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Resolving mortgage distress after COVID-19: some lessons from the last crisis

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Abstract

We analyse micro data on Irish mortgages and distressed households' balance sheets in the last decade to assess the debt resolution process in the Irish mortgage market in the lead up to the COVID-19 shock. We highlight the widespread engagement of Irish borrowers with debt resolution mechanisms during a decade in which one sixth of mortgage accounts were restructured by 2016. Lenders favoured short-term mortgage modifications at the beginning of the decade and three-quarters of performing mortgages with short-term modifications in 2011-2012 remained performing at end-2017. However, close to half of these cases involved a subsequent longer-term restructure, consistent with concerns that short-term modification alone is not sufficient to ensure mortgage sustainability. In other cases, an over-reliance on unsustainable short-term arrangements translated into longer-term arrears accumulation. Turning to the financial distress of households seeking a resolution to their arrears, we find an average income fall of roughly one third since mortgage origination and that one third had already reduced their non-housing expenditures to below the recommended minimum level used in the personal insolvency system. Finally, we show that larger cuts in repayment burdens and lower ex-post payment-to-income ratios are both highly predictive of successful long-term restructures.

1 Introduction

The nature of the pandemic-related income shock in March 2020 led to the rapid and widespread issuance of payment breaks (PB) to Irish mortgage borrowers. Just over 10 per cent of owner-occupier mortgages were subject to a PB in late June, falling to 6 per cent by September (Kearns et al., 2020). The decision of almost half of those accessing PBs not to extend beyond their initial three months suggests that, for a sizeable cohort, personal finances had improved enough to allow them to service their loans as the economy re-opened. Nonetheless, uncertainty remains about the capacity of those opting for a six-month PB to service their debts as PBs expire and exceptional income support policies taper. For many of those with six-month PBs expiring from September 2020 onwards, additional forbearance or restructuring is likely to be required to arrive at sustainable, serviceable debt obligations.

Owing to the scale of the mortgage market crisis beginning in 2008, there is considerable experience in Ireland in the resolution and restructuring of mortgage debt. Ireland experienced

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among the sharpest house price declines in the world after 2008, with 90-day mortgage arrears rates on owner-occupied loans reaching 13% by 2013.[2] Given that a primary objective of government policy was "a desire to ensure that mortgage holders who are experiencing real difficulty should, where appropriate, be assisted in remaining in their own home" (Minister for Finance, October 2011), restructuring was the primary tool used to tackle mortgage distress in Ireland in the last decade (Donnery et al., 2018).

This recent history in Ireland prompts a stock-taking exercise as COVID-related PBs begin to expire. In this *Note*, we use linked loan-level and household balance sheet data to highlight a number of key patterns from the mortgage restructuring process in Ireland from 2012 onward. We focus on questions relating to the process of restructuring between households and banks, on which we can shed light using detailed data sources. While debt restructuring activity was widespread across all asset classes in response to the last crisis, and will be required again as many sectors struggle in the aftermath of COVID-19, our focus in this *Note* is limited to the owner-occupier (or Primary Dwelling House, PDH) mortgage market due to the strength of the data available and the Central Bank's policy focus on this market during the previous decade.

1.1 Lessons for the COVID-19 era

- The Central Bank has previously highlighted the importance of early engagement between borrower and firm (bank, Retail Credit Firm, or Credit Servicing Firm) to ensure that resolution is arrived at before arrears accumulate.[3] The data in this *Note* suggest that borrower engagement has been strong over the last decade, with over one hundred and twenty thousand owner-occupier mortgage accounts restructured by 2016. This has been supported by an institutional set of supports, including the Abhaile scheme of the Money Advice and Budgeting Service (MABS).
- Between 2010 and 2019, short-term arrangements moved from accounting for close to 70 per cent of outstanding restructures, to less than 15 per cent. This shift followed a heightened emphasis from the Central Bank on the need for sustainable solutions, suited to individual borrower circumstances. In the context of COVID-19, a short-term restructure may in some cases be justified, where there is a clear rationale for why such an arrangement will allow a borrower to return to full repayment of capital and interest.
- Three quarters of performing mortgages receiving short-term modifications in 2011 and 2012 remained performing by 2017, with close to half having subsequently availed of an additional longer-term modification. This pattern confirms that short-term arrangements can serve a purpose, but will often require additional follow-up, assessment and deeper restructure.
- In the context of COVID-19, where short-term arrangements are arrived at, it is crucial that firms have capacity and plans to assess longer-term prospects and to move to putting in place sustainable and longer-term arrangements where they are appropriate to the depth of financial distress being experienced.
- Many borrowers engaged over the last decade in deep levels of financial distress. Many were already spending at or below "reasonable living" levels, had high debt burdens relative to income, and minimal capacity to save or service debt. For borrowers in such circumstances, there is the need to arrive rapidly at candid assessments and for appropriate

[2] Here we refer to the percentage of loans with measured arrears of more than ninety days as the mortgage default rate. This measure is available on a consistent basis from the Central Bank of Ireland's official statistics since 2009. Regulatory definitions of Non-Performing Loans have evolved over the last decade and do not match this series.

[3] Throughout this *Note*, we will use the term "firm" to capture references to all entities owning or servicing loans (banks, retail credit firms, or credit servicing firms). When referring back to the analysis, we use the term "bank" as only retail banks report loan-level data used in the analysis.

solutions to be applied before arrears begin to accumulate. In some cases, this may involve third parties such as participants in the Personal Insolvency or Mortgage to Rent systems.

- Restructure types varied in the depth of payment relief offered, and there is a clear correlation between deeper up-front repayment cuts, and the likelihood of a successful modification.
- Even after modification, many engaged borrowers continued to have substantially larger payment-to-income ratios than in the general population. This suggests that there is scope for firms to be more ambitious in the depth of modification offered, to ensure borrowers are modified to a more resilient position in which re-defaults are less likely.
- Over twenty-six thousand owner-occupier mortgages were in long-dated arrears of more than two years at the onset of COVID-19, many having accumulated more than five years of arrears. Despite the generally positive message on engagement across the population, this pattern is at least partially explained by the inability or unwillingness of borrower and firm to engage meaningfully in an attempt to arrive at resolution.
- Non-mortgage consumer debts were substantial among borrowers engaging to resolve mortgage distress. Sustainable solutions should take into account the entire indebtedness of borrowers.

