



BANK ĊENTRALI TA' MALTA  
EUROSISTEMA  
CENTRAL BANK OF MALTA



# CENTRAL BANK OF MALTA INTERIM FINANCIAL STABILITY REPORT

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2022

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*The Interim Report covers the first six months of 2022 and evaluates developments which may impact the resilience of the domestic financial system since the publication of the Financial Stability Report 2021. It also analyses whether any new risks have emerged. The Interim Financial Stability Report is prepared by the Financial Stability Surveillance and Research Department and the Policy, Crisis Management and Stress Testing Department and is subsequently reviewed and endorsed by the Financial Stability Committee of the Central Bank of Malta.*

*The cut-off date for information relating to banking, insurance and investment funds is 31 August 2022 unless otherwise specified. For market developments, the cut-off was extended to 31 October 2022. The source of data in tables and charts is the Central Bank of Malta unless otherwise indicated.*

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## ABBREVIATIONS

AMC	amortised cost (accounting treatment)
ASF	available stable funding
AUM	assets under management
BBMs	borrower-based measures
BPS	basis points
BTL	buy-to-let
CA	competent authority
CBC	counterbalancing capacity
CBM	Central Bank of Malta
CCyB	countercyclical capital buffer
CFIML	captive financial institutions and money lenders
CGS	COVID-19 Guarantee Scheme
CIU	collective investment undertaking
CRR	Capital Requirements Regulation
DSTI	debt service-to-income
EBA	European Banking Authority
EC	European Commission
ECB	European Central Bank
EU	European Union
ESRB	European Systemic Risk Board
FTB	first-time buyers
FV	fair value (accounting treatment)
FVOCI	fair value through other comprehensive income
FVTPL	fair value through profit and loss
GDP	gross domestic product
HFCS	Household Finance and Consumption Survey
HICP	Harmonised Index of Consumer Prices
HQLA	high-quality liquid assets
IRB	internal ratings-based
IRRBB	interest rate risk in the banking book
LCR	liquidity coverage ratio
LSTI	loan service-to-income
LTI	loan-to-income
LTV	loan-to-value
LTRO	longer-term refinancing operation
MDB	Malta Development Bank
MFI	monetary financial institution
MFSA	Malta Financial Services Authority
MGS	Malta Government Stocks
MMF	money market funds
MRO	main refinancing operations
NAV	net asset value
NFC	non-financial corporations
NII	net interest income
NPL	non-performing loan
NSFR	net stable funding ratio
O-SIIs	other systemically important institutions
OFI	other financial intermediaries
PDW	persistent deposit withdrawals
PELTRO	pandemic emergency longer-term refinancing operation
PIF	Professional Investor Fund

RHS	right-hand scale
ROA	return on assets
ROE	return on equity
RRE	residential real estate
RSF	required stable funding
RWA	risk-weighted assets
SA	standardised approach
SREP	Supervisory Review and Evaluation Process
STREAM	Structural and Traditional Econometric model for Malta
TGI	total gross income
TLTRO	targeted longer-term refinancing operation
TSCR	total SREP capital requirement
UCITS	Undertakings for the Collective Investment in Transferable Securities
UK	United Kingdom
US	United States of America
USD	United States dollar
USDA	U.S. Department of Agriculture



## EXECUTIVE SUMMARY

The Interim *Financial Stability Report 2022* assesses developments in the domestic financial system that occurred in the first half of 2022.

Despite the adverse global macroeconomic developments, heightened geopolitical risks due to the war in Ukraine and rising inflation, the Maltese financial system remained resilient also because of a robust domestic economy. However, economic growth is expected to slow somewhat closer to its potential. The energy support measures by Government are sheltering consumers and businesses and cushioning the impact on domestic demand. However, tighter financing conditions are likely to impact debtors' repayment capabilities. The loan portfolios of Maltese banks have so far not shown any signs of credit quality deterioration, and provisioning levels have strengthened. This edition of the *Report* also carries a Special Feature which aims to identify potential groups of borrowers that could be vulnerable if interest rates were to rise by up to 250 basis points.

Maltese banks remained adequately capitalised even under stressed conditions as shown by the stress tests. Underlying profits improved on the back of higher earnings from intermediation, fees, and commissions, as well as from dividends. However, going forward, any gains earned from rising interest rates could be offset by lower credit volumes or additional needs to step up further provisioning. During the period analysed, credit remained strong, largely driven by a sustained growth in mortgages which adds further to increased concentration risk in the banks' loan portfolios.

High inflation and market volatility also affected financial markets which, in turn, impacted domestically-relevant insurance companies and investment funds. Insurance companies reported lower profits from their investments. Furthermore, high inflation could increase claim costs for non-life insurance companies, while life insurance companies could benefit from interest rate rises in terms of their longer-term investment products. Despite these challenges, their solvency and capital positions remained strong. Similarly, investment funds reported lower net asset valuations but nonetheless, they continued to operate on sound key metrics, with limited leverage. Their cash and deposits also rose which mitigate any liquidity concerns for these funds. Yet, investment funds need to continue monitoring possible excessive liquidity mismatches, whilst insurers need to closely monitor market and liquidity risks, amidst high market volatility and uncertainty.

The *Report* recommends that the Maltese financial sector should remain vigilant to rising risks, including those stemming from operational risks such as cyber threats, as well as developments related to climate change. Banks should continue to exercise caution and prudence in classifying loan performance, provisioning levels, and in the distribution of dividends to enhance capital buffers.





# 1. MACROPRUDENTIAL RISK ASSESSMENT AND POLICY RESPONSE

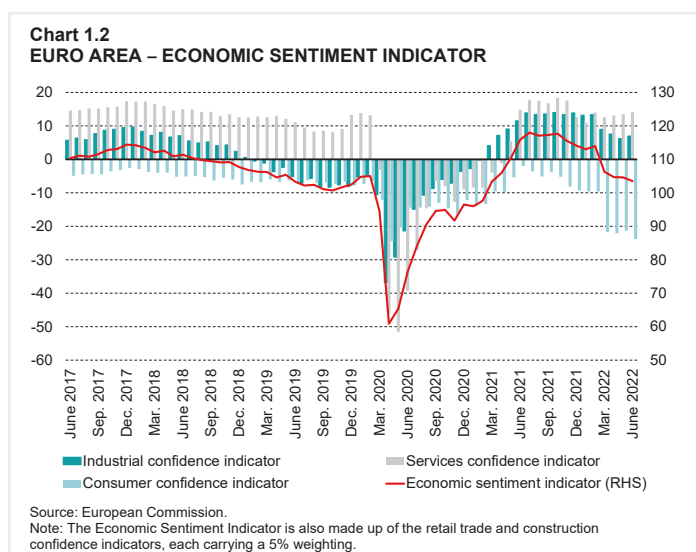
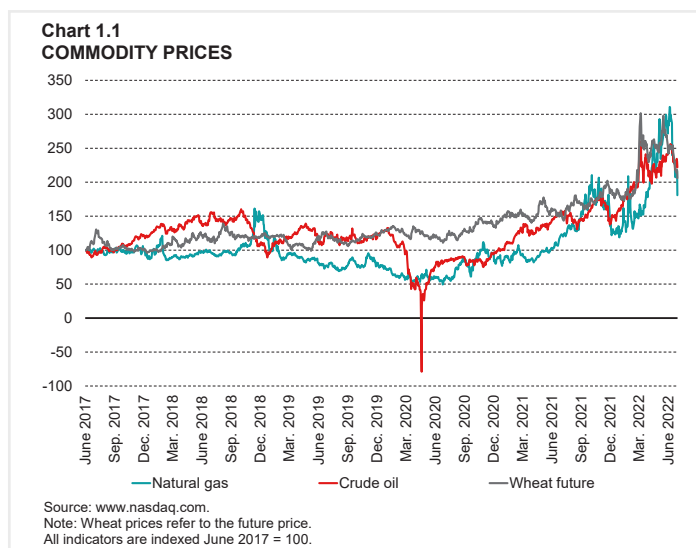
# 1. MACROPRUDENTIAL RISK ASSESSMENT AND POLICY RESPONSE

## 1.1 Macroeconomic Risk Assessment

The global economic recovery which started in 2021, was marred by the increasingly adverse geopolitical developments at the start of 2022, causing renewed supply constraints, and a sharp surge in commodities and energy prices (see Chart 1.1). The war in Ukraine has indeed impacted exports of wheat particularly because both Russia and Ukraine account for about a quarter of the world's wheat exports.<sup>1</sup> As a result, wheat prices surged in the first five months of 2022 to retreat somewhat in June, albeit remaining much higher than pre-invasion levels. Concerns on energy prices and its supply intensified, resulting in various European countries imposing restrictions on energy consumption in view of the approaching winter and the gas supply disruptions.

The unprecedented high inflation forced central banks to embark on a path of monetary policy normalisation. In the euro area, the Harmonised Index of Consumer Prices (HICP) rose to an unparalleled 8.6% in June 2022.<sup>2</sup> This ended an era of negative nominal interest rates, with the European Central Bank (ECB) raising the three key interest rates by 50 basis points in July 2022, and a further 75 basis points each in September and October 2022, respectively. Furthermore, the Governing Council signalled additional rate increases going forward, as inflation is expected to remain high in the near term.

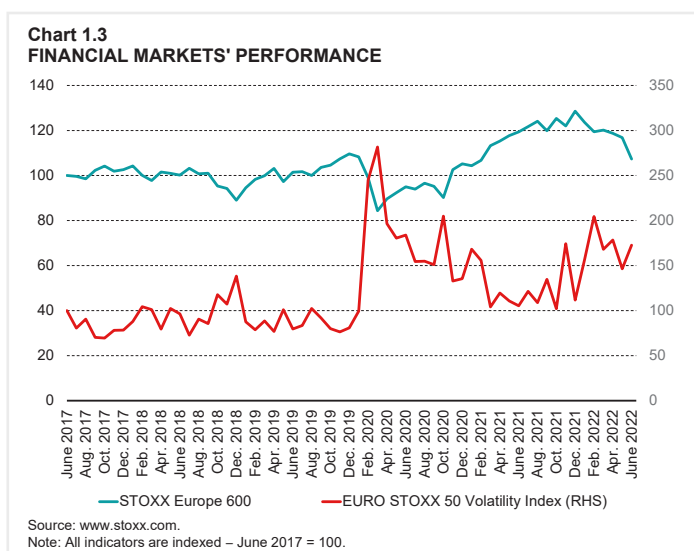
Economic sentiment worsened, as reflected by the euro area economic sentiment indicator (see Chart 1.2), which turned to a downward trend in 2022, thus offsetting the gains recorded during the post-pandemic recovery. Such development was primarily driven by dampened consumer confidence with the index reaching the levels recorded at the height of the pandemic, while the industrial confidence indicator which was already showing some signs of weakness in the first half of 2022, remained in positive territory. Sentiment within the services sector remained somewhat buoyant in part thanks to the promising tourism season. Against this backdrop, although in the euro area economic growth kept traction in the first half of 2022, the war in Ukraine posed rising concerns on the growth path trajectory, with the probability of a recession increasing significantly. Euro area gross domestic product (GDP) growth forecasts were revised downwards, with the latest projections standing at 3.1% and 0.9% in 2022 and 2023, respectively.<sup>3</sup> The US economy contracted for the second consecutive quarter in June 2022, largely driven by lower private investment and government



spending, although unemployment remained at a relatively low level. In addition, China's economic growth plummeted in the second quarter of the year, as it persisted with its zero-COVID policy.

Such developments have impacted financial markets, with volatility increasing significantly but still below the levels witnessed at the onset of the pandemic (see Chart 1.3). Equity valuations have also dropped, with the STOXX Europe 600 shedding 16.5% of its value during the first half of the year, yet still 27.2% higher than its previous record low in March 2020, amidst the pandemic. Yields on bonds

across the euro area increased significantly, driven by the reduction in monetary policy accommodation to combat rising inflation. This reflected declines across all asset classes, with the increased correlation decreasing the ability of diversifying risk. Furthermore, given the downside risks to the economic outlook and high uncertainty, risks to further, possibly abrupt, asset price corrections remain elevated. This could potentially increase mark-to-market losses, and outflows from more leveraged positions.



Vulnerabilities within the euro area's residential real estate (RRE) sector intensified further, on the back of strong house price growth of 9.3% annually in June 2022, and lending dynamics.<sup>4</sup> The confluence of these developments together with other cyclical risks, pushed some macroprudential authorities to further increase capital buffers. Tighter financing conditions could also negatively impact households' repayment capabilities, which could spill over to the property market, although this risk is somewhat mitigated by the high share of longer-term fixed-rate mortgages. On the contrary, the majority of non-financial corporations' (NFCs) debt is at variable interest rates, which may test companies' financial strength in times of rising interest rates. Sovereign debt dynamics could also be negatively impacted in the medium-term by rate hikes, considering the increased financing needs for governments to support their economies.

The Maltese economy is also facing some headwinds, with GDP growth forecasts revised downwards, though the latest projections published in August 2022 still expect the economy to grow at a comparatively strong pace of 5.2% in 2022, to slow down to 4.5% in 2023, and 3.7% in 2024.<sup>5</sup> While the growth momentum was supported by the strong recovery in the tourism sector, the downward revision in 2022 was attributed to lower domestic demand, on the back of rising inflation. Indeed, while reporting the lowest level within the euro area, HICP shot up to 6.1% in June 2022, the highest rate in two decades.<sup>6,7</sup> Inflation is also forecasted to continue hovering at around 6% in 2022, before falling to 3.8% and 2.1% in 2023 and 2024, respectively.<sup>8</sup> The impact from the high energy prices was relatively contained, in part supported by the prompt government intervention to maintain energy prices stable, and therefore protect consumers and businesses while supporting further domestic demand. Although compared to other euro area countries, the Maltese government has enough fiscal space to offer such support, it is likely to exert further pressure on public finances. Such risk is also compounded by the tighter financing conditions, which would also negatively impact the private sector. Mortgage lending could also be negatively impacted in a scenario of rising mortgage interest rates (see Special Feature on page 16).

### Financial system developments

Despite the ongoing challenging macroeconomic environment in the euro area, European banks managed to increase profits in the first half of the year, with the return on equity (ROE) edging by 0.6 percentage point to 7.9%. This improvement reflected lower operating expenses, and sustained income growth on the back of higher credit growth and wider margins.<sup>9</sup> The effect of increasing interest rates on banks' return on net

interest income (NII) is generally deemed positive. This however could potentially be offset by increased provisioning needs, revaluation losses on fair value (FV) instruments, as well as weakening credit demand. Lending to households remained robust. However, this may slow down going forward.<sup>10</sup> Corporate lending also remained strong due to higher production costs, and lower reliance on market financing. Nevertheless, a sharp turn in business sentiment may have a negative effect on the volume of loans granted and on NII. Furthermore, deteriorating economic conditions and rising interest rates could adversely affect borrowers' ability to service debt, which may lead to increased credit risk on the banks' balance sheets, requiring higher provisioning needs. As yet, the asset quality of euro area banks is in check since the non-performing loans (NPLs) ratio declined by 0.2 percentage point to 1.8% in the first half of 2022. In addition, such banks remained well capitalised with a total capital ratio standing at 19.0% and operated on the back of ample liquidity buffers, with a liquidity coverage ratio (LCR) of 164.9% in June 2022, surpassing regulatory minima.

Profitability of Maltese banks on aggregate declined, owing to a one-off cost of one core domestic bank, resulting in a ROE and return on assets (ROA) standing at 3.5% and 0.6%, respectively in June 2022, down from 6.0% and 0.7% six months earlier. Excluding this one-off cost, profitability would have been much stronger compared to end 2021, as banks were able to step up both their net interest and non-interest income by 2.1% and 11.6%, respectively. The latter was mainly attributed to higher dividend incomes, fees and commissions, and gains on foreign exchange. The rise in gross income was to some extent offset by higher operating costs, which excluding significant one-off elements, grew by 5.5%.

In terms of asset quality, in line with their European counterparts, the balance sheets of Maltese banks are not showing any signs of weakness, with the NPL ratio standing at 2.9%, down from 3.1% in December 2022. Loans with forbearance measures remained relatively unchanged as the increase in performing forborne loan exposures was balanced by the 10% decline in non-performing forborne loan exposures, pointing to a still benign asset quality to date. The expansion in the overall loan book of Maltese banks was primarily driven by resident mortgages, which rose annually by 10.9% in June 2022, with lending to resident corporates also up by 2.8%, following a momentary slowdown in 2020, as interest in the Malta Development Bank (MDB) COVID-19 Guarantee Scheme (CGS) waned.<sup>11</sup> Such developments are mostly driven by the core domestic banks, yet all other banks also reported higher customer loans in the first half of the year. The sustained growth in mortgages continued to reflect increased concentration risks on the domestic banks' resident loan portfolio, and systemic cyclical risks emanating from real estate market developments which may threaten financial stability amidst the uncertain macroeconomic environment and tighter financial conditions.

