

Costing Analysis on Mortgage Interest Relief

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Overview

This publication is a public release of a series of costing analyses prepared on a confidential basis by the Parliamentary Budget Office (PBO) upon request from Sinn Féin, for a mortgage interest relief policy specified by the client. The analysis was done firstly on performing loan (PL) mortgages and then on non-performing loan (NPL) mortgages. The first section of this publication is on the costing of the policy for PL mortgages. The second section is on that for NPL mortgages.

1. Costing Analysis on Performing Loan Mortgages¹

The proposed policy specifications are detailed in Table 1. These were supplied by the client to the PBO and outlined in the request template.² The scenarios for interest rate increases are applied as percentage point increases to the “reference rate,” which refers to the average interest rate on the outstanding mortgages of a certain interest rate type (i.e. fixed, standard variable rate (SVR) and tracker) in June 2022. For each interest rate scenario, an interest payment differential is calculated between what would be paid under the reference rate and what would be paid under the increased rate scenario. For each simulated mortgage, the qualifying amount is first calculated, and then the cap is applied to this qualifying amount.

Table 1: Policy Specifications

	Scenario interest increases in 2023 compared to the June 2022 reference rate	Qualifying amount for the relief	Cap on the relief
Fixed	0.5, 1, or 1.5 percentage points	20% or 30% of the interest payment difference	20% or 30% of €3,000 or €5,000
SVR	1, 2, or 3 percentage points	20% or 30% of the interest payment difference	20% or 30% of €3,000 or €5,000
Tracker	3 or 3.5 percentage points	20% or 30% of the interest payment difference	20% or 30% of €3,000 or €5,000

Source: Policy specifications as supplied by the client to the PBO and outlined in the request template.

The PBO sought access to micro-data from the Central Bank of Ireland, recognising that this would facilitate the most robust costing analysis. Specifically, this data request sought access to either individual loan-level data or data percentiles for the variables of interest. In response, the Central Bank shared more aggregated data. In particular, for each interest rate type – i.e. fixed rate, standard variable rate (SVR), and tracker, the PBO received aggregate (averages or sums) statistics on key variables of interest relating to the performing loan mortgages owned by the five Irish retail banks operating in the Irish mortgage market on the request date of end-June 2022.³

¹ This analysis is based on data provided by the Central Bank of Ireland for Principal Dwelling House (PDH) mortgages. Buy-to-let mortgages are not included. The relief is assumed to be accrued ‘at source’ and applied by the financial institution, i.e. issues of take-up or allocation across tax units are not relevant. No distinction is made between first and subsequent buyers for PDH mortgages. Identical assumptions are made for the analysis of non-performing loans later in the document.

² As specified in the request template by the client, “the proposal is to introduce a form of mortgage interest relief applied to at source for new and existing mortgages with respect to principal dwelling houses which are subject to either variable, tracker or fixed interest rates, with buy-to-lets and to-up loans or separate loans used to develop or improve the home not qualifying. The policy would be applied with a cap on the total interest qualifying for relief and the percentage qualifying provided in the options below and with regard to a reference interest rate applying in June 2022.”

³ If the policy were applied also to non-bank PL mortgages, we expect that the cost would be higher. However, given that we did not have information in this regard, we cannot exactly quantify this increase.

On this basis, the PBO first attempted the analysis using an approach based on these aggregate statistics, but the lack of more detailed data constrained the calculations related to the impact of caps on the relief as proposed in the policy specification (see Table 1). It was therefore necessary for the PBO to design a sophisticated bottom-up approach leveraging data simulation methods, which allowed for a granular modelling of the policy.