There are many unanswered questions which make policymaking difficult at this current moment. There is considerable uncertainty around the future path for incomes for many distressed borrowers, in particular in key sectors such as hospitality, tourism and entertainment. If one could determine that there truly would be a return to pre-COVID economic activity over the short to medium term, the optimal restructuring policy in late 2020 would be to provide additional temporary relief as borrowers move along that path. However, the uncertainty around enterprise closures, global demand, long-term changes in consumer habits, and borrowers' capacity to re-train and re-gain alternative employment, mean that for some, it is likely that deeper, longer-term restructuring will be needed.

2 A brief overview of the response to the last crisis

Ireland experienced among the most severe housing and mortgage market downturns during the recent Global Financial Crisis. Both the severity of the last crisis and a lack of prior experience with large-scale mortgage restructuring meant that an iterative approach to mortgage debt resolution was adopted by lenders, government and the regulator. All stakeholders can draw lessons from this recent history to inform the response to resolving both the legacy issues from that crisis,[4] as well as any newly distressed mortgage holders arising after current PBs expire. The iterative approach to the previous crisis is documented in Donnery et al. (2018) and we briefly summarise here.

The early years of the crisis were characterised by an over-reliance on repeated short-term forbearance options (e.g. temporary interest-only periods), which on their own did not lead to sustainable long-run outcomes across the population of financially distressed borrowers. The prevalence of forbearance over longer-term or permanent modifications had a number of explanations. There was a lack of organisational capacity or sufficient experience in arrears management across the banking sector at that time. By favouring short-term measures over longer-term restructures, banks also delayed loss recognition, preserving capital while not acting necessarily in borrowers' long-term interest at a time of sustained losses across all asset classes.

[4] Approximately 6% of owner-occupied mortgage accounts remained over 90 days past due in early 2020, the majority of which are greater than 720 days past due. See O'Malley (2018) for more information on these long-term mortgage arrears cases.

Once uncertainty around bank solvency was resolved via the recapitalization of the Financial Measures Program beginning in 2011, the policy focus turned to improving the organizational capacity of Irish banks to assess borrower finances and issue debt restructuring solutions *en masse*. The Central Bank also updated the Code of Conduct on Mortgage Arrears (CCMA), which enshrines protections for borrowers on their primary residence when in or at risk of mortgage arrears. During the period 2011-2013, a High Court ruling affected a moratorium in collateral repossession for the large majority of outstanding mortgages. Concerns around the slow pace with which distressed mortgage debt was being resolved led to quantitative targets for long-term sustainable solutions for distressed mortgage borrowers through the Mortgage Arrears Resolution Targets (MART) beginning in 2013.

The MART policy was at least partially responsible for the widespread issuance of long-term mortgage restructuring in Ireland. Between early 2013 and mid-2015, mortgage restructuring levels for owner-occupiers grew from around eighty thousand to one hundred and twenty thousand accounts, with a concurrent shift in composition away from forbearance measures such as interest-only, towards longer-term restructuring arrangements including split mortgages (where a portion of the balance is "warehoused" and becomes due typically at loan maturity), term extensions and arrears capitalisations (Figure 1). Up to the present day, the majority of these restructure types have been successful, with 85 per cent of restructures deemed to be "meeting the terms of the arrangement".

Despite these successes in issuing restructuring arrangements for such a wide set of borrowers, a relatively large cohort of around twenty six thousand owner-occupier borrowers remained with unresolved long-term mortgage arrears (LTMA, defined as more than two years' worth of arrears) at the onset of the COVID-19 crisis. Among the potential explanations for the existence of this cohort include the low-take up of mortgage-to-rent solutions for borrowers at income levels commensurate with social housing supports; relatively low case numbers in the Personal Insolvency Arrangement (PIA) system; the slow progress of repossession cases through the legal system; and a lack of engagement by a cohort of borrowers who have continued to accumulate arrears balances over the course of the decade.

The environment for resolving distressed household debt in Ireland has changed in a number of important ways since policies such as the CCMA and MART were first introduced. Since 2014, supervision of significant institutions in Ireland is a joint competency of the Single Supervisory Mechanism (SSM) in Frankfurt and the Central Bank of Ireland. An important innovation of the SSM in recent years has been the Non-Performing Loan (NPL) guidance, the 2018 Addendum to which sets out a provisioning "calendar" under which banks must provide for increasingly large loss levels for each year that NPLs are held on their balance sheets. After seven years as an NPL, provision coverage for a secured loan should be one hundred per cent.[5] This calendar implies that the cost of retaining loans that do not return to performing classification will rise with each passing year. Recent IFRS 9 accounting reforms also imply that performing loans with restructuring arrangements in place must carry a higher provision than performing loans with no such restructuring.

In recent years, the global market for NPL portfolio sales and securitizations has grown, partially in response to structurally low interest rates and yield-seeking behaviour by investors. The growth in this market has opened up options for retail banks in resolving their own loan distress problems. Loan sales across all asset classes have been occurring through the last decade, but activity among PDH mortgage loans has been prominent in public discussion since 2018. Such activity of course

[5] The ECB/SSM's NPL guidance is available here. In April 2019, the Capital Requirements Regulation was amended to introduce a minimum loss coverage provisioning requirement for new loans which turn non-performing after that point. This amendment follows a similar calendar style to the SSM addendum. This amendment (commonly referred to as the 'prudential backstop') means that all banks in the EU now have to meet certain minimum provisioning requirement.

does not resolve the financial distress of the borrower, and has contributed heavily to the growth in the share of mortgages in arrears held by entities outside the banking system (Retail Credit Firms and Credit Servicing Firms), which stood at 40 per cent as of March 2020, with the analogous figure being 55 per cent for those in long-term mortgage arrears of more than two years.[6]

