AD-HOC ANALYSIS OF UNREALISED LOSSES ON EU BANKS' BOND HOLDINGS

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1.1 Introduction

This analysis focuses on the portfolio of debt securities held at amortised costs in EU banks. The size of these portfolios, their recent evolution, and the related unrealised losses have been an area of interest in recent months. The analysis considers the downside risk to banks should they, against expectation, be forced to liquidate, at a given point in time, all their bond holdings held at amortise cost and thus realise the unrealised losses. The findings presented below are based on an ad-hoc data collection launched by the EBA, with the support of Competent Authorities, in April 2023. The banks participating in this data collection are the same as those participating in the 2023 EU-wide stress test.

This initiative is in part prompted by recent interest rate rises and bond market developments, which raised questions as to the potential unrealised losses on banks' bond portfolios, and it also part of the ongoing regular risk monitoring of the EU banking sector conducted by the EBA in collaboration with Competent Authorities. Finally, the quantification of these losses under an adverse scenario should also be viewed as part of the supervisory effort to better understand the size of unrealised losses on bond holdings of EU banks and its potential evolution even under severe market conditions.

The analysis is not part of the EU-wide stress test and should not be linked to its findings. The collected data is focused on banks' bond holdings and are here used to assess the size of actual and future potential unrealised losses on these portfolios.

We find that unrealised losses on bond holdings in the EU banking sector are currently limited in size compared to the overall solvency and liquidity profile of the banks. In addition, unrealised losses calculated for this exercise under the 2023 adverse EU-wide stress test scenario presented below overall appear manageable.

The analysis focuses on unrealised losses on banks bond positions held at amortised cost. *Held at amortised cost* is an accounting classification, which allows banks to hold bonds without marking them to market.[1] Banks are expected to hold these bonds until maturity, which has the important implication to allow banks reducing the sensitivity of their accounting P&L to interest rate changes.[2]

Derivatives used to directly hedge bonds held at amortised cost (micro hedging relationship) have been included in the exercise as they are a natural part of the desired quantification. Their inclusion allows for a more complete assessment of the importance of risk-mitigating factors.

It should be noted that banks normally hold these debt securities as part of their balance sheet's interest risk management (i.e., on both assets and liabilities). The hypothetical gains and losses calculated in this exercise should therefore be assessed taking into account the overall interest risk

[1] See IFRS 9 for more information on the classification of financial assets at amortised cost.

[2] Depending on the IFRS 9 'significance and frequency test' the remaining bonds at amortised cost may need to be reclassified to other category and the difference between the amortised cost and fair value recognised in capital if it is concluded that those sales are not consistent with a hold to collect business model. Reclassifications should be rare and well justified.

management of the banks. In this regard, the EBA published Guidelines on IRRBB and CRSBB in October 2022 which include the economic value of equity (EVE) providing best practices on how to manage the overall interest rate risk.

The analysis is accompanied by individual bank disclosure covering the carrying amount[3] and the fair value of debt securities at amortised cost as of December 2022 and as of February 2023.[4]

The next section explains the scope of the exercise and some of the limitations and caveats of this risk assessment.

1.2 Scope of the exercise

This analysis only includes direct hedges (micro hedges) that affect the carrying amount. The choice reflects a trade-off between realism (i.e., covering, to the extent possible, all risks and related mitigating factors) and consistency with supervisory reporting. Macro hedges which include portfolio hedging or natural hedges from banks' own liabilities held at amortised cost are not considered. The implication of this is that the findings are conservative, that is, the estimated potential unrealised losses are larger than if all bank hedges had been included.

Furthermore, the analysis only considers the fair value changes of the bonds on the asset side of the balance sheet. This means that there is no analysis of the broader question as to the overall interest rate risk of the balance-sheet and the total impact of interest rate changes. Therefore, the hypothetical gains and losses estimated in this exercise are not reflective of the overall interest rate risk of the bank. The EVE perspective in the IRRBB framework is a more adequate approach for this assessment.

It should be noted that the results should be interpreted as a snapshot taken in the specific interest rate environment corresponding to the reference date. The dynamics of unrealised gains and losses is driven not only by portfolio composition and hedging strategies but also to a large extent by the phase of the monetary policy cycle in the jurisdiction relevant for the exposure. Specifically, a downward policy rate trajectory may signal decreasing unrealised losses whereas an upward policy rate path may indicate the potential for further unrealised losses (all else unchanged). When comparing banks specific results, the geographical dispersion of exposures and the various monetary policy outlooks across the EU should be considered.