Domestically-relevant insurers suffered drops in their profits driven by loss in investment income, reflecting the increased market volatility. Going forward, life insurers should benefit from interest rates rises, as it allows them to invest new cash flows and maturing investments into long-term investment products with higher interest rates. Nevertheless, inflation erodes the real value of the benefits, whilst policy holders may face increased credit risk due to a higher interest rate environment. Furthermore, non-life insurance companies could be negatively impacted because of the strong inflation rates, which would among others raise the costs of their claims.

The performance of investment funds is also negatively affected by the current adverse economic environment. Higher interest rates are often associated with declining asset values, especially for fixed-income securities due to the inverse relationship between interest rates and bond prices, especially for longer duration portfolios. Equity valuations also suffer in a rising interest rate environment, as future earnings are negatively affected by the higher cost of borrowing. This was indeed also observed locally where the net asset value (NAV) of domestically-relevant funds contracted driven by lower bond and equity holdings, albeit some level of investment withdrawals was also observed because of uncertainties reported during the first half of the year.

### *Risk horizon*

The domestic financial sector has managed to weather the shocks that occurred in the first half of 2022, brought about by the war in Ukraine. However, as downside risks continued to build up largely stemming from the external environment, the concept of resilience is still relevant particularly because inflationary pressures remained elevated, albeit among the lowest in the euro area, which could negatively impact the households' and corporates' repayment capabilities, in an environment of increasing interest rate prospects. This may lead to

weaker profitability prospects for banks if credit growth were to slow down resulting into lower interest income from intermediation despite the higher interest rates. For non-banks, investment funds need to continue monitoring possible excessive liquidity mismatches or leverage, whilst insurers need to keep any eye on market and liquidity risks, amidst high market volatility and uncertainty. Such developments depend in part on the duration and further escalation of the war in Ukraine, and the related energy crisis encompassing Europe. Such developments further increase the probability of stagflation across Europe and may lead to sharper tightening of financing conditions which would also weigh on financial stability. Another source of risk to financial stability stems from the volatility in financial markets and the elevated risks of further asset price corrections.

The confluence of risks such as the need to continuously adapt for evolving cyber risk, and broader operational risks which are becoming more important, coupled with the ongoing challenges and preparations required to address risks from climate change, necessitate continued vigilance. Financial institutions should ensure that their provisioning levels and capital plans carefully incorporate these envisaged risks in a bid to ensure resilience to shocks.

Table 1.1 highlights the key vulnerabilities of the domestic financial sector and how they have evolved since 2021.

<b>Table 1.1 SUMMARY OF RISKS</b>				
<b>Main vulnerabilities and risks for the financial system</b>	<b>Type of risk</b>	<b>Nature of risk</b>	<b>Change in risk level since FSR 2021</b>	<b>Risk assessment one year ahead</b>
<b>Vulnerabilities within the financial system</b>				
Credit quality of the loan portfolio	Credit/Profitability	Cyclical/Structural	↔	↑
Concentration in sectoral lending	Credit	Structural	↑	↑
Developments in bank credit growth	Credit	Cyclical/Structural	↔	↔
of which mortgage lending			↑	↔
of which NFC lending			↔	↔
Interlinkages between banks and the non-bank financial sector	Contagion	Structural	↔	↔
Operational risk	Contagion	Structural	↑	↔
Developments related to net income	Profitability	Cyclical	↓	↔
Domestically-relevant insurances	Liquidity/Solvency/Profitability	Cyclical/Structural	↑	↔
Domestically-relevant investment funds	Credit/Solvency/Profitability	Cyclical/Structural	↑	↔
<b>Vulnerabilities outside the financial system</b>				
Domestic macroeconomic developments	Credit/Profitability	Cyclical	↑	↑
Real estate market developments	Credit/Contagion	Cyclical	↑	↔
Exposures of the financial sector to domestic sovereign	Profitability/Contagion	Structural	↔	↔
Economic conditions in the euro area and public debt sustainability	Credit/Profitability	Cyclical	↑	↑
Geopolitical uncertainties	Contagion	Structural	↑	↑
Reassessment of risk premia	Profitability	Cyclical	↑	↑
<b>Risk position</b>		<b>Direction of risk</b>		
Moderate		Increased risk	↑	
Medium		Stable risk	↔	
Elevated		Decreased risk	↓	

## 1.2 Macroprudential Policy Developments

Domestic and European authorities continued to monitor closely macroeconomic and financial sector developments with a view of taking appropriate policy action where necessary so as to mitigate the inherent risks and vulnerabilities in domestic and European financial systems. Below is a list of the main domestic macroprudential policy measures enacted by the Bank during the first half of 2022.

### *Countercyclical capital buffer*

According to the Bank's notification on the applicable rate of the countercyclical capital buffer (CCyB) for the fourth quarter of 2022, a CCyB rate of 0% remains adequate for Malta.<sup>12,13</sup> Indeed, the standard credit-to-GDP ratio was recorded at 75.2%, whilst its deviation from the long-term trend stood at -7.0 percentage points, thus below the reference threshold of 2 percentage points. Other supplementary indicators, including indicators of credit developments (credit growth, household and corporate debt to GDP ratio, median property price to income ratio and ratio of current account to GDP) together with expert judgement further support the proposal of a 0% CCyB rate.

### *Identification of material third countries*

The Central Bank of Malta carries out an annual exercise on the identification of material third countries to which the domestic banking system is exposed, in line with the European Systemic Risk Board (ESRB) Recommendation ESRB/2015/1 on recognising and setting countercyclical buffer rates for exposures to third countries.<sup>14</sup> Furthermore, the Bank monitors developments in these third countries for signs of excessive credit growth.

Following the materiality assessment outlined in Article 4 of the ESRB Decision 2015/3, the Central Bank of Malta made no changes to its list of material third countries identified in the previous year, which comprise of the United States of America, United Kingdom, and United Arab Emirates.

### *Voluntary reciprocation of macroprudential measures*

As per ESRB Recommendation on the assessment of cross-border effects of, and voluntary reciprocity for macroprudential measures, the Bank reviews newly implemented measures recommended for reciprocation by Member States. During 2022, four countries recommended measures for reciprocation which are being described below:

- Lithuania – 2% systemic risk buffer rate for all retail exposures to natural persons in Lithuania that are secured by residential property.
- The Netherlands – A minimum average risk weight for exposures to natural persons secured by mortgages located in the Netherlands for credit institutions using the internal ratings-based (IRB) approach for calculating regulatory capital requirements.
- Belgium – A 9% systemic risk buffer rate on all IRB retail exposures to natural persons secured by residential immovable property for which the collateral is located in Belgium.
- Germany – A 2% systemic risk buffer rate on (i) all IRB exposures secured by residential immovable property located in Germany, and (ii) all SA-based exposures fully and completely secured by residential immovable property, which is located in Germany.

After analysing the above recommended policy measures, the Bank did not find any basis for reciprocation owing to the immateriality of listed exposures in the local banking sector and/or inapplicability of the policy measure to the domestic financial system. In addition, the Bank also maintained its non-reciprocation stance unchanged in relation to the previously activated measures recommended for reciprocation by other Member States. Latest available information on the reciprocation stance taken by the CBM can be found in this [link](#).

### *Borrower-based measures*

As per paragraph 19 of the Bank's Directive No. 16 on borrower-based measures (BBMs), domestic banks' compliance with the Directive is to be verified annually by the internal auditor of the reporting lender, and by an external auditor at the end of the financial year of the third year of application of the Directive, and every third year thereafter. In view that 2021 was the third year of application of the Directive, banks were required to submit their external audit reports for 2021, which were received by the Central Bank during the course of 2022. The Bank analysed the reports, provided feedback as well as requested clarifications from the relevant banks as deemed required. Overall, the banks were compliant with the provisions of the Directive. The Bank also provided feedback to respective banks that sought clarifications on certain provisions of the Directive.

During 2022, domestic banks continued to submit the quarterly reporting data templates aimed at addressing the ESRB Recommendation on closing real estate data gaps, and to monitor the Banks' compliance with Directive 16. It is envisaged that this data will be enhanced further with the reporting of stocks data as from next year.

### *Identification of other systemically important institutions*

The Bank, in conjunction with the Malta Financial Services Authority (MFSA), conducts a yearly assessment to identify and apply a capital buffer to domestic (other) systemically important institutions (O-SIIs) in line with a CBM-MFSA policy document.<sup>15</sup> The latest Bank decision on the four designated O-SIIs and their corresponding capital buffer rates for 2022 remained unchanged during the period under review.<sup>16</sup> The O-SII exercise is undertaken on an annual basis and the next round of results are expected to be published by Q1 2023.

## SPECIAL FEATURE: THE EFFECT OF RISING INTEREST RATES ON HOUSEHOLDS' MORTGAGE REPAYMENT CAPABILITIES<sup>17</sup>

### Executive Summary

Following a decade-long of ultra-low interest rates, between July and November 2022, the ECB raised its key interest rates. At a time where debt has been on a rising trend, such rate increases could pose debt repayment difficulties for some households, which could result in important financial stability implications, not only from a macroprudential perspective, but also impacting banks directly through higher NPLs or lower profits. This Special Feature aims to identify potential groups of borrowers which could be vulnerable to hypothetical interest rate hikes of up to 250 basis points. New loans data was used spanning between 2020Q4 and 2022Q2. In the main, borrower-based metrics remained healthy up to an interest rate shock of 150 basis points, in line with the requirements of the Central Bank of Malta's Directive No. 16.<sup>18</sup> However, further interest rate hikes up to a maximum of 250 basis points would burden households' repayment capabilities with around a quarter of the loans' exceeding 40% for the loan service-to-income (LSTI). This is especially the case for those loans which at origination had already relatively more stretched borrower metrics. Around half of such borrowers were first-time buyers (FTB) with a loan-to-value (LTV) of more than 80%, a loan-to-income (LTI) of more than six times and a term to maturity of more than 30 years.

### 1. Introduction

In 2021, inflation started to gather momentum owing to a confluence of factors such as supply chain disruptions and fiscal measures supporting demand, later compounded with the impact of the war between Russia and Ukraine. By October 2022, euro area inflation rose to 10.6%, compared to 4.1% a year earlier, way above the ECB's 2% target. As a result, the ECB embarked on a path of monetary policy normalisation by unwinding its asset purchase programmes and raising its key interest rates. Since July 2022 the interest rate for the main refinancing operations (MRO) rose to 2.00%. Financial markets are also pricing in further interest rate increases, with the ECB's *Survey of Professional Forecasters* for the fourth quarter of 2022 indicating that the MRO rate will rise steadily to 2.6% by the first quarter of 2023, to then stabilise at around 2.7% until 2024.<sup>19</sup> The increase in interest rates should translate into higher borrowing costs for households and corporates, which would in turn affect consumer spending, with the aim to help cool inflation. A rise in borrowing costs could also impact the debt repayment capabilities for existing borrowers, which could translate into higher credit risk on banks' balance sheets.

Although the Maltese households' balance sheets remained strong, households are increasingly becoming more leveraged, with growth in debt outpacing the rise in their financial assets and disposable income. As a result, household debt stood at around 24% of financial assets and 87% of disposable income by June 2022. Although these indicators remained largely in line with their average since June 2009, should current leverage trends persist, risks to the households' sector could be amplified, especially for the more highly indebted and lower income earners, amidst a scenario of weaker economic growth and a possible increase in interest rates.

Against this backdrop, the purpose of this Special Feature is to provide an analysis of how potential interest rate shocks could affect households' loan repayment capabilities. Section 1 provides a general description of the collected data and processes while Section 2 discusses the current level of borrower-based metrics. Section 3 focuses on how potential increases in mortgage interest rates affect households' debt repayment capabilities across different income buckets, debt maturity and other borrower-based metrics. Such assessments are considered important from a financial stability perspective as they enable the identification of any potential pockets of vulnerabilities in a hypothetical scenario of interest rate hikes.

### 2. Data and Methodology

This analysis makes use of granular loan data which is available in the recently updated Central Bank of Malta's Real Estate Data Template, capturing the population of new real estate lending granted by all domestic banks. The analysis encompasses around 9,000 new residential RRE loans to the tune of €1.8 billion, which were first withdrawn between 2020Q4 and 2022Q2.<sup>20</sup> These represented fully-amortised loans granted to

Maltese natural persons for the purchase or upgrade of residential properties for own use, excluding any properties purchased by real estate developers, buy-to-let (BTL) loans, and stand-alone garages.<sup>21</sup>

The sensitivity tests are conducted at hypothetical 50 basis points intervals up to a maximum of 250 basis points on every loan at a granular level. Effectively this increase resulted in a weighted average interest rate of 5.2% at the peak, as opposed to the current weighted average of 2.7%.<sup>22</sup> Such interest rate level is similar to the previous peaks reached just before the onset of the Global Financial Crisis in 2008.<sup>23</sup> The analysis then looks at how the distribution of the LSTI ratio changes, as well as other variables such as LTV and LTI ratios, and different income groups. However, this Special Feature will focus predominantly on the most adverse scenario of a 250 basis points increase in the interest rate.

### 3. Descriptive Analysis of the Current Scenario

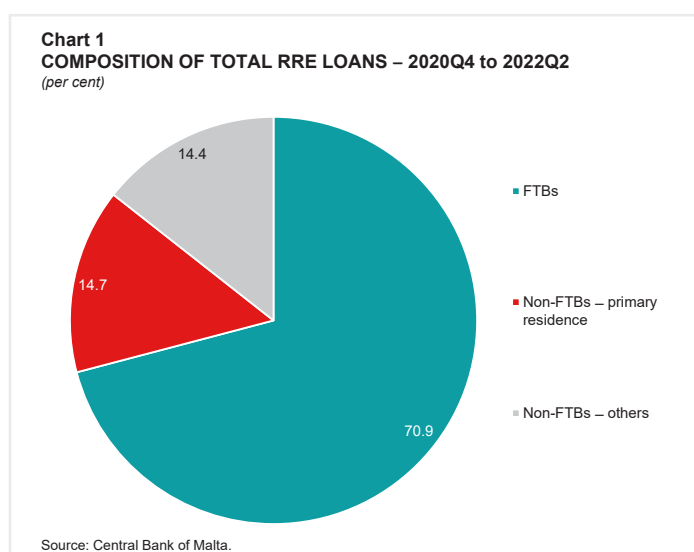
#### Characteristics of new lending

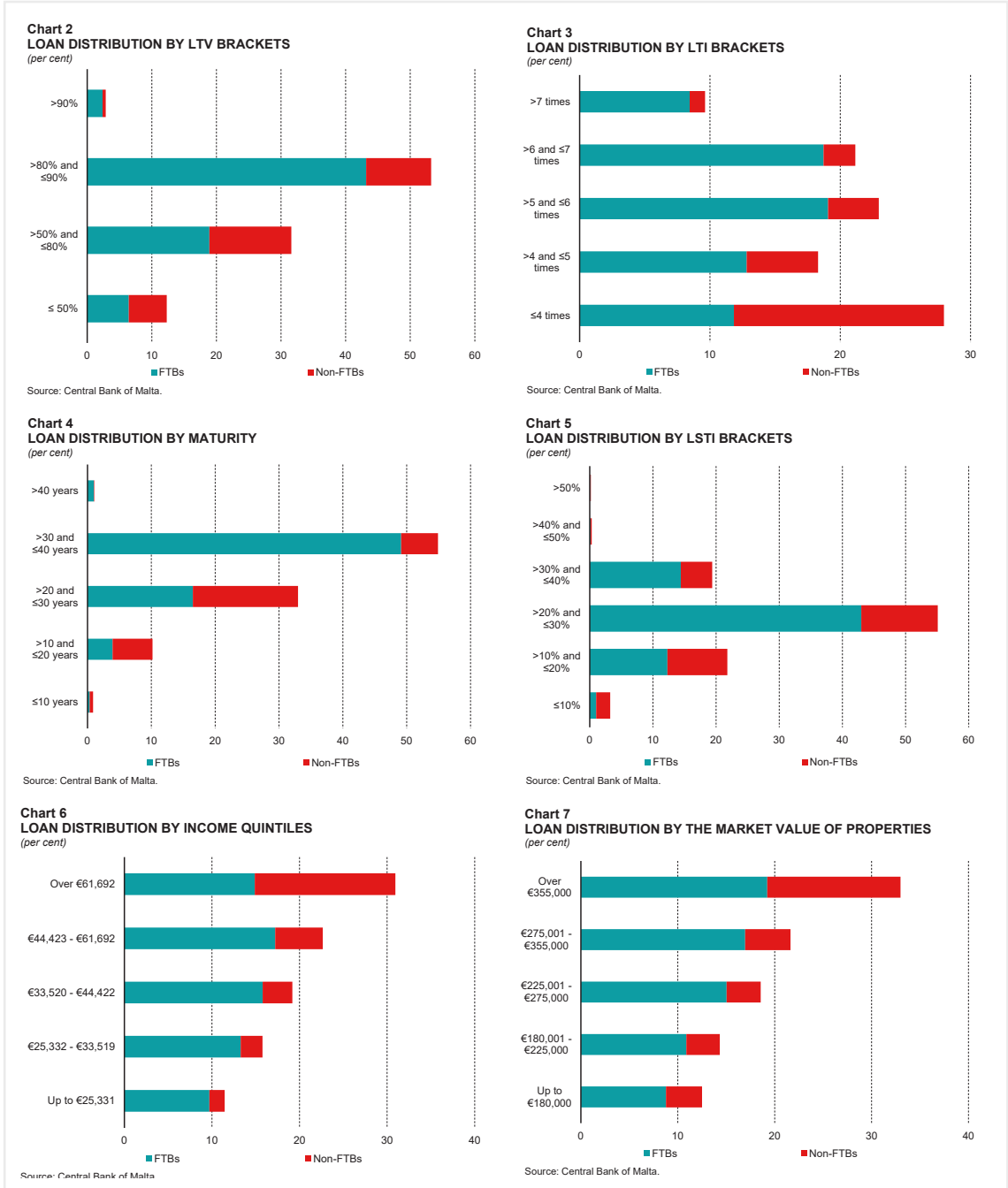
During the period reviewed, almost 71% of mortgages were granted to FTB, while about 15% related to non-FTBs purchasing their primary residence. The remaining 14.4% consisted of borrowers purchasing an additional residence, not aimed to serve as their primary residence (see Chart 1).