Estimation and Projection Method

- We simulated loan-level data on the current balances and remaining terms of PL mortgages for principal dwelling houses, per mortgage interest rate type as of June 2022, based on the aggregate data provided by the Central Bank of Ireland. We modelled such that greater current balances are associated with longer remaining terms. Regarding the outstanding interest rate, for PL fixed-rate mortgages only, we also simulated individual interest rates, rather than using the outstanding average rate per mortgage interest rate type, based on publicly available Central Bank [time-series data](#).⁴ This was because the timing of fixing and re-fixing interest rates can significantly differ among individuals.
- We assumed that no PL mortgage user would transfer to a different type of mortgage from July 2022 to the end of December 2023 (i.e. we assume no switching among holders of fixed-rate, SVR and tracker mortgages). We also assumed that if PL fixed-rate mortgages are due to expire anytime between July 2022 and December 2023, they will have rates re-fixed, and the period of these new fixed rates will be at least 1.5 years.
- To account for new PL mortgages issued between July 2022 and December 2023, an econometric model was used to forecast the number of new PL mortgages. The new PL mortgages were added to the PL fixed-rate and PL SVR mortgage data in the same ratio as that which prevailed in June 2022. No new tracker mortgages were added, as this product is no longer available to new customers in the Irish mortgage market.
- We assumed that the number of PL fixed-rate mortgages having rates re-fixed, and that of new PL mortgages being issued, would be the same across all relevant months (i.e. a uniform distribution is assumed).⁵
- We projected the principals and terms of new PL fixed-rate mortgages between January and December 2023. With respect to the period between July and December 2022, we assumed that the minimum period of new fixed rates will be at least 1.5 years and that the new lending rate for PL fixed-rate mortgages remains lower than the June 2022 reference rate. With these assumptions, we do not need to project the principals and terms of new PL fixed-rate

⁴ [Central Bank of Ireland, Retail Interest Rates](#).

⁵ Without access to the micro data, it was impossible to model the exact month of each current PL fixed-rate mortgage having their rate re-fixed. With respect to the timing of new mortgage issuance, according to publicly available Central Bank [time-series data](#) (see footnote 4), greater volumes of mortgages have tended to be issued (but not always) in later rather than earlier times of the year, over the last 7 years. However, in January 2023 [the new mortgage lending rule](#) (see footnote 9) relaxing some of the current restrictions started (note that this costing analysis was carried out in winter 2022), and because of this announcement (dated on the 19 October 2022), some of those who would otherwise have gotten mortgages in the autumn/winter 2022 might defer to early 2023. In addition, the macroeconomic environment that could affect the rate of mortgage issuance remains uncertain. Therefore, it is not necessarily credible to believe that the same trend observed in the past will be likely to occur in 2023. For these reasons, we make a neutral assumption and assume that an equal proportion of new mortgages is issued across each month of 2023. More concentration of new mortgage issuance into early 2023 could increase the cost of the policy; more concentration of new mortgage issuance into later 2023 could reduce the cost.

mortgages issued between July and December 2022, as they do not affect the calculation of the cost.

- We projected the principals and terms of new PL SVR mortgages issued between July 2022 and December 2023; the interest rate for those projected to be issued between July and December 2022 was set at the June 2022 new lending rate according to publicly available [Central Bank statistics](#).⁶
- An amortisation calculator was used to determine the interest payable over the course of 2023 on a reducing balance basis.
- As mortgages are repaid every month, we updated the balances and remaining terms from July 2022 until the policy timeframe ends on 31 December 2023. For the period between July and December 2022, the outstanding PL mortgages were modelled to amortise in line with the outstanding rates in June 2022 for PL fixed-rate and SVR mortgages, or the ECB-based rate for PL tracker mortgages.
- For the period of 1 January 2023 to 31 December 2023, we calculated the difference in the interest payments arising from the reference rate and those associated with each of the higher interest rate scenarios defined in the costing request (0.5, 1, or 1.5 percentage points higher for Fixed; 1, 2, or 3 percentage points higher for SVR; 3 or 3.5 percentage points higher for Tracker). Note that for PL fixed-rate mortgages, the higher interest rate scenarios would apply only to those that are projected to be newly issued or have rates re-fixed in 2023.
- We applied each of the proposed caps (20% or 30% of €3,000 or €5,000) to the proposed qualifying amount of 20% or 30% of the interest payment difference, in line with the policy specification.
- Finally, we summed up all (capped) differences in the interest payment across all (simulated) individual PL mortgages per interest rate type, which is the estimated 2023 annual cost of the interest relief (see Table 2). Note that as simulating micro data inherently involves uncertainty, the estimates below should be seen as such – the actual cost could turn out significantly different, for example, because of some of the assumptions in this analysis being violated, or because of unexpected external shocks on society and/or the economy.⁷

⁶ [Central Bank of Ireland, Retail Interest Rates](#).

⁷ A standard approach to capture uncertainty such as the confidence interval was difficult to use in this analysis, because of too high complexity of the factors leading to uncertainty (as outlined in the subsection “Sources of uncertainty”).

