



Mortgage Repayments after Permanent Modification

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Vol 2014, No. 7

Abstract

This Economic Letter analyses the performance of permanently modified mortgage loans, of which there were some 38,086 in the domestic Irish banks at end-2013. For modified loans with prior default history (18,740), 55 per cent met the modified repayment amount at end-2013, up from 28 per cent in 2011. The proportion of default borrowers meeting modified repayments after three and twelve months is converging, at 68 and 60 per cent, respectively for modifications issued in 2013q4. This could be due to better loan modification strategies or the improving economic backdrop. Positive trends are welcomed, however more work is needed to address the large number of loans still in default but which have not been modified (28,585 in the Irish domestic banks as at end-2013), and the high proportion of partial (29 per cent) and non-paying (11 per cent) modified loans.

1 Introduction

The credit-driven nature of the Irish house price boom which began to unwind rapidly in 2008 has led to significant distress in the mortgage market. As a result, the modification of otherwise unaffordable mortgages has become a key policy priority in recent years. This Letter uses loan-level data from domestic Irish banks² to examine mortgage repayments of defaulted loans (i.e., arrears greater than 90 days past due) after permanent modification.

For the purpose of this letter a modification is defined as being successful if full contracted repayments are made after permanent modification. This does not necessarily imply that the entire prin-

cipal balance outstanding will be repaid by term end. The paper addresses the following two questions:

- How many permanently modified defaulted loans met their restructured repayment amount after modification in each quarter up to December 2013?
- What is the duration of full repayment after modification? Does this change based on when the loan was restructured?

There are four key findings in this letter. First, the stock of permanently modified loans is growing faster than the stock of loans in default, suggesting

¹The views expressed in this paper are my own, and do not necessarily reflect the views of the Central Bank of Ireland or the ESCB. I would like to thank all my colleagues that provided comment on earlier drafts, especially Robert Kelly, Fergal McCann, Gerard O'Reilly, Reamonn Lydon and Mark Cassidy; any remaining errors are my own responsibility.

²Domestic Irish banks refer to Allied Irish Bank p.l.c., Bank of Ireland and Permanent TSB, accounting for €89.9bn or 66 per cent of the total Irish residential mortgage market in 2013q4. Of which €68.5bn were Primary Dwelling House (PDH) and 66.7bn were Buy-to-Lets (BTL).

that institutions are making progress in addressing the arrears problem. Second, the percentage of permanently modified defaulted loans making full repayments on their modified mortgage amount has increased over time. Third, the persistence of full repayment over time has improved. Finally, this analysis indicates that approximately 11 per cent of permanently modified defaulted loans consistently make no repayment after modification.³

2 Data and Modifications

Loan-level data from domestic Irish banks are used to carry out this analysis.⁴ Kennedy & McIndoe Calder (2011) provide an overview of the dataset as of December 2010.

The analysis in this paper focuses on Primary Dwelling Houses (PDH) only (€68.5bn as of December 2013). The distribution of the PDH mortgage market within the domestic Irish banks is illustrated in Figure 1. It provides the breakdown of those who have experienced default (i.e., arrears greater than 90 days past due) at any time between December 2010 and December 2013, regardless of their current default status (Figure 2 illustrates the impact of this categorisation).

Figure 1 also divides the market by modification status.⁵ It indicates that 39 per cent of those that have ever experienced default have not been modified as of December 2013.⁶ Of these just 3,297 (4 per cent) successfully cleared their entire arrears balance without any modifications being granted, while nearly 28,585 (35 per cent) remain in default without modification.

The total cumulative stock of all PDH modifications granted is provided in Figure 3. This figure includes modifications given to borrowers not in default. Multiple modifications on individual loans are identified within the data. Therefore this is not

the number of loans modified but the frequency with which modifications are granted.

Figure 3 shows a marked increase in the number of permanent modifications granted around the introduction of the Central Bank's Mortgage Arrears Resolution Targets (MART) in 2013q1. This pattern suggests that loans on temporary modifications may have been moved onto permanent modifications, providing more clarity and consistency to borrowers in terms of their long-term repayment obligations.