Just over half of the new RRE loans assessed were granted with an **LTV** of between 80% and 90%, the bulk of which were towards FTBs (see Chart 2). Meanwhile, RRE loans granted to non-FTBs lie predominantly in the 50% to 80% bucket, capturing 43.7% of the loans granted to non-FTBs. This, in part, reflects the prudent lending practices implemented under the Central Bank of Malta's Directive No. 16 on BBMs.<sup>24</sup>

RRE loans with an **LTI** of less than four times the gross income accounted for around 28% of the value of loans, of which more than half were towards non-FTBs (see Chart 3). This reflects the fact that the weighted average income of non-FTBs is almost double that of FTBs. Furthermore, non-FTBs were granted on average a lower loan amount in relation to the property value even if the latter is higher than the average property value purchased by FTBs. This, in part, reflects Directive No. 16, which imposes stricter constraints in terms of LTV for non-FTBs, but also the higher liquidity and savings generally available for non-FTBs. In contrast, just over half of the loans to FTBs fell in the five-to-six and six-to-seven times LTI buckets, with some loans also exceeding seven times the gross annual income, confirming previous evidence that a large portion of FTBs borrow a larger multiple over their income. This is also possible since FTBs tend to be younger – with a weighted average age of about 31 years, as opposed to the weighted average age of around 38 years of non-FTBs; as well as the weighted average **maturity** is longer at about 32.5 years, as opposed to almost 25 years for non-FTBs. The latter is in part also limited by the maturity term of 25 years for Category II buyers as stipulated in Directive No. 16. Indeed, the term of the loan for non-FTBs falls largely in the 20-30 years bucket, while most loans granted to FTBs are for a term of between 30 and 40 years (see Chart 4).<sup>25</sup>

Looking at loan servicing, just over half of the RRE loans were granted with an **LSTI** of between 20% and 30%, with most of the remaining loans carrying an LSTI of either 10% to 20%, or 30% to 40% (see Chart 5). This is in line with Directive No. 16, with only around 1% of





new RRE loans having an LSTI which exceeds 40%, with such loans generally falling out of scope of the Directive which adopted a stressed debt service-to-income (DSTI) limit of 40%. Djoudad (2012) found that a household is considered vulnerable when its debt service ratio exceeds 40%.<sup>26</sup> The LSTI for second-time buyers is less than that of FTBs, with 41% of the loans granted within the 20% to 30% bucket, followed by a third in the 10% to 20% bucket.

The loans assessed were also split into quintiles in terms of **gross income** of the borrowers and the **value of the property**. In terms of value, most of the loans fell in the highest quintile in both distributions. Loans granted to the highest 20% earners, that is those borrowers earning more than €62,000, represented 30.9% of the value of the loans granted. These largely reflected loans granted to non-FTBs, which accounted for

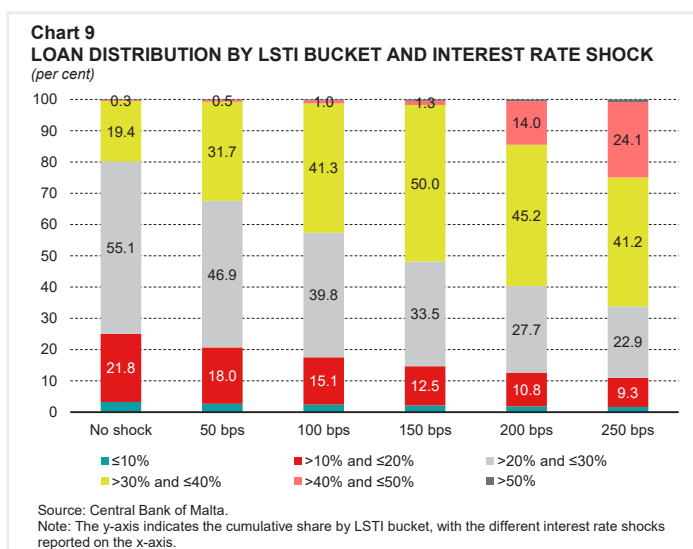
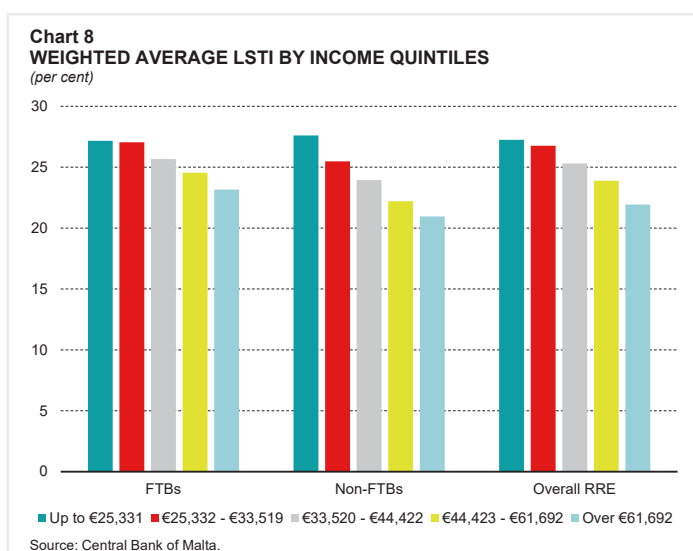
around 55% of the non-FTBs' loans. Otherwise, FTBs tend to be somewhat more concentrated in lower income quintiles (see Chart 6). Meanwhile, the highest 20% in terms of property value, that is more than €355,000, accounted for 33% of the value of loans. In absolute terms, these represented mostly FTBs, accounting for around 27% of all such loans, with almost half of the loans of non-FTBs also falling in this bucket (see Chart 7).

### Correlation between LSTI and other borrower-based indicators

Currently, the weighted average LSTI stood at 24.2%, but at 25.3% it is slightly higher for FTBs, while at 22.2% it is more conservative for non-FTBs. The strong positive correlation between the LSTI and LTI is in line with expectations, with the weighted average LSTI increasing significantly across the higher LTI buckets. A positive correlation, albeit less pronounced, is also observable between the LSTI and LTV, and against the market value of property, while a clear negative correlation exists when comparing the LSTI against gross income, with the lowest income bucket reporting the highest weighted average LSTI for both FTBs and non-FTBs (see Chart 8 and Annex 1). This suggests that existing mortgages with these characteristics will be affected the most if mortgage interest rates increase. Nevertheless, this analysis does not consider the existing net liquidity of households, whereby households may use part of their existing savings to compensate for their higher repayment burden without impacting their loan repayments.<sup>27</sup>

## 4. Increase in Interest Rate Scenarios

For the purpose of this analysis, the mortgage interest rate is assumed to increase in intervals of 50 basis points, up to a hypothetical increase of 250 basis points. As expected, the distribution of the value of the RRE loans would gradually shift to higher LSTI buckets. An increase of up to 150 basis points, which is in line with the shock implemented under the Directive No. 16, would see most RRE loans shift from an LSTI in the 20%-30% category (grey-coloured bar), which currently represents around 55% of total RRE, to the 30%-40% LSTI bucket (yellow-colour bar) which would account for around half of the RRE loans (see Chart 9). Despite the increase, results remain largely in conformity with the restrictions imposed by Directive No. 16 where the DSTI is not allowed to exceed 40% once stressed by 150 basis points. However, as mortgage interest rates rise up to 250 basis points, a noticeable increase in the 40%-50% LSTI bucket (light red bar) can be observed, to represent almost a fourth of the value of the loans granted, skewing the distribution



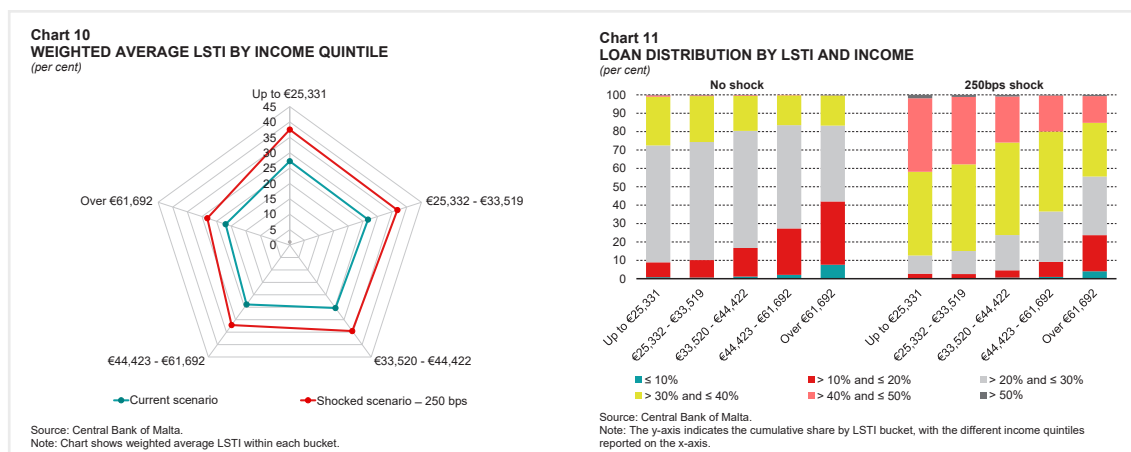
further towards higher LSTIs, and largely reflecting FTBs (see Chart 9). Nonetheless, loans within this bucket are predominately located closer to the LSTI limit of 40%. Yet, the share of loans having an LSTI of more than 50% (dark-grey bar) remained contained to less than 1%. A full 250 basis points increase would also result in the weighted average LSTI to rise by 8.3 percentage points to 32.5%, with the metric for FTBs reaching 34.5%, representing an increase of 9.2 percentage points, while the increase in LSTI for non-FTBs is lower at 6.3 percentage points to 28.5% (see Annex 1).

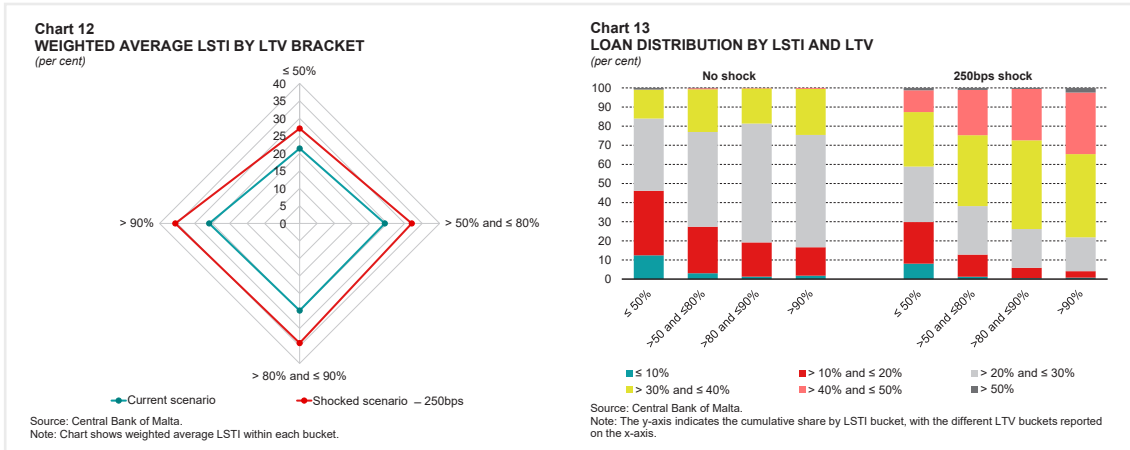
### LSTI by income distribution

Looking at the LSTI by income distribution, an increase of 250 basis points would impact especially the lowest income quintile, that is those borrowers with an income of up to €25,331. The weighted average LSTI would go up by 10.3 percentage points to 37.5%, with the effect being more pronounced for FTBs (see Chart 10 and Annex 1). On aggregate, this is still perceived to be within acceptable ranges with the remaining income generally enough to meet basic needs. Indeed, the 2017 *Household Finance and Consumption Survey* (HFCS) indicates that households within the comparable quintiles spend around 30-40% of their gross income on food and utilities.<sup>28</sup> However, the LSTI within each income bucket varies, highlighting the importance of assessing the impact of interest rate increases also by looking at the distribution. Chart 11 shows that an increase of 250 basis points would result in 45.5% of loans of the lowest income quintile having an LSTI of 30%-40% (yellow-coloured bar), up from the current 26.5%. Their debt repayments are still considered to be within acceptable ranges, with most of the remaining income available to be used on basic goods and services.

However, almost 40% of the value of loans would now fall within the 40%-50% LSTI bucket, up from just 0.8% in an unshocked scenario, possibly stretching their repayment capabilities, albeit the vast majority remained closer to 40%. Furthermore, almost 2% of these loans have an LSTI of more than 50%. Such loans with a shocked LSTI in excess of 40%, represented about 5% of the overall value of the loans granted, and could face higher financial burden since the level of disposable income available to spend on items other than basic needs would be significantly curtailed.<sup>29</sup>

As income increases, the effect of interest rate shocks on LSTI becomes less impactful. Indeed, while as indicated above, the weighted average LSTI for the lowest income group would increase by 10.3 percentage points following a shock of 250 basis points, the weighted average LSTI for the highest income group rises by a more contained 6.2 percentage points, with their weighted average LSTI reaching 28.1%. The share of loans with an LSTI of more than 40% also falls as income grows, with the highest income quintile having less than 15% of the value of the loans exceeding 40%. It is important to highlight that while the lowest income quintiles are more at risk in terms of repayment difficulties, they also have the least amount of loans in terms of value, with the lowest income quintile representing around 11% of the value of RRE loans, limiting somewhat credit risks for banks. Indeed, in value terms, just over half of the RRE loans granted reflect the top two quintile income groups.