Amromin et al. (2020) review the recent experience in the United States mortgage market. In that research, the importance of solutions that are tailored to the needs of borrowers in different circumstances is highlighted. For example, for those with income difficulties, solutions will vary depending on the prevalence of negative equity. Further, the need for rapid and deep cuts to monthly repayments is highlighted as a priority, ahead of reductions in mortgage principal amounts that reduce cash-flow issues over the long term. Lender-specific implementation issues are also highlighted as an issue, which motivates an intrusive approach to analysing firms' plans and capacity to implement widespread restructures, such as that adopted in Ireland. The authors also focus on the need for simple solutions that are easily understood by borrowers, and the need to reduce frictions in switching and refinancing markets, to allow as many borrowers as possible to benefit from low interest rates. Finally, the need to understand the role of mortgage restructuring in the broader social safety net of income and housing supports is also highlighted in the USA, a lesson with relevance in the Irish context also.

3 Data overview

The data used throughout this paper combine loan-level data (LLD) from four retail banks with Standard Financial Statements (SFS) on the cohort of borrowers engaging with their bank for the purposes of debt renegotiation. LLD are available at six-monthly intervals giving a cross-sectional view of all mortgages outstanding at participating banks since 2011, while anonymised SFS files are available at a quarterly frequency since 2012. The completion of an SFS is an obligatory feature of the Mortgage Arrears Resolution Process (MARP), enshrined in the CCMA.[7] The firm must use an SFS to obtain financial information from a borrower in arrears or pre-arrears. This information forms part of the firm's assessment of the full circumstances of the borrower in order to determine which options for alternative repayment arrangements are viable/sustainable for each particular borrower's case based on the borrowers' personal circumstances, overall indebtedness, repayment capacity and previous repayment history. Rich information on debt balances, income, family circumstances, expenditure are contained within the SFS and used throughout this research.

Our analysis relates to loans that were held at the retail banks in Ireland at some point between 2012 and 2019. Currently, distressed mortgages are widely held across retail banks, Credit Servicing Firms, and Retail Credit Firms.[8] Many loans that were subsequently included in portfolio sales, but had an SFS initially completed while being held in the retail banking system, are included in our analysis.

4 Borrower-lender engagement

The policy environment in which mortgage debt resolution took place in Ireland after 2008 favoured the retention of homeownership, with repossession a last resort. Between 2011 and 2020, a quarterly average of 0.4 per cent of mortgages in arrears of over 90 days were resolved via either a court-ordered or voluntary loss of ownership (Central Bank of Ireland Mortgage Arrears Statistics). Cumulatively this amounted to 9,983 cases of loss of homeownership, in a setting where

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[6] The protections afforded to borrowers under the CCMA hold regardless of the legal nature of the owner of the loan.

[7] SFS data are not verified by a third party and are completed based on the best efforts of the borrower and loan owner/servicer.

[8] Central Bank Mortgage Arrears Data report that, at March 2020, banks held 87 per cent of all owner-occupier mortgages but only 45 per cent of mortgages in arrears of more than two years, reflecting the transfer of these deep-arrears accounts from the retail banking system to the Retail Credit Firm and Credit Servicing Firm sectors.

we estimate approximately one hundred and thirty seven thousand owner-occupier mortgages were Non-Performing at some point during the crisis.[9] While the stress involved for individual mortgagors behind these cases should never be ignored, the data suggest that overall, the likelihood of loss of homeownership, given the prevalence of arrears, appears to have been low.

Economic theory suggests that when the both the benefit of paying and the cost of default are low then a rational borrower is more likely to "strategically default".[10] This may have been perceived to be the case by many in Ireland in the past decade given widespread negative equity, large falls in income, and the low likelihood of home repossession. Evidence for the existence of such default has been provided in both the United States and Ireland, where legal changes that reduce the costs of defaulting for borrowers have been shown to lead to increased default (Ghent and Kudlyak (2011), Mayer et al. (2014), O'Malley (forthcoming)).[11] Despite evidence that such behaviour does exist in some settings, the evidence we present in this *Note* based on LLD and SFS data suggests that, on aggregate, strategic default among those who "could pay" is not a first-order concern in Ireland. The evidence suggests that Irish borrowers were much more willing to engage (defined as either having completed an SFS, having a restructure arrangement in place, or both) with their bank than to default without engaging.

> *Finding: more than one-in-five mortgages in Ireland had an associated SFS completed during the 2012-2020 period. (Figure 2A)*
>
> *Finding: at most points in the last decade, more than half of engaging mortgage borrowers were engaging before having defaulted. (Figure 2B)*
>
> *Finding: at the height of the mortgage crisis, despite uncertainty around the prospect of repossession, more than twice as many performing borrowers were engaging before defaulting, relative to defaulting without having engaged.*

The weight of evidence from mortgage default research suggests that, for many borrowers, moral and social concerns outweigh the potential financial gains to be had from "strategically defaulting". Guiso, Sapienza and Zingales (2013) document that morality and social obligations play a large role in the default decision. Borrowers do not walk away from obligations unless in far deeper negative equity than models traditionally assumed (Bhutta, Dokko and Shan, 2017) and observed patterns in the data suggests that the costs of defaulting are in fact very high for borrowers in the USA (Ganong and Noel, 2020b). Similarly, in settings where "strategic default" has been detected, these patterns are only found for borrowers in severe financial distress (O'Malley, forthcoming), which is again suggestive that "strategic default" is a last resort for households. Foote and Willen (2018) summarise the relative paucity of ruthless and strategic default: "a pattern that consistently emerges in much empirical work is that default is surprisingly rare; people with very deep negative equity do not walk away from their homes as often as theory would predict, and even financially stressed borrowers display a strong aversion to default". The findings presented above suggest that at similar pattern prevails in Ireland, with engagement in debt resolution mechanisms widespread despite weak perceived costs of default.

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[9] We estimate that a further sixty three thousand mortgages of those active in our sample period received a forbearance or modification, implying two hundred thousand owner-occupier mortgages have explicit evidence of repayment difficulties, from a sample of around 600,000 mortgages.