In addition, when confronting with liquidity needs, banks usually have other alternatives before selling these securities. They may for instance post the securities as collateral for short term loans. The analysis should therefore be considered jointly with the broader refinancing capacity of banks (e.g., amount of unencumbered assets and their quality) as well as other sources of liquidity banks' might have. These may include central bank deposits, participation in central bank refinancing operations, repo transactions and unsecured Money Market transactions.

[3] As defined by IFRS 9. This is the book value, including the accumulated adjustments to the carrying amount attributable to the risks hedged in a hedge accounting relationship. Hedge adjustments are the accumulated gain or loss attributable to the risks hedged in a fair value hedge accounting relationship.

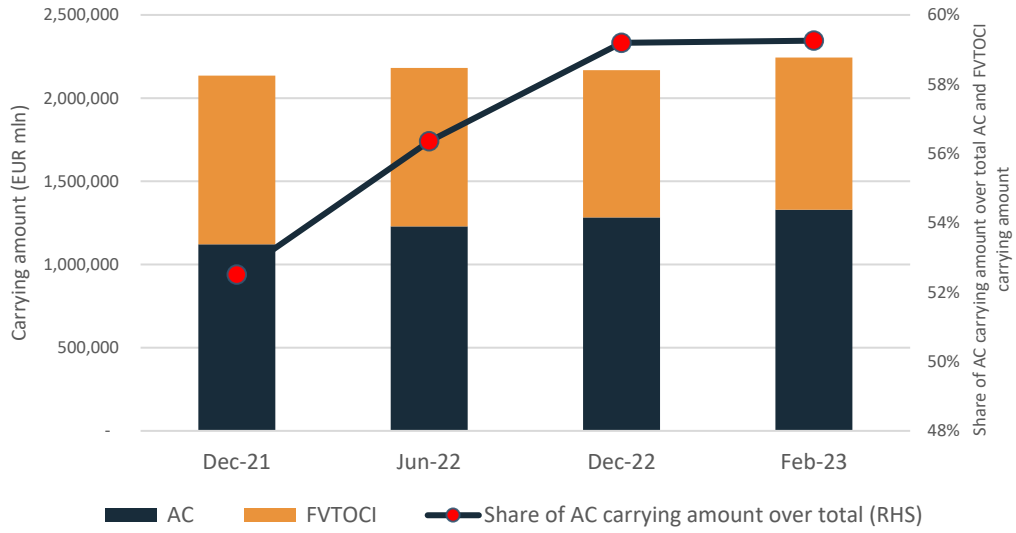
[4] The data as of February 2023 relies on banks' internal managerial reporting.

Finally, the results of this exercise cannot be combined with the results of the EU-wide stress test. Bonds held at amortised cost are covered in the EU-wide stress test methodology under the credit risk methodology and their carrying amount is adjusted via impairments.[5] Unrealised losses in fixed income portfolios are not considered in the EU wide stress test for two main reasons. First, the EU-wide stress test is designed consistently with prudential and accounting standards. Potential losses that are not covered under those standards – such as unrealised losses on bonds at amortised cost, are not considered. In addition, the EU-wide stress test is a solvency exercise, run under a static balance sheet assumption, which therefore is not aimed at capturing the effects of liquidity shocks. Hence no consideration is given to the possible use of bonds to obtain funding via repo markets or their possible sale. Therefore, summing up the capital impact of unrealised losses and the capital depletion of the EU-wide stress test will generate a misleading picture of banks' risk profile.

1.3 Overview of banks' bond holdings

EU banks held debt securities (bonds) with book value of 2.24 trillion EUR[6] as of February 2023. Of these, 59% were held at amortised cost (AC) and 41% at fair value (FVTOCI).[7] Most were bonds issued by governments (66%) and credit institutions (18%).

Figure 1: Carrying amount of EU bank holdings of debt securities, and share of amortised cost carrying amount of total carrying amount, Dec-2021 to Feb-2023



Source: Bank data, EBA calculations.