There are 38,086 loans permanently modified within this data, half of these had experienced default of at least 90 days by December 2013. Figures 4a and 4b indicate that the application of the type of permanent modifications varies between non-defaulted and defaulted loans, respectively. This is especially true for term-extensions and arrears-capitalisations. As of December 2013, term-extensions were granted to 38 per cent of non-defaulted loans and 12 per cent of loans in default, while arrears-capitalisation were granted to 31 per cent of non-defaulted loans and 39 per cent of defaulted loans. Figure 4b also illustrates that permanent modifications as a percentage of those ever in default increased significantly from 2.8 per cent in 2010q4 to 23 per cent in 2013q4, as indicated by the black line.

The characteristics of borrowers in default and non-default were compared to determine if modification type was granted based on this information. However, this comparison finds that the composition of permanently modified default and non-default loans are similar for the borrowers' age profile, current interest-rate type, current interest-only status and year of purchase. Some variation is observed between current outstanding balance and loan-to-value (LTV). Of non-defaulted loans, 84 per cent have current outstanding balances of less than €200,000 compared to 73 per cent of

³This analysis cannot be compared to the Central Bank of Ireland's Mortgage Arrears Resolution Targets (MART) as temporary modifications and Buy-to-Let (BTL) loans are excluded. It also extends the sample of defaulted loans to any Primary Dwelling House (PDH) loan that experienced default since 2010 rather than the current stock of defaults (90 days past due). The full range of MART solutions are available in the Central Bank's Mortgage Arrears Resolutions Targets document (CBI 2013).

⁴The data merges five submissions of loan-level data from December 2011 to December 2013. Given that arrears balances are provided for the previous 12 months in each data drop, default information is available from December 2010.

⁵Permanent modifications include: term extensions, arrears-capitalisations, hybrid modifications (combine more than one modification type, i.e., arrears-capitalisation, term-extension or reduced interest etc.), split mortgages and other long-term resolutions. Temporary modifications include: interest-only or reduced interest payments, repayment holidays, deferred interest scheme (DIS) and reduced fixed repayment. These definitions are in line with the published Central Bank data (CBI, 2014).

⁶There are four reasons why loans in default are not modification: modification is not required as the borrower can self-cure, modification is not viable as the borrower cannot afford the modified repayments, the borrower is still being processed by the institution's Arrears Support Unit (ASU), or the borrower is not cooperating with the lender.

defaulted loans. The percentage of non-defaulted loans with a current LTV greater than 120 per cent was 13 per cent compared to 22 per cent for loans in default. These small differences between the characteristics of defaulted and non-defaulted loans indicate that observed borrower characteristics do not explain the differences in the modifications granted. Further investigation of borrowers' current income and expenditure could explain these differences but are beyond the scope of this letter.

The analysis focuses on permanently modified defaulted loans because these are in line with the guidelines set out in MART. The final sample used (pink box in Figure 1) accounts for 3 per cent of the total loan book, 23 per cent of those ever in default and 38 per cent of those ever modified.

3 Success of Permanent Modification

In order to examine the success of permanent modifications the quarterly repayment made on each loan is calculated. This is the difference between the change on quarterly arrears and the quarterly instalment amount due. The instalment amount refers to the amount institutions expect to receive and reflects the new instalment amount after modification. The analysis is backward-looking and does not project future mortgage repayments. The quarterly mortgage repayment paid is categorised into the following three repayment groups:

- Full Repayment: borrowers have made payments at least equal to 95 per cent of their modified contracted amount.
- Partial Repayment: borrowers have paid some but not all of their contracted amount.
- No Repayment: borrowers have made payments of less than 5 per cent of the amount due in the quarter.

There are two issues with this: it relies on accurate/consistent arrears data being submitted by institutions and it does not account for arrears frozen during the Arrears Support Unit (ASU) assessment or reassessment.

Modification "success" is examined in two ways in this analysis. First, the stock of modified loans

in each quarter is examined to see how many are making full contracted repayments. Second, the quarter in which the modification was granted is determined and the history or duration of repayment is assessed at three months and a year intervals after modification. A full repayment does not necessarily imply a long-term sustainable solution, nor does it mean that the total outstanding balance will be repaid at term end. It simply means that the current modified instalment amount has been met.