[10] While Ireland operates a recourse system, the slow pace of cases through the courts system over the past decade has meant that *de facto* the costs associated with default have been lower than in systems with recourse and a more quickly-functioning foreclosure process. See Foote and Willen (2018) for a review of economic models of mortgage default.

[11] In the United States, Ghent and Kudlyak (2011) find that borrowers are more likely to default in response to falls into negative equity in non-recourse states, where this "lower default cost" mechanism is at play. Similarly, Mayer et al. (2014) find that borrowers did default more in order to qualify for a mortgage modification programme that offered widespread relief at one lender. O'Malley (forthcoming) finds that, for a cohort of borrowers whose immediate repossession risk was removed due to a legal lacuna in Ireland in 2011, default probabilities did rise. These "moral hazard" effects however were limited to the subpopulation in severe financial distress.

Despite the above findings, there does remain a group of non-engaged borrowers in long-dated arrears, which represents among the most intractable issues remaining from the last decade. At end-March 2020, there remained 26,421 mortgages in arrears of more than two years, equating to 3.6 per cent of all PDH mortgages and 42 per cent of all mortgages in arrears. The data available to us allow the classification of a borrower as non-engaged if their loan has no SFS file associated, nor is there any record of a restructure arrangement in place. McCann (2017) reports that the incidence of non-engagement by this metric is higher among those in deeper states of arrears, while recent data from Duignan et al. (2020) confirm this using a new definition and highlight even higher rates of "non-cooperation" among those with more than 5 years of arrears:[12]

> *Finding: close to 40 per cent of those in long-term mortgage arrears (greater than two years past due) are measured to be "non-engaging" or "non-cooperating" across two different studies in recent years. Among those with arrears of ten or more years, "non-cooperating" rates are over fifty per cent.*

The key policy message from this section is that, despite legal and institutional settings which may have facilitated wider non-engagement, Irish mortgage borrowers in the majority did engage with firms to arrive at solutions. Early engagement facilitated a program where one sixth of mortgages were restructured by 2016. However, a warning signal also emerges, reflective of the operating environment where legal avenues for collateral enforcement function slowly: among the most difficult-to-resolve group of legacy loans that remained in long-term arrears at the onset of COVID-19, non-engagement was a feature in 40 per cent of cases, with that number rising above 50 per cent among loans with even longer-dated arrears. A policy priority should be to ensure that institutional features and policy programs are functioning appropriately to facilitate resolution of these legacy cases, while on a parallel track ensuring that newly-distressed borrowers rolling off COVID-19 payment breaks do not accumulate similar longer-dated, difficult-to-resolve arrears.

5 The duration of restructures

Firms can offer restructures that are either time-bound or long-term/permanent in nature. Although not a formal regulatory or statistical definition, we refer in our analysis of loan-level data to all arrangements with a defined duration as "short-term (ST) modifications", and all those where the changes to the terms of the mortgage will remain for the duration of the loan as "long-term (LT) modifications". COVID-19 payment breaks are a form of temporary relief that have been issued across the mortgage market. Policy focus is now turning to firms' willingness and capacity to assess borrowers and determine the appropriateness of additional ST or LT modifications.

In particular circumstances, a ST modification may be the appropriate option for a customer, for example where income falls can be clearly identified as temporary in nature, or where a justified period of time may be required for further information on the borrower's long-run prospects to come to light. Offering time-bound forbearance measures initially also retains "option value" for the firm, as the possibility remains that the full net present value (NPV) of the loan will be recouped in the future. A concern from the last decade, which motivated the introduction of MART targets in 2013, was that short-term arrangements were over-used by banks, in a form of "kicking the can down the road", when deeper and more radical restructuring arrangements were appropriate to borrower circumstances (Honohan, 2013).[13] In its engagement with regulated firms, the Central

[12] McCann (2017) defines engagement based on the existence of SFS files or restructure arrangements in loan-level data, while Duignan et al. (2020) use statistical data to measure non-cooperation in accordance with the CCMA.

[13] Governor Honohan's 2013 speech summarises the concern held regarding over-use of temporary modifications at the time: *"The banks have dealt with the emerging situation largely by means of two devices: capitalisation of arrears, and a temporary move to an interest-only type payment schedule, sometimes accompanied by an explicit extension of the term to maturity. Such temporary forbearance measures do provide cash-flow relief to*

Bank's approach over the last decade has been to highlight the importance of arriving at *sustainable* solutions that are in the borrower's best interest, which often involved long-term and deep restructuring, but in certain cases involve short-term arrangements such as interest-only periods "if it is likely that full repayment of the original or revised principal will be achieved over time, or where there is a payment plan to return the account to sustainability through the clearance of arrears".

Figure 1 highlights that, in the majority of cases, the emphasis on sustainable solutions embedded in the MART program from 2013 onwards did lead to a reduction in the prevalence of ST arrangements.

> *Finding: Between 2010 and 2019, short-term arrangements moved from accounting for close to 70 per cent of outstanding restructures, to less than 15 per cent.*

A key question for policy analysis is whether the move to LT restructures is required in all cases, as opposed to being an important tool for those with more severe financial distress. To get at this question, we take a sample of the group of loans with ST modifications in place in 2011 and 2012, before the introduction of the Central Bank's MART program which shifted the market towards LT modification. Among this group, 37 per cent were in default in 2011-12, and 63 per cent were performing.[14]

We report in Table 1 the default and LT modification status at end-2017 of these two groups separately. The majority of ST modifications from this period of crisis in Ireland did manage to return to loan performance. However, and importantly for policy in late 2020, close to half of these ST modifications that returned to loan performance received a LT modification in the intervening period.