The total amount of bonds held at amortised cost and at fair value through other comprehensive income by banks has remained stable in recent years (Figure 1). The share of bond holdings at

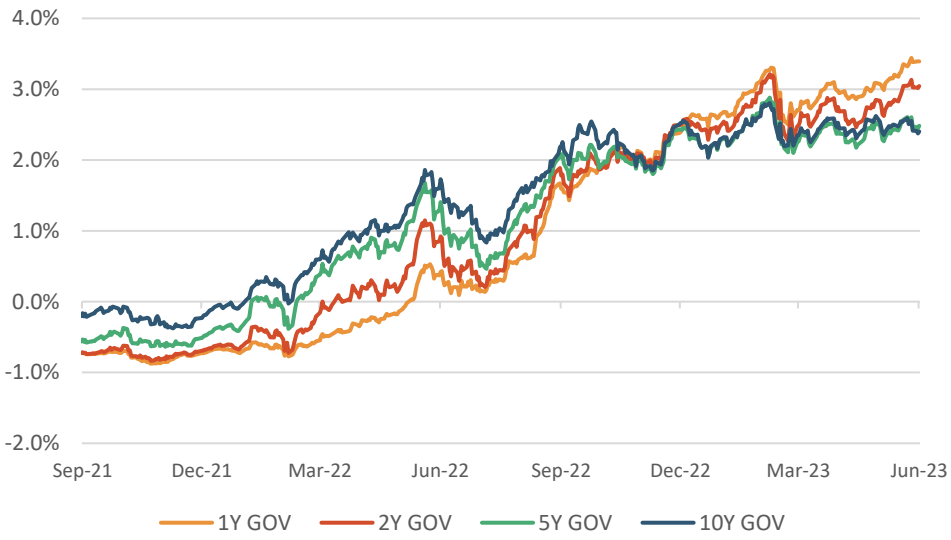
[5] In the EU-wide stress test, bonds held at fair value (in accounting terms "fair value through profit or loss or fair value through other comprehensive income") are covered by the market risk methodology. Hence bonds held at fair value are stressed by applying a full revaluation using the interest rate and credit spread shocks provided in the market risk scenario.

[6] Two banks in the sample were not able to provide the fair value, the carrying amount and the sensitivities for the February 2023 reference date. For these banks, the February 2023 data was proxied with the December 2022 data.

[7] This refers to the 70 EU banks which are covered in this analysis.

amortised cost has however increased slightly. This increase in the share of amortised cost bonds may reflect banks behaviour to reduce the sensitivity of their profit or loss to interest rate risk given the interest rate hikes observed since end of 2021 (Figure 2).

Figure 2: EU Government bond yield benchmarks, September 2021 to June 2023



Source: ECB.

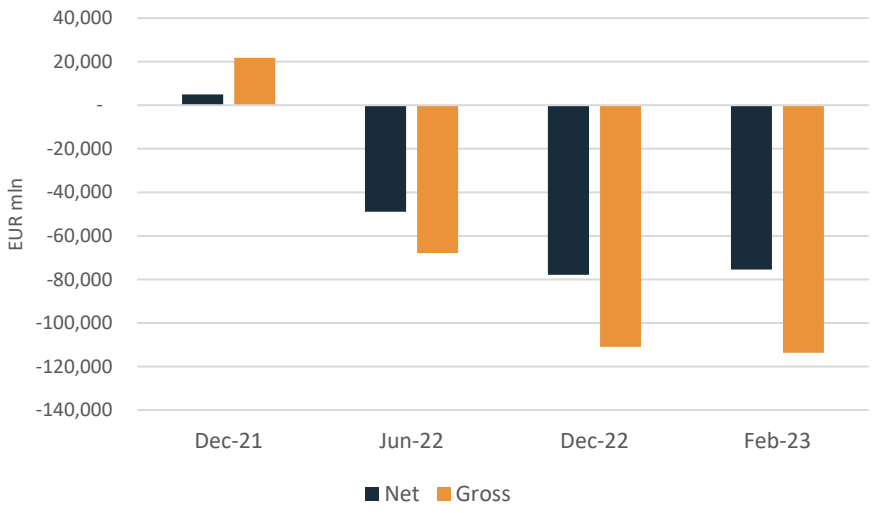
1.4 Historical evolution of unrealised losses (until February 2023)

Unrealised losses on bond holdings for data until Feb 2023 are computed as the difference between the carrying amount (book value) and the fair value (market value) of the debt security at the same reference date.