Using the restricted sample of permanently modified defaulted loans, Figure 5 illustrates the repayment distribution of the stock of loans over time. It indicates that the percentage of borrowers in the sample that are meeting the modified mortgage amount has increased from 28 per cent in 2011q1 to 55 per cent in 2013q4, while those making partial repayment or no repayment have declined. In fact, the number of borrowers making no repayment has fallen from 29 per cent in 2011q1 to 13 per cent in 2013q4. These trends suggest that the application of permanent modifications for defaulted loans has improved over time, while also potentially reflecting improved economic conditions.

It is important to determine the transition between repayment states over time, i.e., how many permanently modified defaulted loans continue to make full payments a year later. Table 1 and 2 show the repayment transition matrix for 2012 and 2013 respectively. Given that the date of modification ranges from 2008-2011q4 in Table 1 and 2008-2012q4 in Table 2 the sample size increases from 2,977 in 2011q4 to 6,282 in 2012q4.⁷

Table 1 indicates that 58 per cent of permanently modified defaulted loans in 2011q4 continued to make full repayment in 2012q4, while 29 per cent and 18 per cent transitioned from partial repayment and no repayment to full repayment, respectively, during that time period. The improvement in repayment status during 2012 is not explained by re-modification as less than 0.4 per cent of these loans were re-modified during this period.

Table 2 shows that the percentage of loans that continued to make full payments a year later (i.e., in 2013q4) had increased to 65 per cent from the 58 per cent seen in Table 1. Those transitioning from partial payments increased over the year from 29 per cent in 2012q4 to 34 per cent in 2013q4.

⁷An investigation of LTV by year of origination and outstanding balance by term remaining found that the distribution of loan characteristics were consistent across the 2011q4 and 2012q4 transition matrix samples.

While those transitioning from no repayment to full repayment fell in 2012q4 to 15 per cent. The number of loans making no repayment and continuing to make no repayment one year later increased from 48 per cent to 59 per cent across the two transition matrix tables. In addition, the number of loans falling into a worse repayment position as a percentage of each sample increased from 22 per cent during 2012 to 24 per cent in 2013.

The underlying data for Tables 1 and 2 also indicate that loans transition less frequently over time, with 44 per cent of loans transitioning from one state to another during 2012 compared to 42 per cent during 2013.

4 Duration Analysis

This section examines the duration of repayment three months and a year after modification was granted. This allows the same permanent modification to be tracked through time giving a clearer picture of the success of permanent modifications.

The percentage of loans that made full payments three and twelve months after modification are illustrated in Figure 6a. Of the loans modified in 2011q1, 55 per cent met their mortgage repayment in full three months after modification compared to 44 per cent a year after modification. By 2012q4, this had increased to 68 per cent making full repayment three months after modification and 60 per cent a year after modification. Loans modified during 2013 do not have the 12 month repayment interval yet but the three month duration period remains at 65 per cent. The convergence of the three and twelve month full payments status indicates that modifications are becoming more successful over time.

The distribution of loans making no repayment after modification is shown in Figure 6b. The convergence between the three and twelve month duration periods suggests that if no repayment occurs in the first quarter after modification it is unlikely that any repayment will be made a year later. The data indicate that on average no repayment occurs in approximately 11 per cent of permanently modified defaulted loans and this has been relatively consistent across all quarters available. The

growth in full payments is due to a reduction in the number of loans making partial payments after permanent modifications.

5 Conclusion

This letter examines mortgage modification and repayments in the Primary Dwelling House market in Ireland. It finds that the number of permanent modifications issued increased following the introduction of MART in 2013q1. The data indicate that of those who have experienced 90 days past due defaults, 61 per cent have been modified to some degree, four per cent cleared their arrears balance without modification, while 35 per cent were never modified and remain in default.

The success of permanent modifications is examined by stock and repayment duration after modification is granted. The stock analysis shows that of all permanently modified defaulted loans in December 2013, 55 per cent made full mortgage repayment compared to 28 per cent in 2011q1. In addition partial and no repayments followed a downward trend over this time period.