> *Finding: among performing mortgages with a short-term modification in 2011-12, 75 per cent were performing at end-2017, with close to half of this group receiving a long-term modification along the way.*

> *Finding: among defaulted mortgages with a short-term modification in 2011-12, 34 per cent were performing by end-2017, of which 29 per cent had received a long-term modification in the intervening period. Only 4 per cent returned to performing loan status without the help of a long-term modification.*

The mapping to current policy implementation is clear: short-term arrangements post-payment-break may be appropriate, particularly given the uncertainty around the immediate prospects for many households' incomes. As of the time of writing, for example, it is unclear whether the levels of income and housing equity loss experienced from 2008 to 2013 will be repeated as a result of COVID-19. However, for many, additional longer-term relief will inevitably be required, either immediately or eventually. The policy priority is that, where such short-term arrangements are put in place, firms have capacity and plans to assess longer-term prospects and to move to putting in place longer-term, sustainable restructuring arrangements where they are appropriate to the depth of financial distress being experienced

Finally, we highlight that the modification history of those in LTMA at least suggests that, even if short-term arrangements may be appropriate for many borrowers, their use was followed by the accumulation of further deep arrears among many in the LTMA group (McCann, 2017):

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the borrower and have the merit of bringing their payments back onto a schedule and avoiding the arrears spiral. But they do not deal with situations where the actual and prospective circumstances of the borrower mean that full recovery of the loan cannot realistically be assumed ... Unresolved debt overhang clearly chills the borrower's incentive to improve their situation and can have devastating effects on borrower wellbeing. If a lender does not deal with such situations, their loan-loss experience is likely to be worsened."

[14] For this group, we define default as being over 90 days past due.

Finding: among those in long-terms arrears by end-2016, over 60 per cent had a history of unsuccessful short-term restructuring.

The policy implication of this last finding is that, where not appropriate to borrower circumstances, the use of short-term modification repeatedly would risk the creation of an additional group of borrowers drifting towards long-dated arrears as a result of pandemic-related financial distress.

6 The financial distress of borrowers seeking restructure

Mortgage borrowers have higher average incomes than the general population at origination (Lydon and McCann, 2017). However, the financial situation of those who experienced mortgage distress in the last decade had deteriorated sharply during the loan's lifetime, while income increases that were expected at loan origination may not have materialised. The degree of financial distress in the population of engaged borrowers has important implications for firms and for policy-makers: for a system of debt restructuring to work widely, functioning resolution options must be in place for the full range of circumstances in which borrowers find themselves.

In Ireland, the SFS files allow us to report on the level of financial distress being experienced among those engaging with the bank between 2012 and 2018. Table 2 shows that financial distress, severe income shocks and over-indebtedness were extremely common. Non-mortgage consumer debts were also substantial. These patterns substantiate the claims from the above literature that mortgage arrears cases are in the main associated with borrowers suffering from adverse economic shocks and heightened debt burdens which lead to difficulty in servicing contracted debts.

*Finding: upon engagement, borrowers had suffered an **average** income fall of one third since mortgage origination, and typically had LTI ratios above 5 and were on the cusp of negative equity.*

Figure 3 highlights borrowers' financial circumstances and living standards by measuring consumption and monthly surpluses.[15] In Panel (A), we report the distribution of the consumption-to-income ratio in the general population (using Household Finance and Consumption Survey 2018 data) and in the group engaging through the SFS process. The consumption-to-income ratio is a useful measure of financial resilience, as income not consumed is available to service debts and accumulate savings. The differences between the two groups are striking:

Finding: while in the general population, the median household was consuming a third of their monthly income in 2018, in the SFS population, due to lower income levels, almost three-quarters of income is devoted to consumption, implying a much lower capacity to save or service debt in this group.

This suggests that, for the majority of households engaging to restructure mortgage debt, there was minimal capacity to make debt repayments, and close to no capacity to save for unforeseen circumstances.

Panel (B) measures monthly surpluses as the difference between net income, consumption, and debt repayments due. Findings from this graph and additional analysis of the consumption data suggest a bifurcation among engaged borrowers, with a cohort in need of deep restructuring and others engaging while already having enough income to service mortgage payments and consumption.

Finding: 18 per cent of households engaged with monthly deficits (income less expenditure less mortgage repayments) of over €1000.

Finding: a third of households engaged with a monthly surplus, suggesting mortgage debt was serviceable at the point of engagement.

[15] "Consumption" in this *Note* refers to expenditure on all non-housing items reported by borrowers in their SFS filing

The levels of distress indicated in Table 1 and Figure 3 suggest that for a cohort of borrowers, bank-led restructures may not have the capacity to offer the repayment relief required to arrive at a long-run sustainable situation. In such cases, other avenues such as Personal Insolvency Arrangements and Mortgage-to-Rent schemes were likely the more appropriate option, but may not always have been availed of for a variety of reasons beyond the scope of this research. As the expiry of payment breaks begins in late 2020, lessons can be learned around the need to arrive rapidly at candid assessments in such hardship cases, and the need for the right solution for the borrower's financial situation to be applied before arrears begin to accumulate.

We can also shed light on consumption patterns and living standards among those seeking to alleviate debt repayment difficulties. We aim to refute with this analysis the theoretical proposition that if the probability of repossession is low enough, borrowers may react to a fall in income by defaulting on mortgage obligations while maintaining non-housing expenditure and living standards, i.e. they default even though they "can pay". Evidence from the USA is not consistent with this proposition, showing defaults are seven times more likely among borrowers who "can't pay" than those who "can pay" (Gerardi et al., 2018) based on their income and required minimum expenditure. When comparing reported expenditure levels in the SFS to those described as "reasonable living" amounts by the Insolvency Service of Ireland (ISI), it is clear that the Irish data do not suggest the proposed behaviour was at play among the group engaging with the SFS process:

> *Finding: close to 30% of households engaged with consumption levels already below Insolvency Service Reasonable Living recommendations.*

7 The depth and success of modifications

7.1 Repayment burdens after modification

The mortgage modification system in Ireland leaves precise details about repayment burdens and debt service ratios at the discretion of the firm.[16] The data available to us allow a comparison of the repayment burdens after modifications have been issued, relative to the general mortgaged population.

