arrears cases
  - persistent growth in longer-term arrears



# Mortgage Arrears in Ireland: Aggregate Data





## Mortgage Arrears in Ireland: Aggregate Data

- Specific benefits of aggregate statistics:
  - Comprehensive dataset, covering all mortgage loans secured on properties in Ireland
  - Defined and collected consistently across all reporting institutions
  - Provide a frequent, timely and reliable understanding of trends in mortgage arrears over time
- Limitations:
  - Lack sufficient granularity to provide meaningful insights into the characteristics of the loans and borrowers
  - Inability to comprehensively track the transition in to and out of various states of arrears





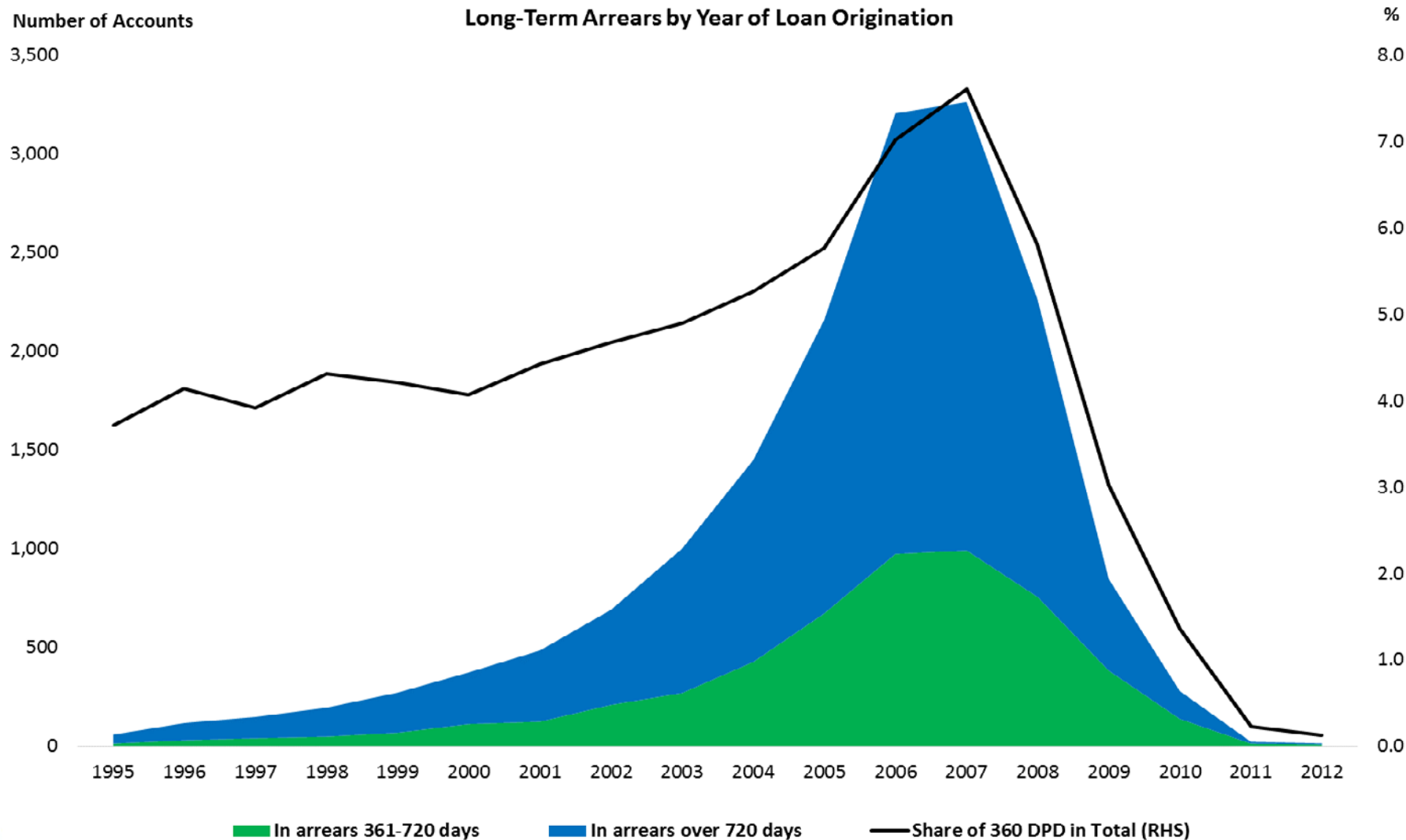
## Micro-Data on Mortgage Arrears

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- Loan-level data collected by the CBI from Irish-headquartered banks twice yearly since 2011
- Over 250 data fields describing loan, borrower and collateral characteristics
- Advantages over aggregated data: granular detail uncovers important loan and borrower differences; information on loan origination, geographic location, LTV ratio, interest rate, etc.
- More limited coverage of the market:
  - Loan-level sample covering 91% of mortgage market, but 75% of long-term arrears