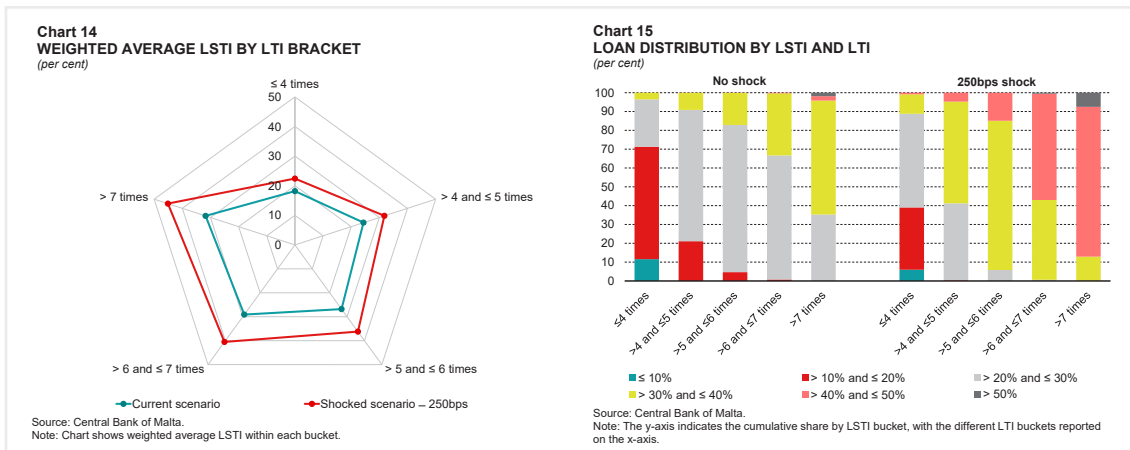


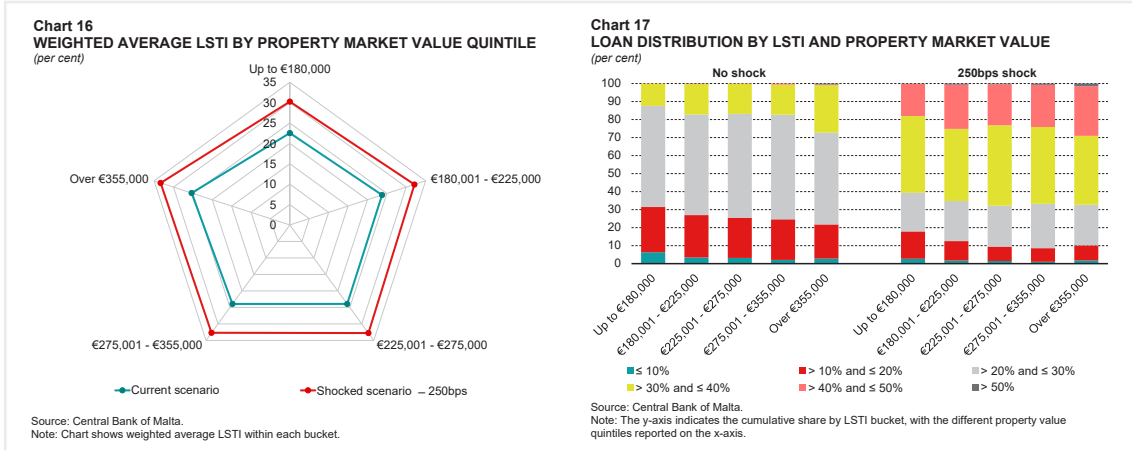
### LSTI by LTV buckets

The positive correlation between the LSTI and LTV would strengthen further in the case of interest rate hikes. At 25.8%, the highest weighted average LSTI ratio was in the maximum LTV bracket of over 90%. However, such loans represented just 2.9% of the overall loans granted during the period assessed (see Chart 12 and Annex 1). The LSTI would increase to 35.5% when shocked by 250 basis points. Focusing on the 80%-90% bracket, which accounted for just over half of RRE loans, the LSTI would increase by 9.3 percentage points to 34.2% in the most adverse scenario of 250 basis points increase in interest rates. In this case, the rise was mainly driven by FTBs whose LSTI would go up to 35.4%, as otherwise a shocked LSTI for non-FTBs was more contained at 29.8%. Looking at the distribution of loans, one can notice a similar trend, with just 12.6% of the loans with an LTV of up to 50% exceeding the LSTI of 40% once shocked, as opposed to 27.4% for the loans with an LTV between 80% and 90% (see Chart 13).

### LSTI by LTI buckets

Once shocked by 250 basis points, the weighted average LSTI exceeded 40% for those loans with an LTI of six times and over the gross income which accounts for about 30% of all new RRE loans, with FTBs being more of a concern (see Chart 14 and Annex 1). This is about 57% of the loans within the six-to-seven times bucket and 87.1% of the loans with an LTI of over seven times exceeded the 40% LSTI limit (see Chart 15). Just over a quarter of RRE loans were with LTI of less than four times. Their weighted average LSTI was obviously the most conservative, and in the most adverse interest rate shock, the ratio would rise by just 4.2 percentage points to 22.4%, with less than 1% exceeding an LSTI of 40%.



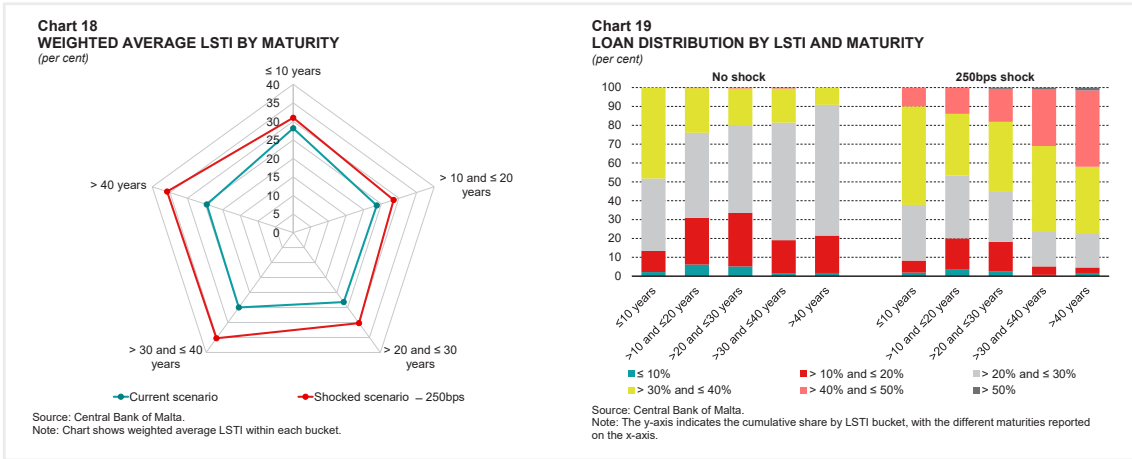


**LSTI by property value quintiles**

The weighted average LSTI by the different quintiles of property value, varies only marginally, ranging from 22.5% for the lowest valued properties of up to €180,000 to 25.3% in the highest quintile, with properties valued over €355,000. Such level of LSTI is in line with the general industry practice where loan repayments stand around a quarter of the gross income (see Chart 16 and Annex 1). After applying the full 250 basis points shock, the weighted average LSTI increases by around 8 to 9 percentage points across all quintiles, with the highest LSTI standing at around 33.3% for the highest quintile, while the lowest valued properties having a weighted LSTI of 30.2%. Only around 18% of loans in the lowest quintile of property value have an LSTI of more than 40%, with such share ranging at around 23% to 29% across all the other LSTI buckets (see Chart 17).

**LSTI by maturity brackets**

In the current scenario, loans within the lowest maturity bracket, that of up to 10 years, have the highest weighted average LSTI of 28.1%, since almost half of the loans have an LSTI of between 30% and 40% (see Chart 18 and Annex 1). This is effectively due to the lower repayment period which resulted in more concentrated repayments. However, these accounted for less than 1% of RRE loans and largely reflected the older cohort of borrowers with a weighted average age of almost 54 years. Loans with a maturity of more than 40 years are limited to just about 1% of the loans granted, with a more conservative LSTI of 24.5%, largely reflecting the youngest cohort, with an average age of less than 24 years. The weighted average LSTI in the remaining buckets varied marginally between 23.2% and 25%, with most of the loans having an LSTI of 20%-30%. However, the impact of the increase in interest rates is significantly more pronounced for the loans with a higher maturity term, since the longer the maturity, the more the number of years with



higher interest repayments. The weighted average LSTI for loans with a term of between 10 and 20 years would have increased by less than 5 percentage points to 28.5%, with 13.9% of these loans exceeding the 40% LSTI (see Chart 19). These represented borrowers with an average age of almost 46 years. However, the weighted average LSTI for those loans maturing between 30 and 40 years increased by more than 10 percentage points to 35.3%, with 31% of such loans exceeding an LSTI of 40%. This bucket reflected borrowers with a weighted average age of around 28 years.<sup>30</sup>

## 5. Concluding Remarks

This Special Feature aims to provide an analysis of how potential increases in interest rates on mortgages would eventually test households' loan repayment capabilities. In general, an interest rate shock of 150 basis points as stipulated in Directive No. 16, would not result in significant build-up of risk given that borrower-based metrics remain under check. However, interest rate increases of up to 250 basis points impacted mostly those borrowers which at the origination of the loan, had already stretched borrower metrics. Such 'stretched loans' are those mortgages which once shocked by 250 basis points would result in an LSTI that exceeds 40% and thus such borrowers could potentially experience repayment difficulties. These loans amounted to almost 2,000, around a fifth of the loans assessed. These tended to be FTBs, with an LTV of more than 80%, an LTI of more than six times and a term to maturity of more 30 years. Indeed, loans with such characteristics are common among almost half of these 'stretched loans'. However, since most of these borrowers were among the youngest cohort, such borrowers also tend to have prospects of higher incomes going forward, such that their LSTI drops over time. Furthermore, since the property generally consists of their only and primary residence, the likelihood that such borrowers default on their loan is expected to be contained given the drive for home ownership. However, this would imply that such borrowers would require an adjustment in their consumption patterns to continue honouring their debt repayments. Furthermore, as stated above, this analysis does not consider the existing net liquidity of households; whereby households may use part of their savings to compensate for their higher repayment burden.

Borrowers in the bottom bracket of income are also among the most vulnerable, with their weighted average LSTI increasing to 37.5% from the current 27.2%, with almost 42% of the loans granted to such income quintile exceeding 40% LSTI. However, these only represented about 600 loans (or 6.5% of the number of loans) equivalent to around 5% of the overall value of loans granted during the period assessed. This analysis however, does not consider prospective income growth. Indeed, when shocking the interest rate as a reaction to higher inflation, we are not considering that higher inflation may also result in higher nominal incomes, which would partly counterbalance the impact of higher interest payments. This is particularly true for those on low incomes where the cost-of-living adjustment mechanism tends to maintain real wages fairly stable.

Apart from impacting the LSTI of granted loans, an interest rate hike of 250 basis points would also impact the extent of new loans which can be granted should the LSTI be maintained below 40%. Based on the characteristics of the above, the credit amount of the 'stretched loans' would need to be on average almost 10% smaller (on median around 8%). This is equivalent to an approximate drop of €40 million, spread across the 2,000 'stretched loans', which would either need to be provided for by the buyers, or else compensated through the purchase of cheaper properties. Had this to materialise, it could potentially have implications for the property market and banks' profitability in terms of loss in profits on new lending. However, it is important to highlight that the €40 million represents just around 2.3% of the credit granted during the period assessed, and systemic implications are thus limited.

Annex 1 WEIGHTED AVERAGE LSTI		Current scenario	Adverse scenario (with applied shocks)				
		Weighted average interest rate (2.7%)	2.7% + 50bps	2.7% + 100bps	2.7% + 150bps	2.7% + 200bps	2.7% + 250bps
<b>Overall RRE</b>	100%	24.2%	25.8%	27.4%	29.0%	30.7%	32.5%
<b>FTBs</b>	70.9%	25.3%	27.0%	28.7%	30.6%	32.5%	34.5%
<b>Non-FTBs</b>	29.1%	22.2%	23.4%	24.6%	25.9%	27.1%	28.5%
Primary Residence	14.7%	23.5%	24.8%	26.2%	27.5%	28.9%	30.4%
Secondary Residence	14.4%	21.0%	22.0%	23.1%	24.3%	25.4%	26.6%
<b>OVERALL RRE</b>							
<b>LTV</b>							
Up to 50%	12.3%	21.4%	22.5%	23.6%	24.6%	25.9%	27.1%
Between 50% and 80%	31.6%	24.3%	25.8%	27.2%	28.8%	30.4%	32.0%
Between 80% and 90%	53.2%	24.9%	26.6%	28.4%	30.3%	32.2%	34.2%
Over 90%	2.9%	25.8%	27.6%	29.5%	31.4%	33.4%	35.5%
<b>LTI</b>							
Up to 4 times	28.0%	18.2%	19.0%	19.8%	20.6%	21.5%	22.4%
Between 4 and 5 times	18.3%	24.4%	25.7%	27.2%	28.7%	30.2%	31.8%
Between 5 and 6 times	23.0%	26.8%	28.5%	30.4%	32.3%	34.2%	36.2%
Between 6 and 7 times	21.2%	29.1%	31.2%	33.4%	35.7%	38.1%	40.5%
Over 7 times	9.6%	31.7%	34.2%	36.8%	39.5%	42.3%	45.1%
<b>Total gross income (TGI)</b>							
Up to €25,331	11.5%	27.2%	29.1%	31.1%	33.2%	35.3%	37.5%
Between €25,331 and €33,519	15.8%	26.8%	28.6%	30.5%	32.6%	34.6%	36.8%
Between €33,519 and €44,422	19.2%	25.3%	27.0%	28.8%	30.7%	32.6%	34.6%
Between €44,422 and €61,692	22.7%	23.9%	25.4%	27.0%	28.7%	30.4%	32.2%
Over €61,692	30.9%	21.9%	23.1%	24.3%	25.5%	26.8%	28.2%
<b>Market value of property</b>							
Up to €180,000	12.5%	22.5%	24.0%	25.4%	27.0%	28.6%	30.2%
Between €180,000 and €225,000	14.3%	23.8%	25.3%	26.9%	28.6%	30.3%	32.1%
Between €225,000 and €275,000	18.6%	23.9%	25.6%	27.3%	29.0%	30.9%	32.8%
Between €275,000 and €355,000	21.6%	23.9%	25.6%	27.2%	29.0%	30.8%	32.7%
Over €355,000	33.0%	25.3%	26.8%	28.4%	29.9%	31.6%	33.3%
<b>Maturity</b>							
Up to 10 years	0.9%	28.1%	28.7%	29.3%	29.8%	30.4%	31.0%
Between 10 and 20 years	10.2%	23.7%	24.6%	25.5%	26.4%	27.5%	28.5%
Between 20 and 30 years	33.0%	23.2%	24.5%	25.9%	27.3%	28.7%	30.2%
Between 30 and 40 years	54.9%	25.0%	26.9%	28.9%	30.9%	33.1%	35.3%
Over 40 years	1.1%	24.5%	26.6%	28.8%	31.0%	33.4%	35.8%
<b>FTBs</b>							
<b>LTV</b>							
Up to 50%	9.1%	22.9%	24.1%	25.3%	26.4%	27.9%	29.3%
Between 50% and 80%	26.7%	25.6%	27.2%	28.9%	30.6%	32.4%	34.3%
Between 80% and 90%	60.9%	25.5%	27.3%	29.2%	31.2%	33.2%	35.4%
Over 90%	3.4%	26.4%	28.3%	30.3%	32.4%	34.5%	36.7%
<b>LTI</b>							
Up to 4 times	16.7%	18.7%	19.5%	20.4%	21.2%	22.3%	23.3%
Between 4 and 5 times	18.1%	23.6%	25.0%	26.5%	28.0%	29.5%	31.2%
Between 5 and 6 times	26.9%	26.1%	27.9%	29.7%	31.6%	33.6%	35.6%
Between 6 and 7 times	26.4%	28.8%	30.9%	33.1%	35.4%	37.8%	40.3%
Over 7 times	11.9%	30.7%	33.2%	35.8%	38.4%	41.2%	44.0%
<b>Total gross income (TGI)</b>							
Up to €25,331	13.7%	27.2%	29.1%	31.2%	33.3%	35.5%	37.7%
Between €25,331 and €33,519	18.7%	27.0%	29.0%	31.0%	33.1%	35.2%	37.5%
Between €33,519 and €44,422	22.3%	25.7%	27.5%	29.4%	31.3%	33.3%	35.4%
Between €44,422 and €61,692	24.3%	24.5%	26.2%	27.9%	29.8%	31.6%	33.6%
Over €61,692	21.0%	23.2%	24.5%	25.8%	27.2%	28.8%	30.3%
<b>Market value of property</b>							
Up to €180,000	12.4%	24.7%	26.4%	28.1%	29.9%	31.8%	33.7%
Between €180,000 and €225,000	15.3%	25.0%	26.7%	28.5%	30.4%	32.3%	34.3%
Between €225,000 and €275,000	21.2%	24.6%	26.4%	28.2%	30.1%	32.1%	34.1%
Between €275,000 and €355,000	23.9%	24.7%	26.5%	28.3%	30.2%	32.2%	34.2%
Over €355,000	27.1%	26.5%	28.1%	29.9%	31.6%	33.5%	35.4%
<b>Maturity</b>							
Up to 10 years	0.5%	29.6%	30.2%	30.8%	31.4%	32.0%	32.7%
Between 10 and 20 years	5.5%	26.9%	27.9%	29.0%	29.9%	31.2%	32.3%
Between 20 and 30 years	23.3%	25.1%	26.6%	28.1%	29.7%	31.3%	33.0%
Between 30 and 40 years	69.3%	25.0%	26.9%	28.9%	31.0%	33.1%	35.3%
Over 40 years	1.4%	24.8%	26.9%	29.0%	31.3%	33.7%	36.1%
<b>NON-FTBs</b>							
<b>LTV</b>							
Up to 50%	20.2%	20.0%	20.9%	21.9%	22.9%	23.9%	25.0%
Between 50% and 80%	43.6%	22.8%	24.0%	25.2%	26.5%	27.7%	29.1%
Between 80% and 90%	34.5%	22.8%	24.1%	25.5%	26.9%	28.3%	29.8%
Over 90%	1.7%	23.7%	25.0%	26.4%	27.8%	29.2%	30.7%
<b>LTI</b>							
Up to 4 times	55.4%	17.9%	18.6%	19.4%	20.2%	21.0%	21.8%
Between 4 and 5 times	18.8%	25.9%	27.3%	28.7%	30.1%	31.6%	33.2%
Between 5 and 6 times	13.4%	29.8%	31.5%	33.3%	35.1%	37.0%	38.9%
Between 6 and 7 times	8.4%	31.3%	33.4%	35.6%	37.8%	40.1%	42.5%
Over 7 times	4.1%	38.2%	40.9%	43.7%	46.6%	49.6%	52.6%
<b>Total gross income (TGI)</b>							
Up to €25,331	6.0%	27.6%	29.3%	31.0%	32.8%	34.7%	36.6%
Between €25,331 and €33,519	8.6%	25.5%	27.0%	28.6%	30.2%	31.8%	33.6%
Between €33,519 and €44,422	11.6%	23.9%	25.3%	26.5%	28.1%	29.5%	31.1%
Between €44,422 and €61,692	18.7%	22.2%	23.4%	24.6%	25.8%	27.1%	28.4%
Over €61,692	55.1%	21.0%	22.0%	23.0%	24.2%	25.3%	26.5%
<b>Market value of property</b>							
Up to €180,000	12.8%	18.6%	19.5%	20.4%	21.3%	22.3%	23.4%
Between €180,000 and €225,000	11.9%	20.7%	21.8%	22.9%	24.0%	25.2%	26.4%
Between €225,000 and €275,000	12.1%	21.6%	22.7%	23.9%	25.2%	26.5%	27.8%
Between €275,000 and €355,000	16.1%	21.7%	22.9%	24.1%	25.3%	26.6%	28.0%
Over €355,000	47.2%	24.0%	25.2%	26.5%	27.9%	29.3%	30.7%
<b>Maturity</b>							
Up to 10 years	1.8%	27.3%	27.8%	28.3%	28.9%	29.4%	30.0%
Between 10 and 20 years	21.5%	21.7%	22.6%	23.4%	24.3%	25.2%	26.1%
Between 20 and 30 years	56.6%	21.3%	22.5%	23.7%	25.0%	26.3%	27.6%
Between 30 and 40 years	19.9%	24.9%	26.7%	28.6%	30.6%	32.6%	34.7%
Over 40 years	0.2%	21.2%	23.1%	25.0%	27.0%	29.0%	31.1%