Figure 4 reports the distribution of the ratio of mortgage payments to net monthly income (PTI) among the general population, and in the group for whom SFS returns are available. Unlike in previous charts, the situation *after* the modification has been agreed is depicted in this graph.

> *Finding: those with restructured mortgages have higher payment-to-income ratios than the general population, even after receiving modification.*

The existence of a tail of borrowers with high PTI ratios, even after a restructure has been implemented, suggests that in many cases firms have calculated modified mortgage amounts that leave little room for saving or for unexpected or irregular expenditure amounts. These high PTI ratios are also likely to be a key contributor to the disproportionate size of the re-default rate among the modified group, which Gaffney and McCann (2019) estimate to be five times as high as the default rate in the general mortgage population. These findings may further motivate the need discussed in the previous section for firms to take more radical up-front decisions about the capacity of borrowers to service debts, and in cases where debts cannot be serviced through the suite of on-balance-sheet options available, support engagement with those providing other resolution options.

[16] Borrowers who cooperate with firms may have possible alternative repayment arrangements offered to them by the firms who must advise them to seek legal advices before accepting the arrangement. Borrowers may refuse the proposed alternative payment arrangement and may also exercise their right of appeal to challenge the decision taken by firms.

7.2 Changes to monthly repayments

One salient and comprehensible outcome of a mortgage restructuring arrangement is the payment relief offered to the borrower. Up to now, little is known publicly about the proportionate changes to mortgage repayments that resulted after restructuring activity. Central Bank mortgage arrears statistics suggest that mortgage restructures have broadly been successful, with 85 per cent of them deemed to be “meeting the terms of the arrangement” at end-March 2020. However, the variation in the success rates of restructure types suggests that outcomes may vary importantly for borrowers depending on the restructure type offered. Official statistics report that below 80 per cent of arrears capitalizations were successful, while close to 93 per cent of split mortgages and 92 per cent of term extensions were meeting contracted payments. Using the LLD and SFS, we provide distributions of repayment changes after modification for the market and by modification type issued in 2012-2015. The pattern of varying success rates reported in official statistics is matched in the data on repayment changes, with substantial differences across restructure types (Figure 5):

> *Finding: the average long-term mortgage modification led to a reduction in monthly repayments of 16.6%.*
>
> *Finding: the average split mortgage resulted in a 50% cut in monthly repayments, while the average term extension led to a 26% cut. Arrears capitalizations resulted in the smallest falls in monthly repayments of 10.5% on average.*

For comparison, modifications issued under the Home Affordable Modification Programme (HAMP) in the United States reduced payments by 36 per cent on average (Fuster and Willen, 2017).

7.3 What determined modification success?

The data available allow an appraisal of the borrower-level factors associated with more successful modifications, as measured by the re-default rate in the period after the modification was issued.[17] Figures 6A to 6C plot relationships between the re-default rate and three key financial indicator variables (mortgage payment-to-income ratios (PTI), loan-to-value ratios (LTV), and the cut in monthly repayments). Labonne, McCann and O’Malley (2020) confirm that each of the below findings is robust when other factors of relevance are statistically adjusted for using a regression model:

> *Finding: re-default rates are lower where the firm has made deeper cuts in monthly repayments as part of the modification. (Figure 6A)*
>
> *Finding: re-default rates are lower where the modified loan has a lower loan-to-value ratio. (Figure 6B)*
>
> *Finding: re-default rates are lower where the modified loan has a lower payment-to-income ratio. (Figure 6C)*

These findings, particularly around the importance of borrowers’ liquidity position and payment relief in determining their mortgage default propensity, are confirmed in a large literature in the USA (see for example, Eberly and Krishnamurthy (2014), Fuster and Willen (2017) and Ganong and Noel (2020a)). The patterns established tell us that, much as in the general mortgage market, households’ repayment burdens after loans are modified will determine their capacity to sustainably service debt after COVID-19. More candid, up-front assessments of borrowers’ debt service capacity, often associated with larger repayment reductions, are more likely to provide mortgage borrowers with the scope to avoid slipping into re-default.

[17] For the purposes of this study, we define a “re-default” as any missed payment in the two years after the issuance of the modification. For this reason, reported re-default rates are higher than those one would expect when observing Basel-type default rates, which rely heavily on the concept of three missed payments.

The aforementioned literature from the USA suggests payment relief is a more important dimension than forgiving principal balances, although studies such as Scharlemann and Shore (2016) also suggest that lowering LTVs and improving housing equity will lower defaults. A wider range of solutions appropriate to a wider set of financial circumstances will also be a necessary feature of the post-COVID restructuring landscape. This will involve both customer-appropriate levels of payment relief through firm-led restructure, as well as engagement with third-party stakeholder institutions that can offer appropriate resolution options to such borrowers.[18]

[18] These third-party stakeholders include, but are not limited to, those involved in Personal Insolvency Arrangements (PIA) and Mortgage to Rent schemes.

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Tables and Figures

Table 1: Default and long-term modifications at end-2017 among the group of mortgages with short-term modifications in 2011-12

Status at December 2017			
Performing, No Long-Term Modification	Performing, with Long-Term Modification	Defaulted, No Long-Term Modification	Defaulted, with Long-Term Modification
Performing loans with a short-term modification in 2011-2012			
42.6%	32.8%	6.5%	18.2%
Defaulted loans with a short-term modification in 2011-2012			
4.4%	29.3%	21.7%	44.6%

Note: 18 per cent of loans in the sample had a short-term modification at some point in 2011 or 2012. Sample of two banks used due to data availability.
Note: 37 per cent of short-term modifications in 2011-12 were in default. 63 per cent were performing (defined as less than 90 days past due).
Note: default status in 2017 defined in accordance with European Banking Authority "Non-Performing Exposure" definitions.