# Micro-Data: Point-in-Time Analysis (June 2015)





## Micro-Data: Point-in-Time Analysis (June 2015)

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- Interest rate types in Ireland:
    - Fixed rates: typically fixed for a period of less than three years
    - Standard variable rates (SVR): the lender can unilaterally change the interest rate, independent of changes to policy rates
    - Tracker rates: contractual obligation to a fixed margin above a policy rate; very popular during the period 2003-2009 and the average margin over the ECB main refinancing rate was 110 basis points
  - SVR loans account for just over half of the total sample of loans in the micro-data, but account for 64% of loans in long-term arrears
  - Funding pressures on Irish banks have resulted in an upward trend in SVR rates; banks attempting to recoup losses related to tracker products and increased credit risk
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## Micro-Data: Point-in-Time Analysis (June 2015)

### Original and Current Loan-to-Value (LTV) Ratio

	TOTAL		361-720 days		>720 days	
	OLTV	CLTV	OLTV	CLTV	OLTV	CLTV
Dublin	80	61	83	86	85	100
South-West	70	57	75	81	78	95
Mid-East	77	66	83	94	83	111
Mid-West	75	61	80	85	83	103
West	70	58	77	84	79	92
Border	71	62	81	93	83	109
South-East	73	62	79	92	82	106
Midlands	77	65	85	100	85	108
<b>Total</b>	<b>76</b>	<b>61</b>	<b>80</b>	<b>88</b>	<b>83</b>	<b>104</b>



## Micro-Data: Flows Analysis over Time

Transition rates among arrears categories, June 2014-June 2015

Jun-14	Jun-15						
	0 Arrears	1-30 Days	31-90 Days	91-180 Days	181-360 Days	361-720 Days	>720 Days
0 Arrears	97.8	1.1	0.6	0.3	0.2	0.0	0.0
1-30 Days	63.6	18.7	9.4	4.8	2.9	0.6	0.1
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>720 Days	12.4	2.1	1.6	1.0	0.9	1.9	80.1

- Diagonal of the matrix shows the percentage of each arrears category that showed no change over the period, E.G. 97.8% of accounts that were performing in June 2014 were still in that category in June 2015
- Anything to the right of the diagonal shows a deterioration in the arrears position; anything to the left shows an improvement



## Micro-Data: Flows Analysis over Time

### Transitions from Long-term arrears, June 2014-June 2015

Jun-14	Jun-15						
	0 Arrears	1-30 Days	31-90 Days	91-180 Days	181-360 Days	361-720 Days	Over 720 Days
> 360 Days	18.6	2.8	2.0	1.3	1.6	11.5	62.3

- Of the accounts in long-term arrears in June 2014, almost 74% were in a similar or worse position a year later
- Almost 19% had exited arrears completely
- What characteristics can be identified to explain these divergent paths over the year?



## Resolving Mortgage Arrears

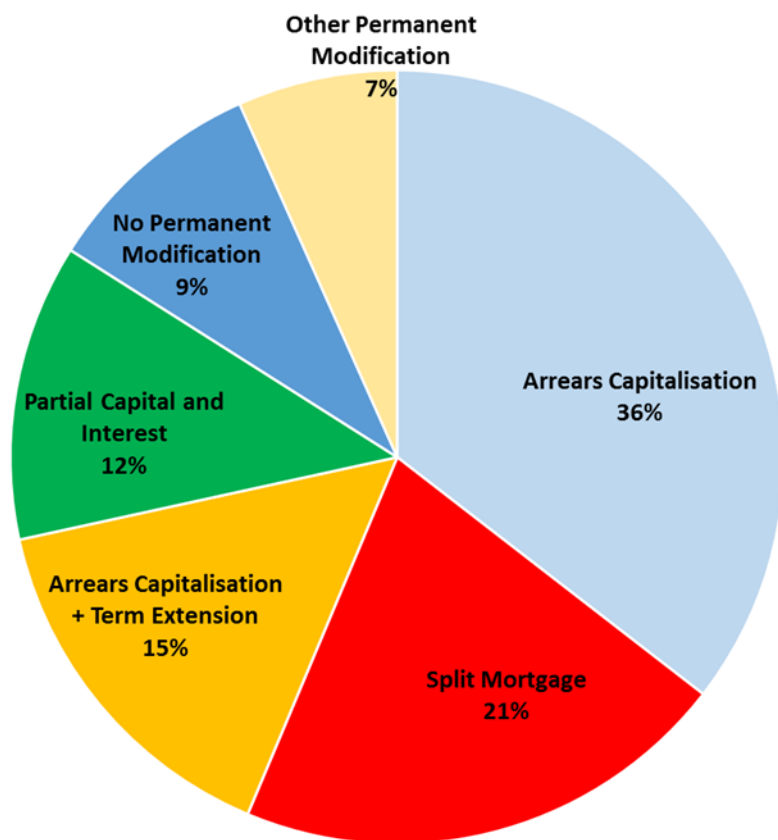
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- Arrears resolution in Ireland has been heavily concentrated on forbearance arrangements – changes to Ts&Cs of the loan, making repayment more manageable for the borrower
- Micro-data facilitates a distinction between the resolution strategies employed for those accounts that had “cured” between June 2014 and June 2015 and those that remained in long-term arrears
- 91% of loans that exited arrears over the period had undergone some form of permanent modification (arrears capitalisation and split mortgages most popular)
- 85% of loans that remained in long-term arrears had received no permanent modification at all