Table 2. 2023 full year costs by mortgage interest rate types and policy specifications, performing loans (PL)

	Relief @ 20%		Relief @ 30%	
	Cap @ €600 (= €3,000 × 20%)	Cap @ €1,000 (= €5,000 × 20%)	Cap @ €900 (= €3,000 × 30%)	Cap @ €1,500 (= €5,000 × 30%)
Fixed rate (PL)				
+ 0.5 p.p.	€8.2m	€8.2m	€12.3m	€12.4m
+ 1.0 p.p.	€16.1m	€16.4m	€24.1m	€24.7m
+ 1.5 p.p.	€22.5m	€24.3m	€33.7m	€36.5m
SVR rate (PL)				
+ 1 p.p.	€34.0m	€35.1m	€51.0m	€52.7m
+ 2 p.p.	€58.7m	€66.4m	€88.0m	€99.6m
+ 3 p.p.	€74.8m	€91.0m	€112.1m	€136.4m
Tracker rate (PL)				
+ 3 p.p.	€87.5m	€103.6m	€131.3m	€155.4m
+ 3.5 p.p.	€94.0m	€116.8m	€141.0m	€175.3m

Source: PBO's own calculation with data from the Central Bank of Ireland

Notes: PL denotes performing loan; p.p. denotes percentage point. The percentage point increases are applied to the average June 2022 rates in the then outstanding mortgages per mortgage interest rate type. Costs in million euros rounded to one decimal place. Bank mortgages are from the five main Irish retail banks in 2022.

Sources of uncertainty

- The main sources of uncertainty relate to modelling of the interest payment differences and the exact timing of the fixed rates expiring, as administrative micro data on the exact population of mortgage holders was not available to the PBO. Considerable uncertainty also relates to the projections of new PL fixed-rate and SVR mortgages after June 2022.
- There are structural changes occurring in the Irish mortgage market underway due to the exit of two significant banks and a reallocation of loan portfolios across remaining institutions, which may have distorted the data on the number of recent transactions.
- During the pandemic, while some Irish households accelerated their mortgage repayment from excess savings, up to one in nine mortgage holders took advantage of a payment break.⁸ No account was taken for this, and it is assumed that mortgages in place at end-June 2022 will remain in place according to their remaining terms.
- No account was taken for any potential effects arising from [the announced change in the macroprudential rules](#) from January 2023.⁹
- The costing was prepared on a static basis, involving the estimation of the direct cost only. Behavioural and broader macroeconomic and fiscal effects have not been captured.

⁸ Central Bank of Ireland, *Financial Stability Review 2022:II*.

⁹ Central Bank of Ireland, "Central Bank announces targeted changes to Mortgage Measures Framework," 19 October 2022.

2. Costing Analysis on Non-Performing Loan Mortgages

This section presents the costing of the mortgage interest relief on non-performing loan (NPL) mortgages. The Central Bank of Ireland provided the PBO with data that include NPL mortgages only from the five main Irish retail banks. While there are 45,746 Principal Dwelling House NPL mortgages based on publicly available [Central Bank aggregate statistics](#),¹⁰ this number includes both bank and non-bank NPL mortgages. The share of bank NPL mortgages is approximately 43%, and **the cost estimate presented in this section is for bank NPL mortgages only**. It should be acknowledged that, if the interest relief policy were implemented and applied to non-bank NPL mortgages as well, the cost would be significantly higher than what is reported here. As we did not have access to data on non-bank NPL mortgages, the PBO could not include these in the costing analysis. The definition of NPLs draws from the composition of the Central Bank data. There is no categorisation of NPLs (e.g., 30 days, 90 days, 2 years, etc.) within the analysis. The proposed policy specifications are detailed in Table 3. These were supplied by the client to the PBO and outlined in the request template.

Table 3: Policy Specifications

	Scenario interest increases in 2023 compared to the June 2022 reference rate	Qualifying amount for the relief	Cap on the relief
Fixed	1, 2, or 3 percentage points	20% or 30% of the interest payment difference	20% or 30% of €3,000 or €5,000
SVR	1, 2, or 3 percentage points	20% or 30% of the interest payment difference	20% or 30% of €3,000 or €5,000
Tracker	3 or 3.5 percentage points	20% or 30% of the interest payment difference	20% or 30% of €3,000 or €5,000

Source: Policy specifications as supplied by the client to the PBO and outlined in the request template.