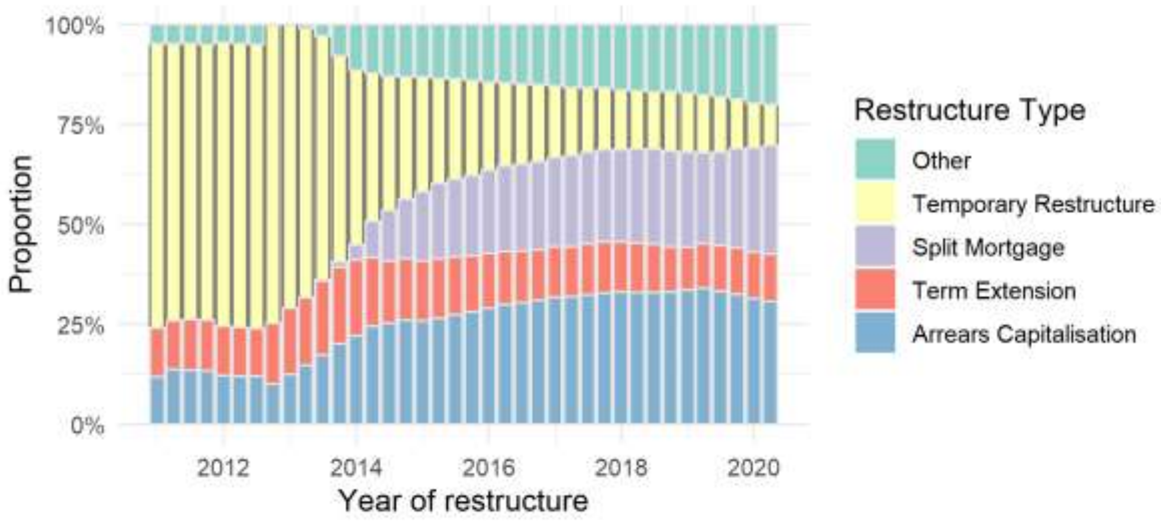
Table 2: Financial position of borrowers completing Standard Financial Statements between 2012 and 2018

	At Loan Origination		*Current*	
	Mean	Median	Mean	Median
Gross Annual Income	60,726	55,000	38,349	34,248
Gross Annual Income Change*			-29%	-34%
Mortgage Balance	192,079	185,000	171,791	165,091
Loan to Value Ratio	68%	73%	94%	94%
Loan to Income Ratio	3.4	3.5	5.6	4.5
Consumer Debt Balance			15,085	7,180
Total Debt Balance			178,491	167,897

notes: *not corrected for inflation

Notes: SFS forms pooled across years of engagement.

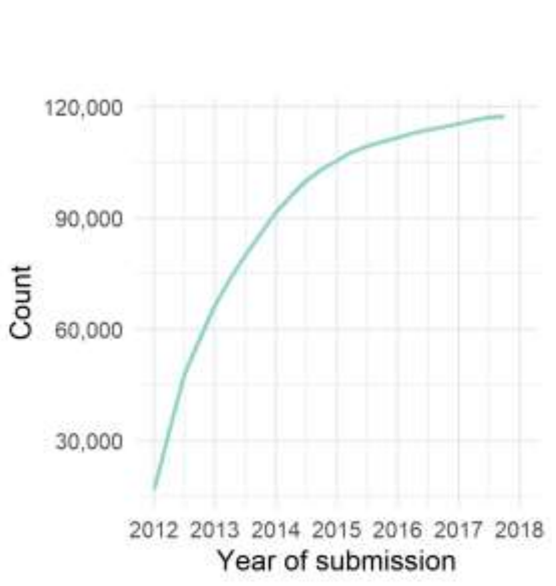
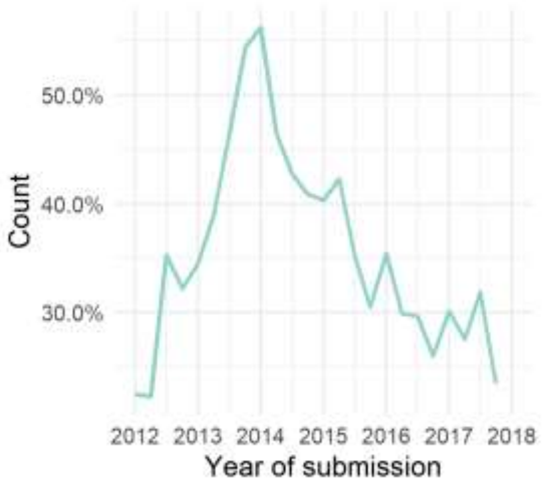
Figure 1: Short-term arrangements as a share of all restructures, 2010-2020



Note: Short-term ("temporary" in graph) arrangements include interest-only arrangements, temporary moratoria, and payment reductions.

Source: Central Bank of Ireland Mortgage Arrears Data returns

Figure 2: Engagement levels and default rates in engaging group, 2012 to 2018

(A) cumulative number of mortgages with an SFS completed	(B) Default rates among those engaging
	

Notes: Panel (a) includes four banks only and is therefore not a representation of total engagement levels across the banking system. Within this sample, the totals in Panel (a) imply that just over one-in-five mortgages had an SFS associated by 2018.

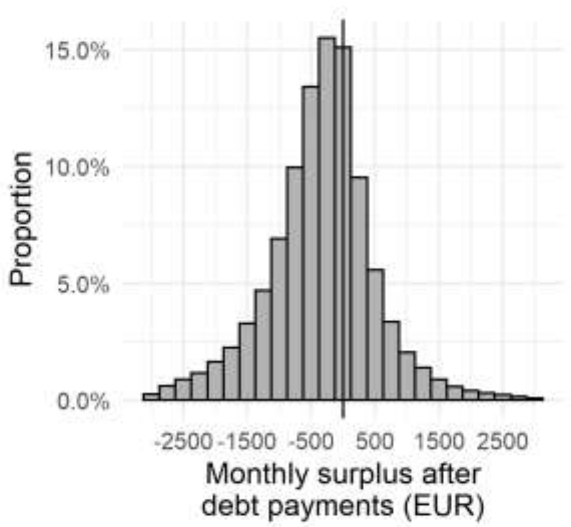
Default is measured in Panel (B) solely based on a loan having missed three payments.