The carrying amount is net of hedge adjustments from derivatives which are in a fair value hedge accounting relationship (so-called micro hedges). Only fair-value hedge accounting derivatives are considered. Therefore, this net unrealised loss measure represents a maximum loss that banks can face in case they sell all their amortised cost bond positions at the market prices observed in February 2023. As a result, the difference between the carrying amount and the fair value is the unrealised loss net of micro hedge adjustments.

Total unrealised losses for the banks in our sample as of February 2023 amounted to 75bn EUR, compared to almost 78bn EUR in Dec 2022. As of February 2023, losses were mitigated by hedges amounting to 38bn EUR. Unrealised losses on bond holdings began increasing from end of 2021 in line with increases in interest rates (Figure 3).

Figure 3: Evolution of gross and net unrealised losses on debt securities held at amortised cost (December 2021 to February 2023).



Source: Bank data, EBA calculations.

1.5 Unrealised losses under the adverse scenario

We consider potential unrealised losses on amortised cost bond holdings under an adverse market risk scenario, similar to the one used in the 2023 EBA EU wide stress test.

Unrealised losses under a hypothetical adverse scenario are calculated by applying an instantaneous shock to the amortised cost bond holdings and their related hedges. These estimates provide insights on the magnitude of the unrealised losses should the economic environment deteriorate significantly. Furthermore, it allows for an analysis of the importance and dynamics of direct hedging, shedding also light on the source of risk being hedged.[8]

The analysis is performed using the sensitivities to interest rate and credit spread risk reported as of February 2023 for both bonds and hedges. This means that market conditions observed in February are taken as given and that the calculated impact is net of hedges. Therefore, this calculation generates the unrealised losses in addition to those calculated at the February 2023 reference date.

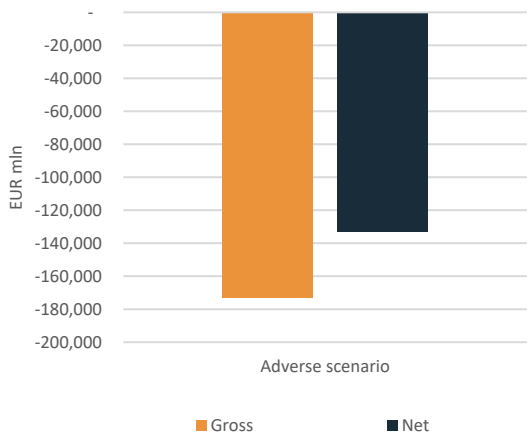
The shocks applied to the SWAP interest rates (by country and tenor) in the adverse scenario is the same as those in the market risk scenario of the 2023 EU-wide stress test. An average of the sovereign credit spread shocks of the EU-wide stress test scenario is applied to both government positions and other counterparties. These shocks are assigned depending on the risk profile of the country. For this purpose, in the scenario calibrating process, countries were grouped into buckets according to their sovereign risk (low, medium, and high risk).

When applying the instantaneous shocks of the adverse scenario to the amortised cost bonds and their related hedges as of February 2023, we find that the total additional unrealised losses net of

[8] This should be assessed taking into account the caveat related to the limited scope of the hedges considered for this analysis.

hedges for banks in our sample amount to 133bn EUR. Hedges reduce gross losses by 23% (Figure 4).

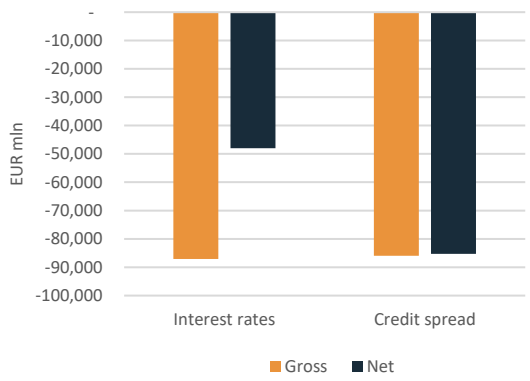
Figure 4: Additional unrealised losses on amortised cost debt securities holdings under the adverse scenario, gross and net of hedges



Source: Bank data, EBA calculations.

The bulk of the impact on unrealised losses under the adverse scenario stems from the credit risk spread shock (Figure 5). This reflects that banks tend to rely mostly on micro hedges for interest rate risk.

Figure 5: Breakdown of EU aggregated unrealised losses under the adverse scenario by risk driver (net and gross)



Source: Bank data, EBA calculations.