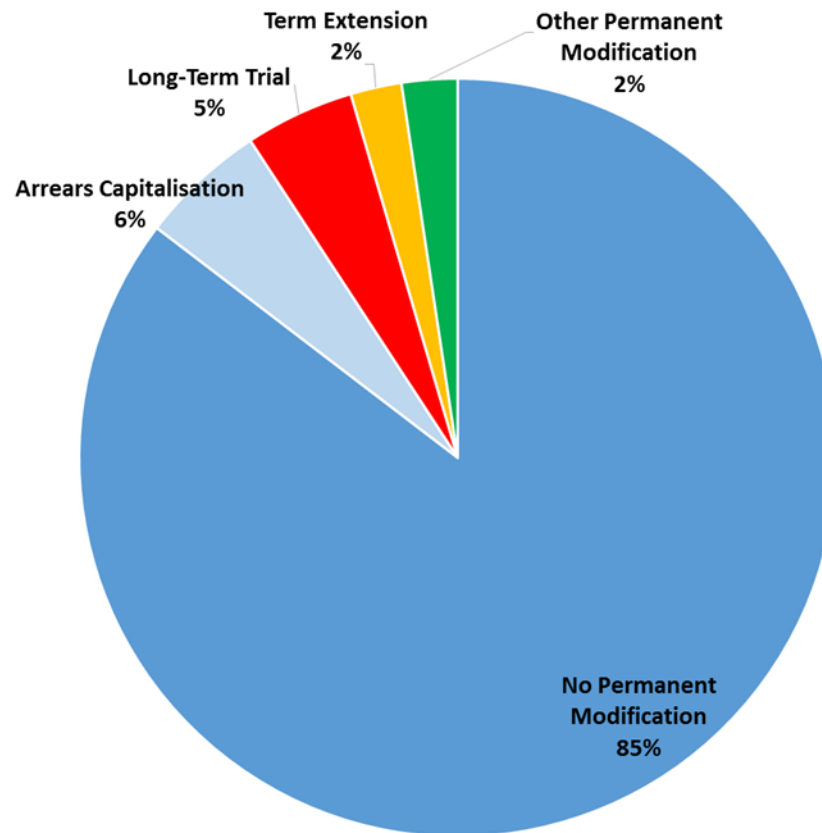


# Resolving Mortgage Arrears

## Permanent modifications for accounts in long-term arrears in June 2014



No Arrears June 2015



Long-Term Arrears June 2015





## Resolving Mortgage Arrears

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- Examining arrears balances: are there any deep arrears cases showing a reduction in arrears over time, even if it is not sufficient to move them out of the long-term cohort?
  - Only 7% of loans that remained in long-term arrears between June 2014 and June 2015 recorded a reduction in arrears; the remainder continued to add to their large accumulated arrears balance over that time
  - Loss of ownership (either voluntarily or through repossession) is becoming a common feature of resolution strategies for long-term arrears
  - New micro-data covering all types of resolution strategy, including forbearance, loss of ownership and personal insolvency arrangements will shortly be available
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## Conclusion

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- Both macro and micro data have made a significant contribution to the mortgage arrears debate in Ireland
  - Aggregate data have the advantages of frequency, timeliness and broad coverage of the market; the wealth of information contained in micro-data provide the most crucial insights
  - Both datasets highlight the persistence of long-term mortgage arrears in Ireland, which remains a cause for considerable concern from a financial stability perspective
  - Micro-data point to the role of permanent modifications in yielding positive outcomes; further details required to assess the impact of non-forgiveness resolution strategies
  - New micro-data initiatives are very much welcomed: Irish Central Credit Register (2016); ECB AnaCredit project (2018)
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