Figure 3: Expenditure patterns and monthly surplus/deficit of those filling our SFS, 2012 to 2017

(a) Expenditure to income ratios among the general population and among those filling in SFS	(b) monthly surpluses at the point of SFS filing

Monthly expenditure-to-income ratio

Percentile	HFCS 2018	SFS
10%	15%	47%
20%	20%	55%
30%	25%	62%
40%	29%	67%
50%	34%	72%
60%	39%	77%
70%	45%	82%
80%	54%	90%
90%	67%	106%



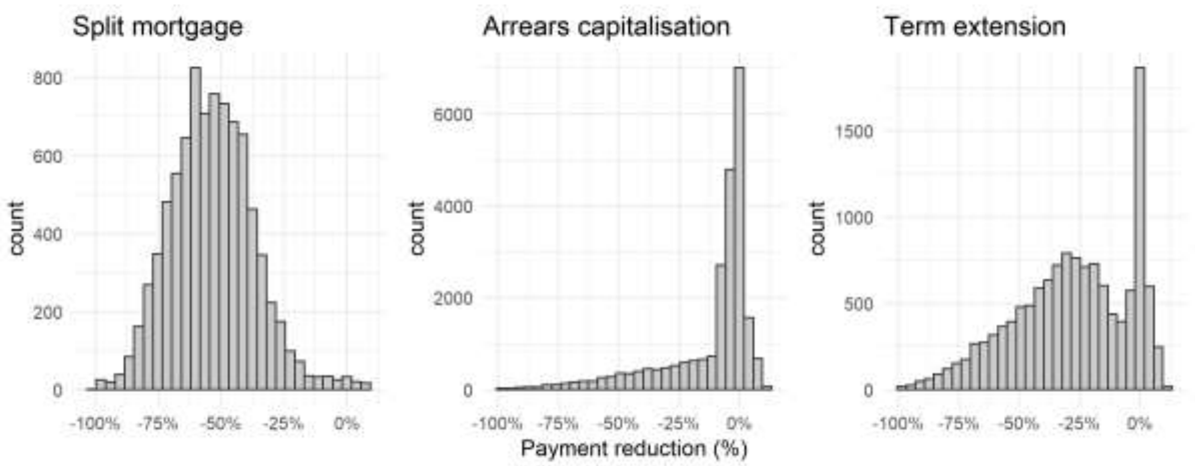
Note: "HFCS 2018" gives the expenditure-to-income ratio of a representative sample of the Irish population in 2018 from the Household Finance and Consumption Survey.

Note: Right hand panel plots the difference between income, expenditure and monthly mortgage repayments for those filling out an SFS.

Figure 4: Mortgage payment-to-income ratios in the general population and among those with mortgage modifications

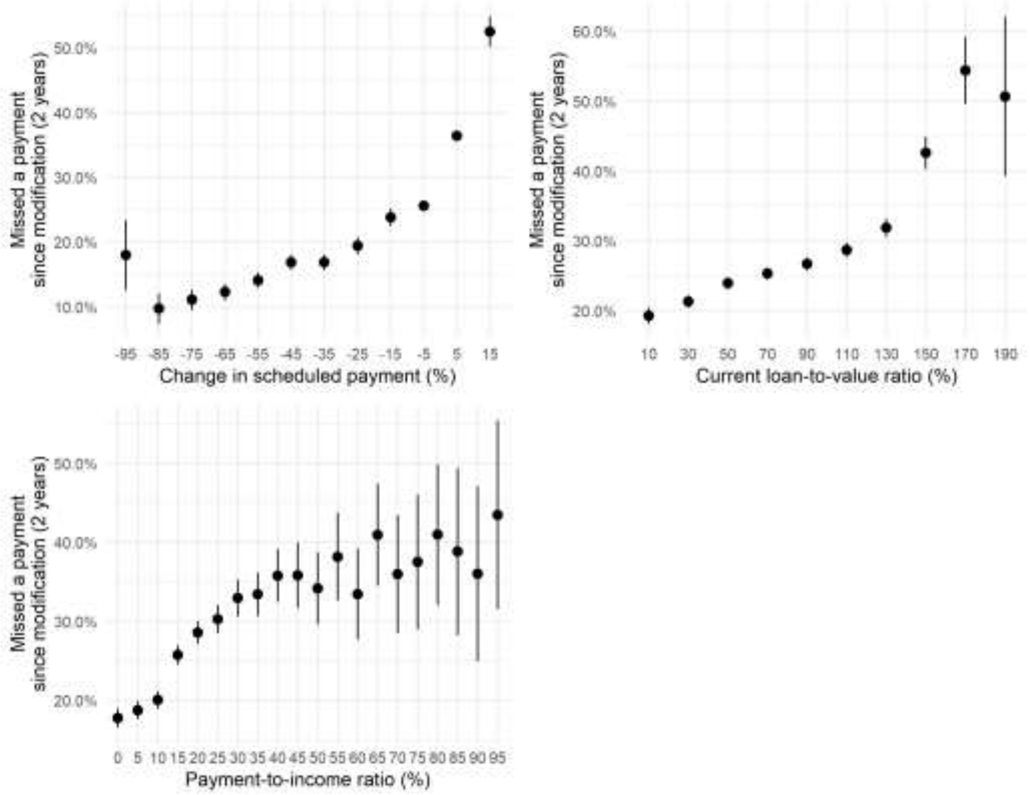
Notes: Overall market data sourced from Central Statistics Office "Survey of Living Conditions" (SILC). Restructure data sourced from SFS returns. Box shows interquartile range, while whiskers show percentiles 10 and 90.

Figure 5: Distribution of changes in monthly repayments after three types of restructure



Notes: comparison of calculated full-amortization-implied repayment amounts in the months before and after modification is issued. "Arrears Capitalization" includes hybrid arrangements which involve a capitalization. SFS and LLD pooled from 2012 to 2015 for these graphs.

Figure 6: Relationship between repayment reductions and re-default probabilities



Notes: each graph is the empirical probability of a missed payment in the two years after a modification is issued. Vertical bars represent the empirical standard deviation of the re-default rate within each bucket

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