Source: Central Bank of Malta.

## Notes

- <sup>1</sup> Source: U.S. Department of Agriculture (USDA).
- <sup>2</sup> Latest data pertain to September 2022, with the estimated HICP rate rising further to almost 10%. Source: Eurostat.
- <sup>3</sup> Source: ECB Press Release – Monetary policy decisions – September 2022.
- <sup>4</sup> Source: Eurostat.
- <sup>5</sup> Source: Central Bank of Malta: [Outlook for the Maltese Economy 2022:3](#) – August 2022.
- <sup>6</sup> Source: National Statistics Office (143/2022).
- <sup>7</sup> Inflation rose to 7.4% in September 2022. Source: National Statistics Office (186/2022).
- <sup>8</sup> Inflation rate based on the HICP.
- <sup>9</sup> Source: European Bank Authority (EBA) risk dashboard 2022Q2.
- <sup>10</sup> Source: ECB – Economic Bulletin Issue 5, 2022.
- <sup>11</sup> In the first half of 2022, resident mortgages and lending to corporates grew by 5.4% and 4.3%, respectively.
- <sup>12</sup> [ESRB 2015/1: Recommendation of the ESRB of 11 December 2015](#) on recognising and setting countercyclical buffer rates for exposures to third countries.
- <sup>13</sup> Source: [CCyB assessment for 2022 Q4](#).
- <sup>14</sup> [ESRB/2015/3: Decision of the ESRB of 11 December 2015](#) on the assessment of materiality of third countries for the Union's banking system in relation to the recognition and setting of countercyclical buffer rates.
- <sup>15</sup> The [CBM-MFSA O-SII policy document](#).
- <sup>16</sup> Further details on the latest O-SII decision are available in the [2022 CBM-MFSA O-SII statement of decision](#).
- <sup>17</sup> Prepared by Mr Christian Mamo, Senior Economist and Mr Shaun Zaffarese, Analyst within Financial Stability and Surveillance Office. The authors would like to thank Mr Andrew Spiteri, Manager within the same office, Ms Wendy Zammit, Head, Financial Stability Surveillance and Research Department and Mr Alan Cassar, Chief Officer Financial Stability and Statistics Division for their valuable suggestions.
- <sup>18</sup> As per CBM Directive No. 16, a stressed DSTI limit of 40% is applied for loans with a market value in excess of €175,000, where the DSTI assumes a shock to interest rates of 150 basis points. Loans which were granted an LSTI of more than 40% largely reflect those outside the scope of the Directive, being either sanctioned before the implementation of the Directive, or else falling outside its parameters.
- <sup>19</sup> Source: The ECB Survey of Professional Forecasters – Fourth quarter of 2022 [https://www.ecb.europa.eu/stats/ecb\\_surveys/survey\\_of\\_professional\\_forecasters/html/ecb.spf2022q4~eb4b9aa2c2.en.html](https://www.ecb.europa.eu/stats/ecb_surveys/survey_of_professional_forecasters/html/ecb.spf2022q4~eb4b9aa2c2.en.html)
- <sup>20</sup> The new mortgage lending represents credit limit granted to customers, which could also represent credit granted which would still need to be withdrawn in full. From the representative data outliers or errors were excluded.
- <sup>21</sup> From a total of 124 new BTL loans granted within the reference period, the vast majority (around 90%) had an LTV of less than 80%, largely reported in the lowest LTV bracket. Almost 90% of these loans also had an LTI of less than four times the income, which is in line with the high income reported amongst the majority of such borrowers, with almost two-thirds having an annual income over €62,280. Similarly, around 90% of these loans had a limited LSTI of less than 30%, with more than two-thirds being below the 20% mark. This also explains the low weighted average LSTI ratio which stood at 17.3% for BTL loans, which after assuming an interest rate shock of 250 basis points would still be contained at 20.5%. While this shock would result in a shift towards higher LSTI buckets, 93.5% of all BTL loans would still have an LSTI below the 40% mark, with only one loan marginally exceeding the 50% LSTI.
- <sup>22</sup> Some of the loans assessed are granted at an initial fixed reduced rate for the first few years and are then converted to variable rate. For such loans, the exercise assumes the interest rate hikes on the subsequent variable rates reported.
- <sup>23</sup> The interest rate on outstanding mortgages reached a peak of 5.45% in September 2008.
- <sup>24</sup> RRE loans are governed by CBM Directive No. 16 where the LTV for Category 1 borrowers, which largely consist of FTB, is limited to 90%. Meanwhile, Category 2 borrowers had an LTV limit of 85% up until June 2021, and up to 75% thereafter. The Directive 16 allows a 'Speed Limit' of 10% for Category 1 borrowers for properties less than €175,000, and 20% for Category 2 borrower, both in terms of volume of loans.
- <sup>25</sup> CBM Directive No. 16 stipulates that a maturity term of 40 years or the official retirement age – whichever occurs first – shall apply on Category 1 borrowers.
- <sup>26</sup> Djoudad, R. (2012). "A Framework to Assess Vulnerabilities Arising from Household Indebtedness Using Microdata", *Bank of Canada Discussion Paper*, No. 2012-3. Available at: <https://www.bankofcanada.ca/wp-content/uploads/2012/02/dp2012-03.pdf>
- <sup>27</sup> The Central Bank has also published a working paper which among others assessed the impact of a rise in interest rates on households based on the 2017 HFCS. This takes also into consideration the availability of liquid assets, which can cover their losses. Source: <https://www.centralbankmalta.org/site/Reports-Articles/2022/WP-04-2022.pdf>
- <sup>28</sup> These relate to the second and third quintile within the HFCS, which reported income of between €7.7k and €14.6k, and between €14.6k and €25.5k, respectively. Source: Household Finance and Consumption Survey in Malta: Main results from the Third Wave.

<sup>29</sup> Assuming an interest shock of 150 basis points, which is in line with the CBM Directive No. 16 for stressed DSTI, only around 2.6% of the loans have an LSTI of over 41%, the majority of which skewed at the bottom of the range. The thresholds were adjusted to 41% to allow for some rounding due to workings conducted.

<sup>30</sup> The customers with a loan maturing between 20 and 30 years would see their weighted average LSTI increase by 6.9 percentage points to 30.2%, having 18.0% of their loans exceeding the LSTI of 40%. This bucket reflects clients with a weighted average age of around 37 years.



## **2. DEVELOPMENTS IN THE BANKING SECTOR**

## DEVELOPMENTS IN THE BANKING SECTOR

### 2.1 Core Domestic Banks

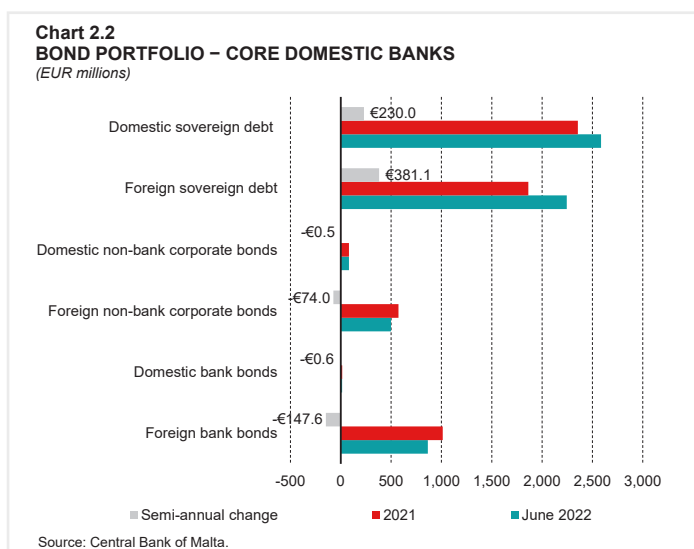
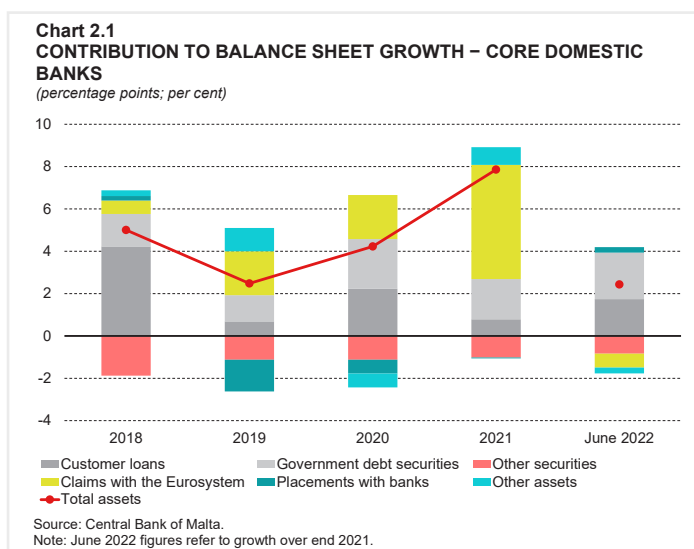
During the first half of 2022, the balance sheet of core domestic banks grew by 2.4% to €28.4 billion or 182.2% of GDP. This was mainly attributed to higher holdings of government debt securities, which represented almost a fifth of these banks' assets, followed by higher customer loans and interbank placements (see Chart 2.1).

The expansion in the sovereign bond portfolio reflected a 20.5% increase in holdings of foreign government bonds largely issued by European governments, and institutions (see Chart 2.2). On their part, domestic government bonds rose by around 10%. Accounting for 9.1% of assets, these bonds remained the most preferred investment class. Meanwhile, holdings of debt securities issued by banks and corporates declined further, accounting for 14.0% and 9.2% of the bond portfolio, respectively. These holdings remained largely skewed towards foreign entities, as holdings of domestic corporate and bank bonds remained limited. At the same time, the continued shift towards sovereign bonds also contributed to an improvement in the risk profile, with high-rated bonds rising by 16.3% and accounting for just over a third of the overall bonds. Moreover, as holdings of medium-rated bonds rose, they continued to account for more than half of the bond portfolio. Although holdings of low-rated bonds rose by almost 12%, these remained limited to just below 6% of the bond portfolio, while unrated/speculative bond holdings declined by 14.2% to represent 3.9% of total bonds.<sup>1</sup> At the same time, equities contracted by 2.1% to just 1.6% of the banks' overall assets.

In the first six months of the year, customer loans grew by 3.8%, to account for almost half of the banks' assets. This was mainly driven by resident lending, which was in turn spurred by further growth in mortgages. The latter grew by 5.4% in the six months to June 2022. In contrast, resident consumer credit continued its downward trend, contracting by a further 1.0%.

At the same time, growth in resident credit to corporates gathered momentum, driven by an increase of 3.1% in resident lending towards NFCs operating in real estate activities, wholesale and retail trade, and manufacturing.

Interbank placements, mainly in the form of deposits with related institutions rose by 5.3%, to represent around 5.0% of their assets. At the



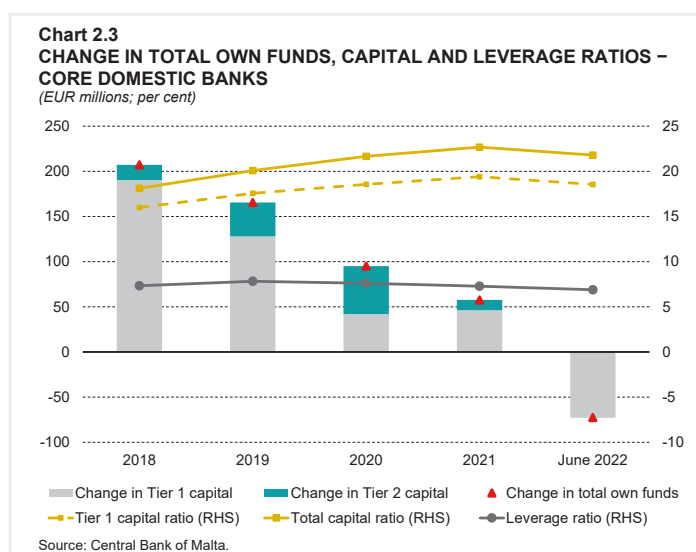
same time, placements with the Central Bank of Malta dropped by 3.0%, but at just over a fifth of overall assets, these still represented an important share of the banks' balance sheet.