¹⁰ [Central Bank of Ireland, Mortgage Arrears.](#)

Estimation and Projection Method

- We simulated loan-level data on the current balances and remaining terms of NPL mortgages for principal dwelling houses, per mortgage interest rate type as of June 2022, based on the aggregate data provided by the Central Bank of Ireland, by the same method as in the previous section.
- As requested, we assumed that all NPL mortgages would be required to make repayments on the outstanding balance between July 2022 and December 2023.
- We assumed that no NPL SVR mortgage and NPL tracker mortgage users would transfer to a different interest rate type of mortgage from July 2022 to the end of December 2023. We also assumed that if NPL fixed-rate mortgages are due to expire anytime between July 2022 and December 2023, they will move to SVR with a new business lending rate (taken from publicly available [Central Bank statistics](#)¹¹). We extrapolated the proportion of fixed rates expiring between July 2022 and December 2023, based on that of fixed-rate performing mortgages provided by the Central Bank of Ireland, as we did not have information on the NPL-specific proportion. The number of those NPL fixed-rate mortgages moving to SVR per month was assumed to be the same across all relevant months (i.e. a uniform distribution was assumed).¹² Those NPL fixed-rate mortgages moving to SVR are considered to become subject to the scenario interest increases, and the June 2022 reference rate, of SVR.
- We assumed that no existing performing loans would become NPLs between July 2022 and December 2023. Note that the cost of the interest relief on performing mortgages owned by the five main Irish retain banks is covered by the previous section.
- As in the previous section, we updated the balances and remaining terms from July 2022 until the policy timeframe ends on 31 December 2023.
- For the period of 1 January 2023 to 31 December 2023, we calculated the difference in the interest payments arising from the reference rate and those associated with each of the higher interest rate scenarios defined in the costing request (1, 2, or 3 percentage points higher for SVR; 3 or 3.5 percentage points higher for Tracker). Note that for NPL fixed-rate mortgages, the scenario interest increases would apply only to those that are projected to change to SVR between July 2022 and December 2023.
- We then calculated the estimated 2023 annual cost of the interest relief on NPL mortgages, in the same way as for PL mortgages in the previous section (see Table 4).

¹¹ [Central Bank of Ireland, Retail Interest Rates](#).

¹² Without access to the administrative micro data, it was impossible to model the exact month of each current NPL fixed-rate mortgage having their rate expiring.

Table 4. 2023 full year costs by mortgage interest rate types and policy specifications, non-performing loans (NPL)

	Relief @ 20%		Relief @ 30%	
	Cap @ €600 (= €3,000 × 20%)	Cap @ €1,000 (= €5,000 × 20%)	Cap @ €900 (= €3,000 × 30%)	Cap @ €1,500 (= €5,000 × 30%)
Fixed rate (NPL)*				
+ 1 p.p.	€0.15m	€0.16m	€0.23m	€0.24m
+ 2 p.p.	€0.27m	€0.30m	€0.40m	€0.45m
+ 3 p.p.	€0.34m	€0.41m	€0.51m	€0.62m
SVR rate (NPL)				
+ 1 p.p.	€1.31m	€1.39m	€1.97m	€2.08m
+ 2 p.p.	€2.23m	€2.55m	€3.35m	€3.82m
+ 3 p.p.	€2.86m	€3.46m	€4.29m	€5.20m
Tracker rate (NPL)				
+ 3 p.p.	€3.67m	€4.79m	€5.51m	€7.19m
+ 3.5 p.p.	€3.89m	€5.21m	€5.84m	€7.81m

Source: PBO's own calculation with data from the Central Bank of Ireland

Note: NPL denotes non-performing loan; p.p. denotes percentage point. The percentage point increases are applied to the average June 2022 rates in the then outstanding NPL mortgages per mortgage interest rate type. Costs in million euros are rounded to two decimal places. Bank NPL mortgages are from the five main Irish retail banks in 2022. *NPL Fixed-rate mortgages are included if they are modelled to have fixed rates expire between July 2022 and December 2023 and move to SVR; as a result, the scenario interest increases and the June 2022 reference rate are those of SVR.

Sources of uncertainty

- Except for the uncertainty related to the issuance of new mortgages, all other uncertainty factors identified in the analysis on performing loans are also relevant for NPL mortgages. In addition, the regulatory data on the NPL mortgages is more uncertain than that on performing loan mortgages. This adds to uncertainty.