Given that the success of a permanent modification may be affected by the type of modification and when it was granted, repayment duration analysis is used to investigate when the modification was issued and its effect on repayments. It finds that there have been improvements in repayments after modification over time indicating better modifications strategies by institutions and/or an improved economic environment.

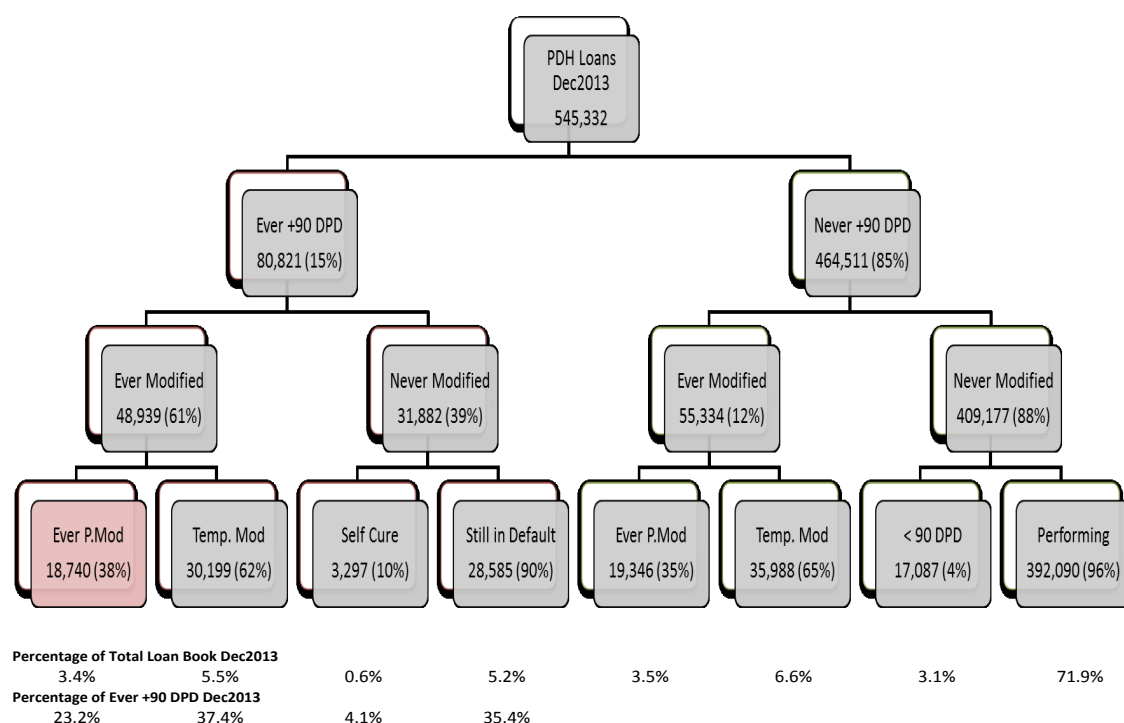
The convergence of the number of default loans making full repayments after three and twelve months indicates that full repayment is becoming more persistent after permanent modification. Finally, the analysis indicates that 11 per cent of permanently modified loans make no payments three and twelve months after modification.

These findings suggest that the process to address the mortgage arrears problem have improved over time. However, given that 55 per cent of the stock of permanently modified defaulted loans made a full repayment in December 2013, more needs to be done before the arrears issue is resolved.

References

- [1] Central Bank of Ireland (2013), "Mortgage Arrears Resolution Targets", Central Bank of Ireland, Dublin 2013.
- [2] Central Bank of Ireland (2014), "Residential Mortgage Arrears and Repossessions Statistics: Q1 2014", Central Bank of Ireland, Press Release, Dublin 2013.
- [3] Kennedy, Gerard and Tara McIndoe Calder (2011), "The Irish Mortgage Market: Stylised Facts, Negative Equity and Arrears", Central Bank of Ireland, Technical Paper Series, No. 12/RT/11