The increase in the core domestic banks' balance sheet was mainly funded through higher customer deposits, which expanded by 3.8%, financing about 83% of these banks' assets. This was driven by higher resident customer deposits, which grew by 2.5%. In turn, this was largely driven by household deposits which rose by 4.2%, as households continued to build up their savings, yet deposits grew at a slower pace than a year ago. Furthermore, deposits from resident other financial intermediaries (OFIs), private NFCs and the general government also grew albeit to a lesser extent. Non-resident customer deposits, mostly from insurance corporations and pension funds, also went up by around 21%, but represented just above 8% of overall deposits. At the same time, other sources of funding decreased especially interbank funding, which contracted by over a quarter to just 1.4% of overall liabilities, while Eurosystem funding fell by around 2% by end June 2022. At 85%, most of the deposits remained withdrawable on demand. These increased by 5.5%, whereas term deposits contracted by around 9%, whereby in some instances rates for term accounts fell, disincentivising customers from locking their deposits for a number of years. Meanwhile, debt securities issued remained rather stable, representing only 1.0% of total assets.

In terms of capital and leverage, the total capital ratio fell by almost 1 percentage point to 21.8% in June 2022 (see Chart 2.3). This mainly reflected lower own funds, which fell by 3.0% largely owing to reduced other comprehensive income and retained earnings. The drop in the total capital ratio was also driven by an increase in the risk-weighted assets (RWA), reflecting higher credit risk exposures. However, despite increasing, this fell short of the rise in assets since banks sought to increase further their lending towards mortgages than to other sectors, thus attracting lower risk-weights. As a result, the risk profile improved by 0.8 percentage point to 38.3%. Although the leverage ratio declined to 6.9% in June 2022, from 7.3% in December 2021, it remained well-above the regulatory threshold.

The core domestic banks' holdings of liquid assets improved, owing to higher holdings of sovereign government paper, which offset the drop in placements with the Central Bank of Malta. As a result, the LCR rose by 14 percentage points, reaching 374% in June 2022. Moreover, the Net Stable Funding Ratio (NSFR) increased by 6.0 percentage points to 180.0% in June 2022. This healthy liquidity position is also visible from the higher holdings of unencumbered central bank-eligible counterbalancing capacity (CBC) assets, which rose by around 16%, representing more than a fifth of their aggregate balance sheet. Moreover, the unencumbered central bank-eligible share of CBC amounted to 2.1 times the total net liquidity outflows, implying that banks could survive around 60 days of net cash outflows during a stressed scenario, as assumed in the LCR framework.

After the strong recovery in 2021, core domestic banks' aggregate pre-tax profits almost halved to around €78 million as at June 2022. This was largely driven by a one-off litigation cost by one core domestic bank which overshadowed the improvement reported in all the remaining profitability components (see Chart 2.4). Should this one-off expense be excluded, pre-tax profits would have risen by more than a quarter in the first half of 2022. Given this one-off event, post-tax ROE and ROA declined to 2.3% and 0.2% as at June 2022, from 4.3% and 0.4% as at December 2021, respectively.<sup>2</sup> European banks continued to fare

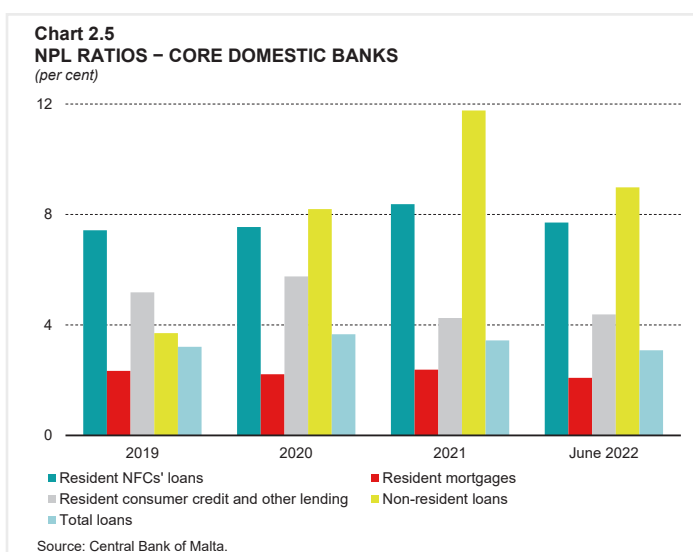
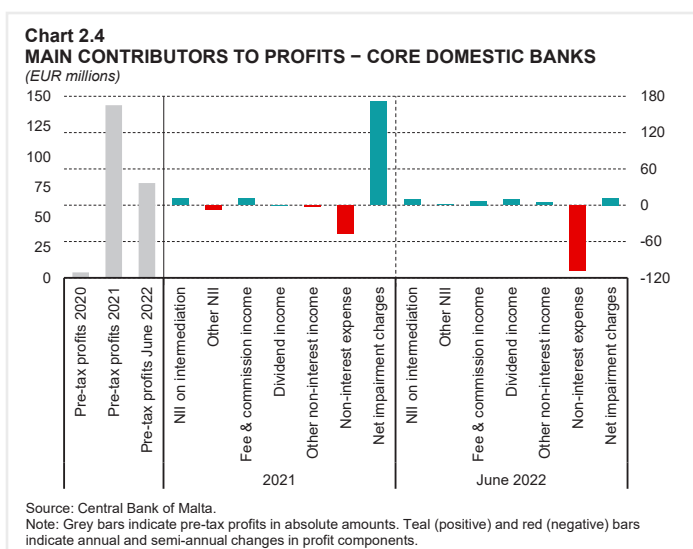


better, with a stable weighted average ROE and ROA of 7.9% and 0.5%, respectively in June 2022.<sup>3</sup> The one-off cost has also led to the operational cost-to-income ratio to weaken substantially to 90.3% in June 2022, up from 75.2% in December 2021. Otherwise, the ratio would have improved by 2.9 percentage points to 72.3%, which however is still higher than the EU banks' average of almost 62%.<sup>4</sup>

The litigation cost pushed up non-interest expenses by 26.1%. Excluding this charge, non-interest expenses would have still risen, but at the slower pace of 1.3%, mainly driven by higher staff expenses.

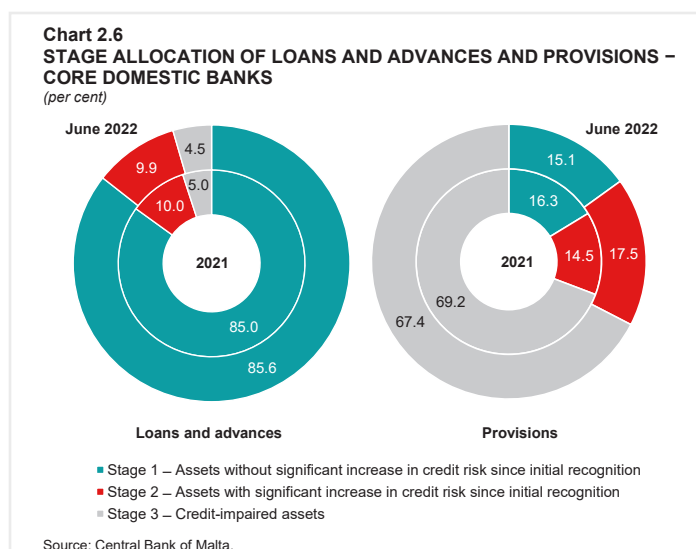
Meanwhile, non-interest income increased by 14.0%, particularly due to higher dividends received, as well as fee and commission income. Despite higher market volatility in the first half of the year, both trading and non-trading profits rose to contribute positively to profitability of these banks. NII expanded by 2.8%, driven by an increase from both intermediation and non-intermediation activities, on the back of greater lending volumes and higher securities holdings. This was also accompanied by lower interest expenses, as the interest rate on deposits dropped marginally. Concurrently, though to a much lower extent than in the previous year, these banks continued to register further reversals of impairment charges, indicating that credit risk has somewhat improved.

In fact, the quality of the loan books is improving, as evidenced from the stock of NPLs which dropped significantly by 8.5%. The drop in NPLs has resulted in the overall NPL ratio to recede by 0.4 percentage point to 3.1% in June 2022, slightly lower than in pre-pandemic times (see Chart 2.5). This development was driven by both resident and non-resident NPLs, which fell by 5.5% and 20.2%, respectively, amid expanding loan books. The resident NPL ratio improved by 0.2 percentage point to 2.7%, largely on the back of lower NPLs of corporates operating in professional, scientific, and technical activities and the construction sector, as well as the accommodation and food services, and the wholesale and retail trade sectors. In line with this, the resident corporate NPL ratio improved by 0.7 percentage point to 7.7%. Concurrently, the resident household NPL ratio narrowed by 0.3 percentage point to 2.3% in June 2022. This was entirely driven by an improved mortgage NPL ratio, which fell by 0.3 percentage point to 2.1%, reflecting the increase in resident mortgages coupled with a 7.2% decline in related NPLs. Although resident consumer credit NPLs also fell, the related NPL ratio deteriorated by a marginal 0.1 percentage point to 4.4% as resident consumer loans contracted by a greater extent. Meanwhile, the non-resident NPL ratio improved by 2.8 percentage points to 9.0%, mainly



due to lower NPLs of OFIs following the continued de-risking strategy by one of the core domestic banks.

Stage 3 loans, which are those loans having an increased credit risk to the point that they are considered impaired, fell by 6.5% to just less than 5% of overall loans (see Chart 2.6). However, Stage 2 loans, which are those loans associated with higher credit risk but are still not impaired, increased by 2.2%, pointing towards a potential increase in NPLs if conditions deteriorate further, going forward. Stage 1 loans rose by 4.5% to represent almost 86% of total loans.



Despite the drop in Stage 3 loans, no significant change was reported in Stage 3 provisions, with the latter only increasing marginally by 0.3% in June 2022. Since December 2021 overall provisions (including the Reserve for General Banking Risks as specified in the BR/09/2019) increased by 2.8%, predominantly in the form of Stage 2 provisions which went up by almost a quarter. This led to a significantly higher coverage ratio of 52.4% in June 2022, from 46.6% in December 2021. Although collateral backing NPLs declined, NPLs remained fully covered, also thanks to higher provisions, helping mitigate credit risk for these banks.

Loan exposures with forbearance measures declined by 2.5% to represent 4.2% of total loans, supporting the improvement reported in these banks' asset quality. This drop was entirely driven by lower non-performing forbore loans, as otherwise performing forbore loans rose to represent about 58% of overall forbore loans. This presents some risks going forward, since the likelihood that these loans turning non-performing is higher.

## 2.2 Non-core Domestic Banks

In the first six months of the year, non-core domestic banks posted a significant drop in their pre-tax profits. As a result, their post-tax ROE and ROA declined from 2.4% and 0.2% in December 2021, to 1.5% and 0.1%, respectively in June 2022. This was mainly driven by net impairment charges, which more than doubled, to represent 13.5% of total gross income. Such increase in impairments is still comparatively lower than the levels reported at the peak of the pandemic in 2020, indicating that the perceived increase in credit risk remained comparatively contained. The overall cost-efficiency of the non-core domestic banks improved, as the operational cost-to-income ratio narrowed by 0.7 percentage point to 81.5% in June 2022.

The improved ratio was driven by the gross income earned, which rose by 8.4%, stemming from both interest and non-interest-bearing activities. NII increased by 14.0% over end 2021, mainly reflecting higher lending activity. In addition, income from securities portfolios also rose, supporting further NII. Although to a lower extent, non-interest income grew by 4.6%, mainly driven by higher dividends as well as fee and commission income, with the latter increasing by 10.1% to account for more than half of non-interest income in June 2022. Concurrently, non-interest expenses also rose by 6.9%, driven by higher staff and other administrative expenses.

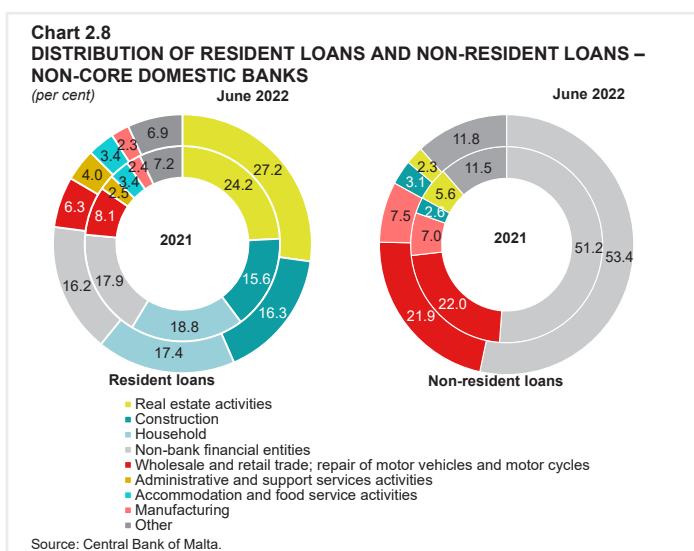
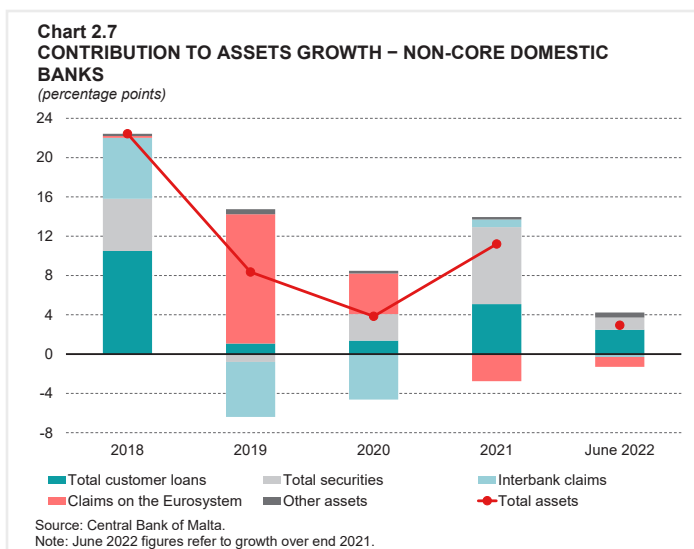
The balance sheet of the non-core domestic banks expanded by 2.9% in the first half of 2022 to €3.5 billion, equivalent to 22.3% of GDP. Such growth was mainly due to higher customer lending and increased investment in foreign fixed-income securities (see Chart 2.7). This was, in part, offset by a drop in placements with the Central Bank of Malta, which fell by 4.5%, to account for just above a fifth of overall assets. Furthermore,

interbank exposures also declined by 3.1% over December 2021, accounting for 8.9% of total assets.

Customer loans grew by 7.2% in June 2022, to account for more than a third of the non-core domestic banks' overall assets. While loans continued to be predominantly granted to non-residents, growth stemmed primarily from higher resident loans, with the share in the customer loan book rising to 35.6%. Loans to resident private NFCs grew by more than a quarter, largely towards companies operating in real estate and the construction sector, as well as to companies offering administrative and support services (see Chart 2.8). Lending to resident households and OFIs also grew, up by 10.3% and 9.1%, respectively. Non-resident customer loans rose by 1.3%, reflecting higher lending to foreign OFIs and households, as otherwise loans to non-resident NFCs fell by 3.5% over 2021.

The NPLs of non-core domestic banks rose by 7.9%. This resulted in an increase of the NPL ratio of this category of banks by 0.2 percentage point to 5.3% in June 2022. Non-resident NPLs rose by 6.9%, mainly driven by lending to the wholesale and retail trade and manufacturing sectors. NPLs to foreign households rose at a slower pace of 1.6%, while NPLs towards OFIs more than doubled, though the latter increased from a relatively low base. This pushed the non-resident NPL ratio to 11.0% in June 2022, from 10.4% six months earlier. Meanwhile, resident NPLs rose by 13.1%, mainly due to NFCs operating in the professional, scientific, and technical sector. The resident NPL ratio, however, remained unchanged at 1.4%, with the increase in resident loans almost neutralising rising NPLs.

The increase in NPLs was largely reflected in a rise in credit impaired loans classified as Stage 3. Over six months, these grew by 8.4%, with their share edging up by 0.1 percentage point to 8.2% of the overall loan portfolio. This increase in Stage 3 loans may in part reflect a shift from Stage 2 loans, with the former contracting by almost two-fifths over 2021. Concurrently, new lending contributed to a 9.4% increase in Stage 1 loans to account for around 88% of total loans. Overall provisions went up by 16.5% over 2021, mainly from Stage 3 provisions, which rose to 89.5% of overall provisions, though Stage 1 and 2 provisions also rose. This led to the coverage ratio to strengthen from 59.8% in end 2021 to 64.6% in June 2022, which mitigated somewhat credit risk.

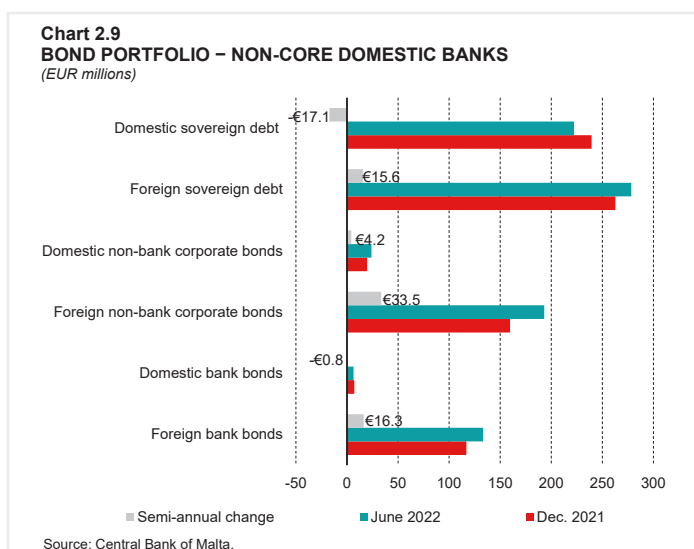


Credit risk concerns were to some extent also allayed, as loans with forbearance measures fell by 5.0% to just below 1% of the loan portfolio. Such drop was entirely driven by performing exposures with forbearance measures, which represented around a fifth of total forborne loans, as otherwise non-performing exposures with forbearance measures grew by 9.7% over 2021.

In the first six months of the year, securities holdings of this group of banks expanded by 4.0% to 31.0% of their overall assets, exclusively due to higher exposures to bonds.

The latter grew by 6.4% over 2021,

to represent 79.4% of the securities portfolio, as otherwise holdings of equities contracted by 4.2%. The increase in bond holdings reflected higher investments in foreign corporate and government bonds, as some non-core domestic banks invested their excess liquidity in the bond market, possibly to take advantage of market developments as yields rose (see Chart 2.9). Contrary to the previous year, non-core domestic banks' investments in MGS dropped by 7.2%, yet these still accounted for more than a quarter of the bond portfolio by mid-2022. At 43.0%, the debt securities portfolio continued to be concentrated in medium-rated bonds, despite contracting by almost 10% in absolute terms. Investments in high-rated debt securities also fell, although to a lower extent, pushing down their share in the bond portfolio by 3.9 percentage points to 27.0% in June 2022. On the other hand, holdings of unrated/speculative and low-rated bonds rose by around 74%, indicating a possible increase in search-for-yield, to represent the remaining 30.0% of the overall bond portfolio.



The expansion in balance sheet value reported over the first half of 2022 was mainly financed by higher inflows of customer deposits, which rose by 5.9% and is increasingly becoming the preferred source of funding for this group of banks. While more than half of such deposits were demand deposits, term deposits rose by 10.0% over 2021, mainly those maturing between three months and one year, mitigating somewhat roll-over risk in the short term. The expansion in customer deposits was largely driven by foreign non-money market funds (MMF) investment funds, to account for 7.1% of overall customer deposits, with foreign households and NFCs also reporting higher deposits to a lower extent. At the same time, resident customer deposits fell by 7.2% to just 2.2% of the overall resident customer deposits in the Maltese banking system in June 2022, marginally lower than six months earlier. Deposits of resident households declined but were partly compensated for by higher deposits from non-MMF investment funds and resident NFCs.

In contrast, interbank funding fell by 13.1% to 8.2% of overall assets in June 2022. This was driven by lower placements from related counterparts, which more than halved over 2021, accounting for 13.9% of overall interbank funding. The non-core domestic banks' participation in Eurosystem funding also waned during the first half of 2022, down by 13.5% over 2021, owing to reduced participation in PELTRO and USD operations. As a result, Eurosystem funding stood at 4.7% of assets in June 2022, with the outstanding Eurosystem funding mainly in the form of TLTRO-III, USD operations, and to a lower extent LTRO, and PELTRO operations.

Non-core domestic banks continued to operate in a highly liquid environment, with a LCR of over 357%, significantly well-above the regulatory minimum requirement. Meanwhile, the NSFR improved by almost 2 percentage points over the preceding six months, to reach 180.1%. Similarly, the overall capital position remained strong, with the total capital ratio at 20.5%, relatively unchanged over 2021, as both total own funds and RWAs grew by around 4% during the first six months of the year. The Tier 1 capital ratio increased by 0.1

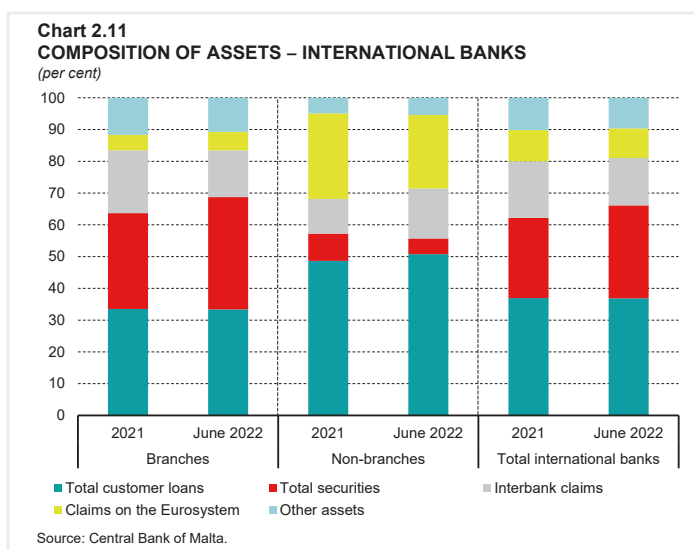
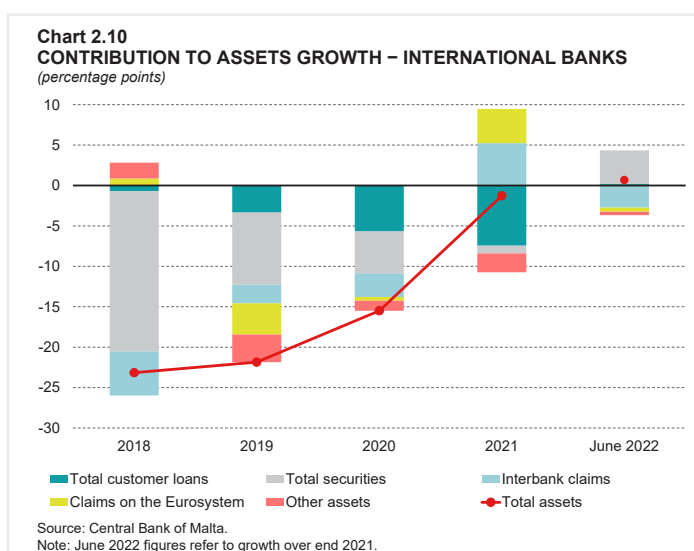
percentage point to 20.2% in the six months to June 2022. The increase in risk weighted assets stemmed entirely from higher credit risk exposures, particularly towards retail and corporates, as otherwise foreign exchange and operational exposures fell. This had a negligible impact on the risk profile of these banks, as the share of RWA on total assets dropped by a marginal 0.1 percentage point to 50.5% in June 2022. The leverage ratio of such banks declined by 0.5 percentage point to 9.5%, remaining well-above the regulatory threshold of 3%.

### 2.3 International Banks

During the first half of 2022, the number of international banks remained unchanged at ten, following the voluntary surrendering of the license by two subsidiaries of foreign banks in the last quarter of 2021.<sup>5</sup> The developments outlined in this section refer to the activities of four branches and six subsidiaries of foreign banks or stand-alone banks. Their combined assets increased by 0.7% over the first six months of 2022, reaching almost €11.5 billion and accounting for 73.7% of GDP.

The expansion in the balance sheet was almost exclusively from higher investments pushing their share in total assets by 4.0 percentage points to 29.2% in June 2022 (see Chart 2.10). This reflected increased bond holdings by the branches particularly of sovereigns outside the European Union, as equities fell by slightly less than a third (see Chart 2.11). Concurrently, the securities portfolio of subsidiaries and stand-alone banks contracted due to lower bonds and equities, which collectively represented only 5.0% of their balance sheet. The international banks' bond portfolio continued to consist primarily of unrated debt, although high-rated bonds increased to account for 4.2% of such portfolio.

Customer loans grew only marginally, accounting for over a third of total assets (see Chart 2.11). Branches granted higher credit mostly to foreign companies operating in the construction and public administration sectors, as well as in the transportation and administrative sectors. This added further concentration towards this sector, pushing its share in the overall international banks' loan book to more than 40% of customer loans in June 2022 (see Chart 2.12). Meanwhile, non-branches reported a slight drop in their balance sheet, partly due to a contraction in their customer loan book. This occurred as the increase in household lending was more than offset by lower NFC loans. Nevertheless, customer loans still made up more than half of these banks' assets.



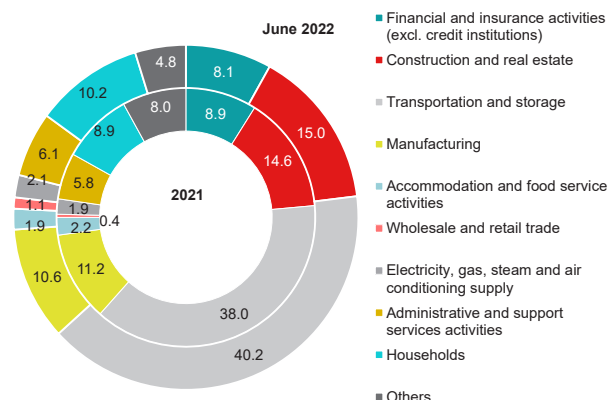
Interbank claims declined by 15.4%, which translated into the largest negative contributor to growth in assets. This was exclusively driven by the branches of foreign banks, due to lower placements held with unrelated credit institutions, and with the Central Bank of Malta. However, the latter still accounted for about 9% of overall assets in June 2022.

Credit quality stabilised with the NPL ratio standing at 1.4%. Branches, and to a limited degree non-branches, both reported a contraction in the outstanding stock of NPLs, which on aggregate dropped by 5.8%. This was however largely offset by a concurrent decrease in overall loans and advances. NPLs, predominantly from NFCs, fell by almost 30% over end 2021. These mostly represented loans to foreign firms primarily operating in the transportation and storage sector. Although NPLs related to consumer credit declined, these still accounted for the bulk of their NPLs. Meanwhile, forbore loans for this group of banks rose by 4.5% to represent 8.0% of their loan portfolio. This came exclusively from performing forbore loans, which continued to represent the bulk of forbore loans.

Provisions fell by around 5%, reflecting Stage 1 and Stage 2 loans, although the latter continued to represent the bulk of the provisions. Notwithstanding, as NPLs declined by a larger extent, the overall coverage ratio increased with overall provisions standing at 1.5 times the outstanding NPLs. As Stage 3 provisions rose, the coverage ratio based only on Stage 3 provisions would stand at 48.0%, up by around 7 percentage points.

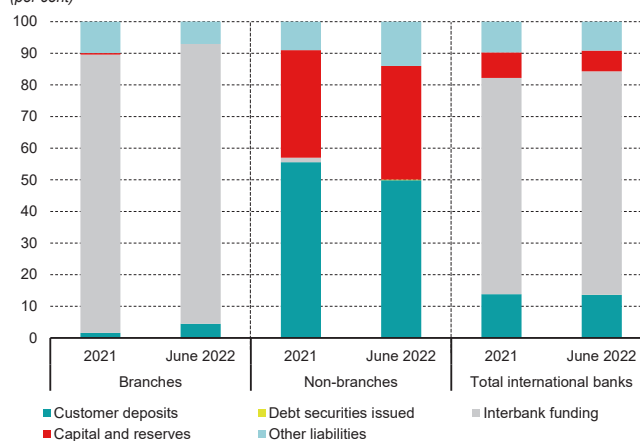
Funding through interbank borrowing grew by 4.0% since December 2021, financing 70.6% of the balance sheet compared to 68.4% six months earlier (see Charts 2.13 and 2.14), exclusively reflecting the

**Chart 2.12**  
**CUSTOMER LOANS BY SECTOR – INTERNATIONAL BANKS**  
(per cent)



Source: Central Bank of Malta.

**Chart 2.13**  
**SOURCES OF FUNDING – INTERNATIONAL BANKS**  
(per cent)



Source: Central Bank of Malta.

**Chart 2.14**  
**CONTRIBUTION TO LIABILITIES GROWTH – INTERNATIONAL BANKS**  
(percentage points)



Source: Central Bank of Malta.  
Note: June 2022 figures refer to growth over end 2021.

activities of branches. In contrast to previous years, the rise in interbank funding was solely from unrelated credit institutions as otherwise funding from the head office and related subsidiaries dried up. Branches also recorded an increase in non-resident customer deposits, though limited to just 4.5% of their overall assets. Conversely, stand-alone banks and subsidiaries continued to fund around half of their balance sheet from customer deposits, which however fell during the first half of the year. This was mostly attributable to lower deposits from non-resident households and NFCs primarily operating in manufacturing and wholesale and retail trade. Deposits continued to be held in the form of time deposits, accounting for just over 80% of overall deposits, limiting rollover risks on international banks' balance sheets.

Stand-alone banks and subsidiaries have also sought new ways to raise funding through the issuance of new debt securities, although these funded a negligible amount of assets. Funding obtained from capital and reserves has otherwise declined, although this remained a significant part of the funding structure of subsidiaries and stand-alone banks. Notwithstanding, in June 2022, the capital position of this sub-category of banks remained resilient with the total capital ratio standing at 43.5%, which is significantly above the minimum regulatory requirement. The drop in overall capital and reserves occurred because of lower retained earnings and other capital reserves, coupled with increases in RWAs. The latter was solely attributable to RWAs relating to foreign exchange and commodities risks as otherwise, RWAs relating to credit risk declined following reductions reported in interbank loans. Meanwhile, the leverage ratio grew by 5.4 percentage points to 39.6%, as drops in leveraged exposures were more significant than those in Tier 1 capital.

International banks remained characterised with high liquidity positions. The LCR remained elevated at around 1150%, almost double the level reported in June 2021, and significantly high compared to the last five years. The NSFR, which assesses liquidity on a longer-term horizon stood at 153.7%, such that both liquidity indicators exceeded the minimum regulatory requirements, by June 2022.

Overall profitability continued to improve, reflecting positive returns reported by the branches, with pre-tax profits rising by 3.1%, leading to the international banks' post-tax ROA to improve by 0.2 percentage point to 1.7%. This was mainly due to a decline in net impairment charges, which fell by 12.0% by June 2022, as otherwise net operating income dropped. NII declined marginally as the growth in income earned from interest-bearing activities was more than offset by higher interest expenses reflecting the increased interbank funding. Similar developments could be observed for non-interest-bearing activities, where the expansion in non-interest income driven by higher fees and commissions earned was outweighed by an increase in operating expenses. This resulted in the cost-to-income ratio to increase by around 3 percentage points to 50.1%.

Based on developments seen over recent years, the prominence of the international banks sector in the domestic financial system is expected to continue narrowing, as another international bank surrendered its license in the third quarter of 2022. These banks' business model is expected to remain concentrated towards foreign counterparties, as they continue to focus their business towards non-residents, and invest in foreign securities. Assets are expected to remain funded primarily from interbank borrowing, particularly for branches, though these banks might seek further diversification through deposits from foreign customers, maintaining very limited direct links with the domestic economy. International banks are expected to remain resilient, reporting higher than minimum liquidity buffers and sound capital levels, which is typical of this group of banks. The profitability outlook is more uncertain, owing to the current external macroeconomic environment. While at the current juncture these banks do not show any signs of weaker asset quality, this could change if macroeconomic prospects deteriorate further.

## Notes

<sup>1</sup> Investment-grade bonds carrying a rate of AA- or above are considered as 'high-rated bonds'. 'Medium-rated bonds' are those rated between A- and A+, whereas 'low-rated bonds' are those rated between BBB- and BBB+.

<sup>2</sup> Profits are based on 4-quarter moving sums.

<sup>3</sup> Source: EBA Risk Dashboard Q2 2022.

<sup>4</sup> See note 3.

<sup>5</sup> Data for December 2021 and June 2022 does not include CommBank Europe Limited and Yapi Kredi Bank Malta Limited.