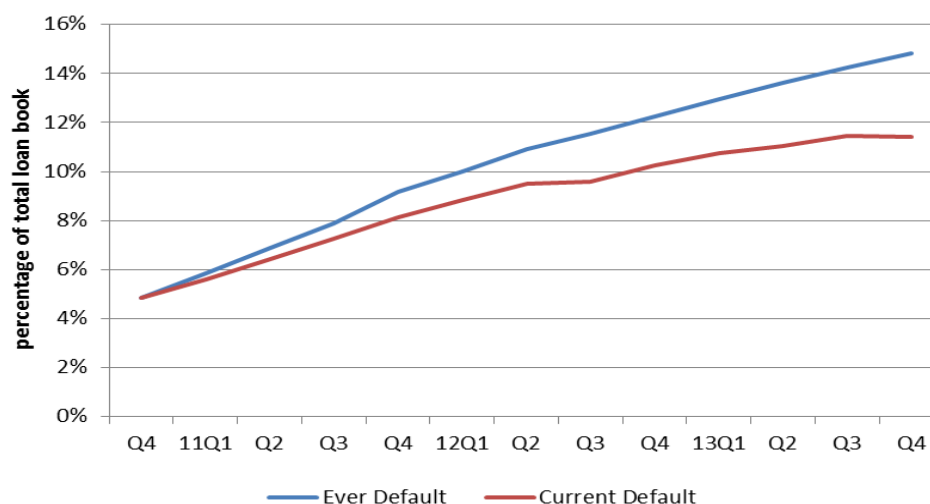
Figure 1: PDH Mortgage Market Distribution (Number)



Source: Central Bank of Ireland Loan-Level Data, Dec 2013.

Note: Percentage of row above is in parenthesis. MART requirements apply to both PDH and BTLs that are currently +90 DPD. As such, MART is not directly comparable to this analysis.

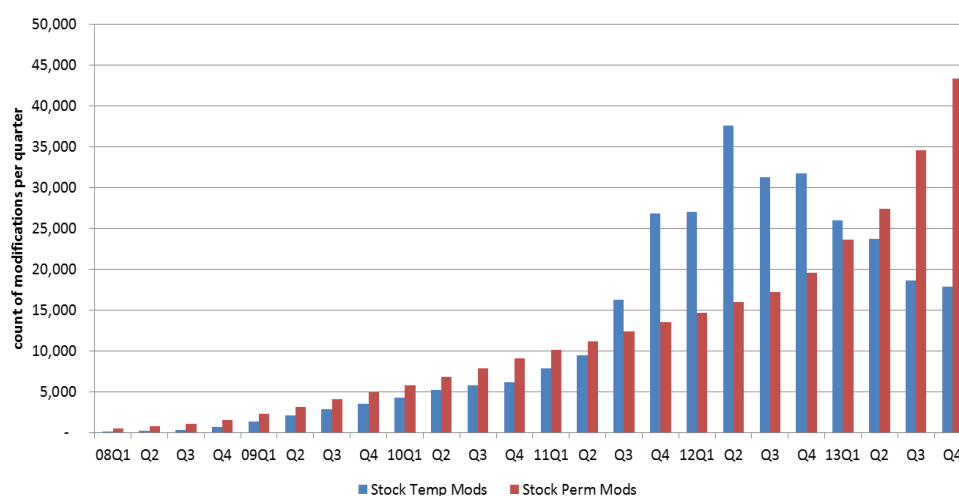
Figure 2: PDH Distribution of Default, number of loans (%)



Source: Central Bank of Ireland Loan-Level Data, Dec 2013.

Note: Figure illustrates the difference between those ever in default compared to those in default in each quarter for Irish Domestic Banks only.

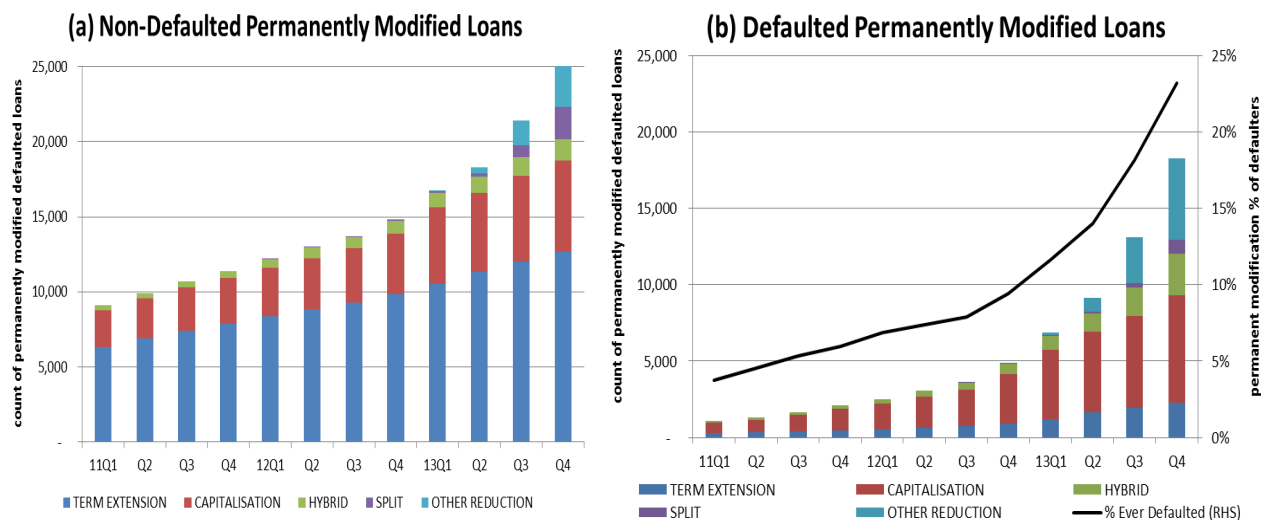
Figure 3: Cumulative Stock of All PDH Modifications (Number)



Source: Central Bank of Ireland Loan-Level Data, Dec 2013.

Note: Temporary modifications are excluded as they mature. The data is cumulative number of modifications granted, therefore, a loan with more than one modification it will be captured multiple times.

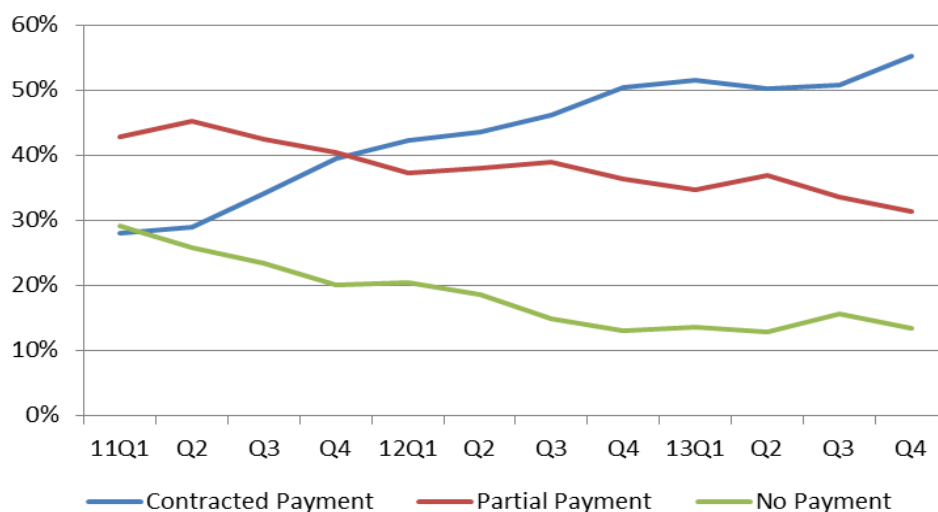
Figure 4: Cumulative Stock of Permanent Modifications (Number)



Source: Central Bank of Ireland Loan-Level Data, Dec 2013.

Note: Figure shows the distribution of permanent modifications granted for all loans and those ever defaulted. The data is cumulative number of permanent modifications granted, therefore a loan with more than one permanent modification will be captured multiple times. Other long-term reductions (18.7 per cent) include any modification that is currently in a six month trial period as per the MART requirements.

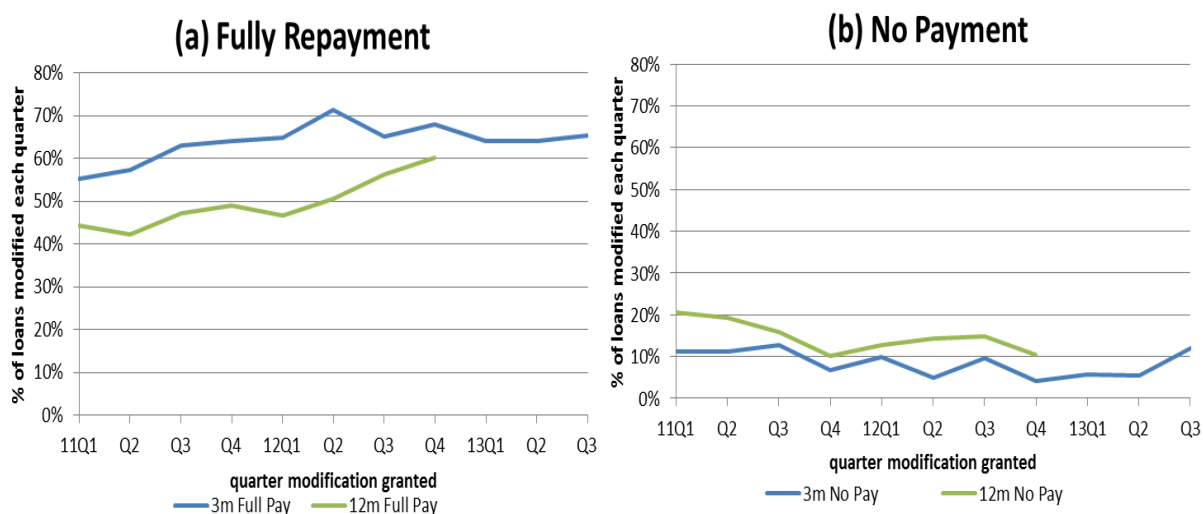
Figure 5: Stock of Defaulted PDH Modifications by Repayment Type (%)



Source: Central Bank of Ireland Loan-Level Data, Dec 2013.

Note: Figure shows the breakdown of repayments as a percentage of permanently modified defaulted loans in each quarter. The duration of loan modifications will vary at each point in time.

Figure 6: Repayments of Default Loans After Permanent Modification by Date of Issuance (%)



Source: Central Bank of Ireland Loan-Level Data, Dec 2013.

Note: Figure represents repayment history of the same loans overtime based on the date of permanent modification, i.e., the 2011q1 data points show the repayment status of loans permanently modified in 2011q1, 3 months and 12 months after that permanent modification.

Table 1: Repayment Status in 2012Q4 of Permanently Modified Defaulted Loans in 2011Q4 (%)

	2012Q4		
	Full Repayment	Partial Repayment	No Repayment
2011Q4			
Full Repayment	58.01	32.11	9.88
Partial Repayment	29.18	57.61	13.22
No Repayment	17.83	34.50	47.67

Source: Central Bank of Ireland Loan-Level Data, Dec 2013.

Note: Table shows the 2012q4 repayment status of those ever modified or ever in default as of 2011Q4.

Table is read across with each row totaling to 100%.

Table 2: Repayment Status in 2013Q4 of Permanently Modified Defaulted Loans in 2012Q4 (%)

	2013Q4		
	Full Repayment	Partial Repayment	No repayment
2012Q4			
Full Repayment	64.80	27.71	7.48
Partial Repayment	34.25	47.31	18.44
No Repayment	15.52	25.09	59.39

Source: Central Bank of Ireland Loan-Level Data, Dec 2013.

Note: Table shows the 2013q4 repayment status of those ever modified or ever in default as of 2012Q4.

Table is read across with each row totaling to 100%.

An investigation of the distributions of LTV by year of origination and outstanding balance by term remaining found that loan characteristics between the 2011q4 and 2012q4 transition matrix samples were the same. Sample size increases from 2,977 in 2011q4 to 6,282 in 2012q4.