### **3. STRESS TESTS**

### 3. STRESS TESTS

The Bank continues to monitor the resilience of the banking system's solvency and liquidity positions by running a suite of stress tests and sensitivity analyses, that form part of the Bank's financial stability toolkit, as well as other ad hoc analyses, as deemed necessary. The following sections present updated results for two stress tests included in the *Financial Stability Report 2021*, namely the NSFR, and the interest rate risk in the banking book (IRRBB) stress tests. In addition, the sensitivity analyses which assume a drop in house prices and a credit quality deterioration in banks' debt securities, as well as, two liquidity stress tests which feature persistent deposit withdrawals (PDW) and the LCR, have been reintroduced. Overall, results show that the banking system can withstand the postulated severe, yet plausible, hypothetical shocks.

The Central Bank of Malta's stress tests reaffirm the overall strong resilience of the banking system's solvency and liquidity positions, with few banks' liquidity position being markedly strained under the more severe adverse scenarios.<sup>1</sup> The post-shock Tier 1 capital ratios of the core domestic, non-core domestic and international banks remained comfortably above the regulatory threshold of 6% in all the solvency stress tests, while the liquidity stress tests showed that their liquidity buffers were mostly sufficient to absorb the assumed outflows despite the severity of such shocks. There is also an overall improvement in resilience for both the solvency and liquidity stress tests compared to the previous exercise, suggesting that banks are adapting their business models to be more resilient against potential adverse conditions.

#### 3.1 Sensitivity Analyses

##### 3.1.1 House Price Drop

This sensitivity test evaluates the impact of two adverse scenarios assuming an exogenous shock to house prices on the core domestic banks' balance sheets over a 1-year horizon. As the main mortgage lenders, only core domestic banks are in scope of this test. The decrease in house prices is reflected in reduced property-related collateral values, which for core domestic banks correspond to the predominant type of collateral backing loans. In addition, the test also considers a simultaneous increase in NPLs across all sectors, through the wealth effect channel. The first adverse scenario applies an exogenous shock of 7.5% (approximately 1 standard deviation of the house price index), paired with an increase in NPLs of 4%, with the link being determined via the Bank's macroeconomic model [STREAM](#). The second adverse scenario applies a 30% drop in house prices (approximately 4 standard deviations), paired with an 18% increase in NPLs.

The test assumes that as property-related collateral values decline, banks would have to increase their loan loss provisions accordingly, to satisfy the requirement of full NPL coverage. In addition, the NPLs resulting from negative wealth effects would lead to a further increase in loan loss provisions. While the increase in provisions is charged to capital, the higher risk weights applicable to newly classified NPLs lead to an increase in RWAs. As a result, the shocks applied in this test have an impact on both the numerator – the increase in loan loss provisions charged to capital – as well as the denominator of the Tier 1 capital ratio – higher risk-weights applicable to newly classified NPLs.

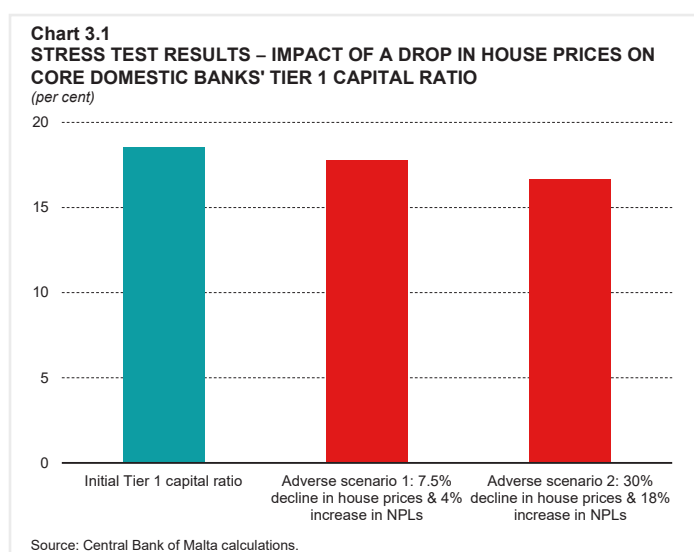


Chart 3.1 shows that core domestic banks' Tier 1 capital ratio of 18.55% would drop to 17.74% and 16.67% under adverse scenarios 1 and 2, respectively. These drops are equivalent to 0.81 and 1.89 percentage points in the core domestic banks' Tier 1 capital ratio. In December 2021, the drops were equivalent to 0.99 and 2.11 percentage points, meaning that banks are now more resilient to the drop in house prices. This is driven by an increase in the provisions held by banks over the period under review which resulted in less under-provisioning under the adverse scenarios when compared to December 2021, meaning that less loan loss provisions needed to be charged to capital. At the individual bank level, all core domestic banks would be able to absorb the impact of the exogenous shocks, with the post-shock Tier 1 capital ratio surpassing the regulatory minimum as well as exceeding their respective Total SREP Capital Ratio (TSCR).

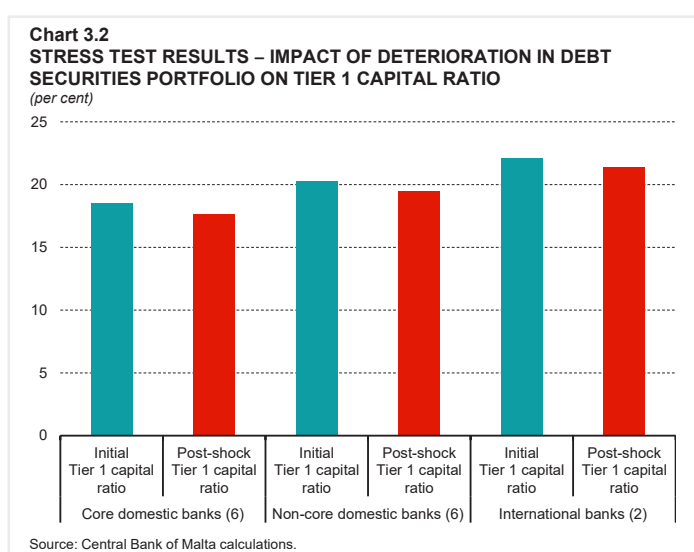
### 3.1.2 Credit Quality Deterioration

This sensitivity test assesses the debt securities portfolios of core domestic, non-core domestic and international banks, against a potential deterioration in their credit quality. This test is based on the macro stress testing framework's market risk module applied in isolation. The methodology and assumptions differ according to accounting treatment and issuer type (sovereign or otherwise). Specifically, the test quantifies credit risk for debt securities held at amortised cost (AMC) against a 3-notch downgrade in their official credit rating, while sovereign and non-sovereign FV debt securities are assessed via a widening of the credit spread and the application of valuation haircuts, respectively. Banks which do not hold any debt securities, are naturally excluded from this test given that such banks are not affected by these shocks.<sup>2</sup>

Compared to December 2021, the holdings of debt securities increased for both core and non-core domestic banks, while those for international banks decreased slightly. Most of these portfolios consist of investment grade (rated BBB- or better) debt securities at 99%, 93% and 100% of the three respective bank categories' portfolios, remaining broadly stable when compared to December 2021.<sup>3</sup> This reflects a persistent preference for banks to hold high-quality instruments, despite the low yield environment.

As in previous years, securities held for at FV through profit and loss (FVTPL), account for a very minor portion of the banks' portfolio. The share of debt securities accounted for at AMC, remained stable for core domestic and international banks when compared to December 2021, at 63% and 44% of their debt securities in June 2022. However, non-core domestic banks have increased their holdings of AMC debt securities from 60% to 93%, potentially with the aim of insulating banks from adverse market movements. The remaining securities are held at FV through other comprehensive income (FVOCI).

Chart 3.2 presents the impact on the three bank categories, with the number in brackets being the number of banks in scope of the test. The Tier 1 capital ratio would drop from 18.55% to 17.63% for the core domestic banks, from 20.24% to 19.44% for the non-core domestic banks and from 22.10% to 21.39%, for the international banks. The drop in capital is equivalent to 0.92, 0.80 and 0.71 percentage points for the three bank categories, respectively, which is relatively lower than the impact exhibited in December 2021. Indeed, the impact as of December 2021 was estimated at drops in the Tier 1 capital ratio of 1.07, 2.05 and 0.23 percentage



points for the three respective bank categories. While the impact on core domestic and international banks remained comparable, non-core domestic banks now experience a lower impact due to the shift towards AMC debt securities in their debt portfolio.

The materialisation of the applied shocks would leave all three bank categories in a comfortable position to absorb potential losses, when benchmarked against the regulatory minimum Tier 1 capital ratio of 6%. The same is applicable at the individual bank level, where resulting Tier 1 capital ratio would also exceed the banks' respective TSCR.

### 3.2 Liquidity Stress Tests

The following subsections present the assessment of banks' liquidity position under three frameworks. The frameworks are complementary and assess banks' resulting liquidity position under a 4-week period of PDW, as well as banks' short and longer-term position via shocks to the components of the LCR and the NSFR, respectively.

#### 3.2.1 Persistent Deposit Withdrawals

The PDW framework assesses whether banks' highest-quality liquid assets are sufficient to meet the expected liquidity outflows, in a bank-run type scenario. The framework considers extreme outflows over a period of five days and the subsequent three weeks to assess the absorption capacity of the banks' CBC. The CBC is made up of, *inter alia*: cash, excess on the banks' reserve requirements with the Bank, and funds raised from the sale of marketable securities. A bank is assumed to become illiquid if its stressed CBC is insufficient to meet the expected withdrawals.

Two adverse scenarios are considered. Under the first adverse scenario, banks can obtain funding from standard Eurosystem monetary operations only against eligible debt securities already pledged with the ECB as at the reference date – June 2022. A bank must be a signatory of the Bank's [Directive No. 8](#) to participate in monetary operations and pledge any eligible debt securities. The remaining unencumbered FV debt securities are sold at fire sale prices. Under the second adverse scenario, banks are allowed to tap further into monetary policy operations by pledging all eligible debt securities with the ECB, and then sell the remaining unencumbered but not ECB eligible FV securities at fire sale prices. This adverse scenario can be deemed more plausible due to the ECB's ongoing commitment to offer liquidity assistance. Under both adverse scenarios, banks are assumed to refrain from selling their AMC debt securities to raise funds, given that these bonds are held with the intention of generating a regular stream of coupon payments, and the final principal upon maturity. The extent of liquidity outflows from deposits is determined by the term-to-maturity, and the assumed outflows which differ for the retail, corporate and other customers categories. The same outflow rates on deposits are considered under both adverse scenarios. Finally, it is assumed under both adverse scenarios that intragroup funding and interbank funding would be suspended and withdrawn on the first day of the stress horizon.<sup>4</sup>

Tables 3.1 and 3.2 present the results of the PDW under both adverse scenarios as of June 2022, with all three bank categories maintaining excess liquidity buffers at the end of the stress horizon under both adverse scenarios. Compared to December 2021, the CBC under adverse scenario 2 increased from

**Table 3.1**

**STRESS TEST RESULTS – IMPACT OF PDW– ADVERSE SCENARIO 1, RESTRICTED ECB FUNDING, EXCESS LIQUIDITY TO TOTAL CBC**

*Per cent*

Bank Category	Day 1	Day 2	Day 3	Day 4	Day 5	Week 2	Week 3	Week 4
Core domestic banks	88	85	82	79	76	72	69	66
Non-core domestic banks	83	78	74	69	65	60	56	52
International banks	98	95	93	91	89	87	85	84

Source: Central Bank of Malta calculations.

**Table 3.2****STRESS TEST RESULTS – IMPACT OF PDW – ADVERSE SCENARIO 2, UNRESTRICTED ECB FUNDING, EXCESS LIQUIDITY TO TOTAL CBC***Per cent*

Bank Category	Day 1	Day 2	Day 3	Day 4	Day 5	Week 2	Week 3	Week 4
Core domestic banks	90	87	85	82	80	77	74	71
Non-core domestic banks	85	81	77	73	70	66	62	59
International banks	98	95	93	91	89	87	85	84

Source: Central Bank of Malta calculations.

€10.6 billion to €12 billion for core domestic banks, driven mainly by an increase in their holding of marketable securities and, to a lesser extent, balances with credit institutions on the assets side, while there was a decline, from €1.7 billion to €1.4 billion, for non-core domestic banks and, from €952 million to €715 million, for international banks. In December 2021, under adverse scenario 2, the banks' excess liquidity to total CBC at the end of the 4-week horizon was equivalent to 67%, 64% and 84%, respectively. As shown in Table 3.2, results for June are comparable, with the difference in results reflecting the minor changes in the three respective bank categories' CBC. At an individual bank level, all banks would manage to survive the entire 4-week stress test horizon, in contrast to December 2021, when weaknesses were observed in one small bank.

**3.2.2 Liquidity Coverage Ratio Stress Test**

The LCR framework assesses the ability of banks to survive a period of intensified liquidity strains over a 30-day horizon, through their buffer of high-quality liquid assets (HQLA). The LCR is calculated as the ratio of HQLA to net liquidity outflows (outflows minus inflows over a 30-day period), benchmarked against a regulatory minimum requirement of 100%.

The framework is run on a baseline and four adverse scenarios. The baseline scenario considers the benchmarks haircuts for HQLA and inflow/outflow rates set out in the [European Commission \(EC\) Delegated Regulation \(EU\) 2015/61](#) (hereafter, LCR Delegated Regulation), to serve as a monitoring tool for the LCR reported by banks.<sup>5</sup> The adverse scenarios assume higher outflow rates from those prescribed in the LCR Delegated Regulation, paired with higher withdrawals from term deposits (fixed for at least 30 days) held by residents, non-residents, or both. The HQLA buffer remains unchanged in all four adverse scenarios. Table 3.3 provides a summary of all the scenarios considered in the LCR framework.<sup>6</sup>

Chart 3.3 presents the resulting LCR based on June 2022 reference date for the three bank categories, under the baseline and four adverse scenarios. Compared to December 2021, the LCR of core and non-core domestic banks increased from 368% to 387%, and from 349% to 356%, respectively, while the LCR of international banks declined, from 3881% to 1369%. Under all four adverse scenarios, the three bank categories manage to surpass the 100% regulatory minimum requirement. Under adverse scenario 4, the LCR of the respective three bank categories falls to 188%, 182% and 603%. While core domestic banks have closer

**Table 3.3****DESCRIPTION OF BASELINE AND ADVERSE SCENARIOS (LCR FRAMEWORK)**

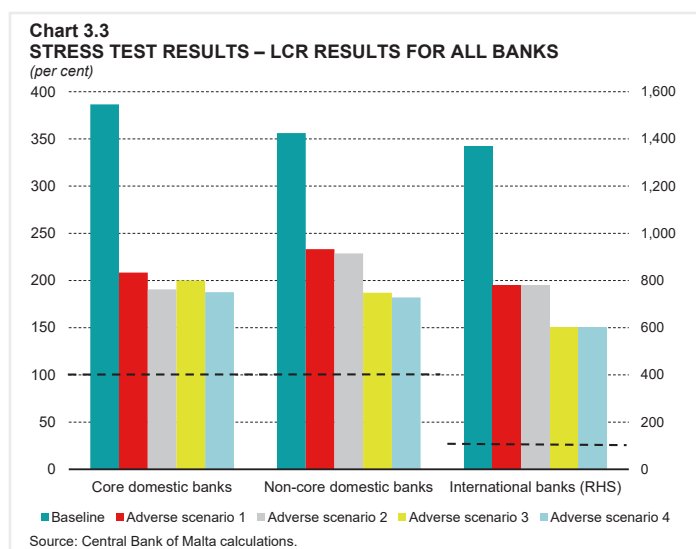
Scenario	Description
Baseline	Haircuts and outflow/inflow rates as prescribed by the LCR Delegated Regulation
Adverse:	
Scenario 1	Higher outflows compared to the LCR Delegated Regulation
Scenario 2	Adverse scenario 1 with additional withdrawals of resident time deposits (>30 days)
Scenario 3	Adverse scenario 1 with additional withdrawals of non-resident time deposits (>30 days)
Scenario 4	Adverse scenario 1 with additional withdrawals from both resident and non-resident time deposits (>30 days)

Source: Central Bank of Malta.

ties to the domestic economy, and thus impacted more under adverse scenario 2, which includes additional withdrawals from resident time deposits exceeding 30 days, the impact on non-core domestic and international banks is mostly driven by the additional withdrawals from non-resident time deposits exceeding 30 days. Indeed, the share of non-residents' deposits to total time deposits exceeding 30 days is at 79% for non-core domestic and 90% for international banks, respectively.

At an individual bank level, weaknesses can be observed in a few small banks, which fall below the regulatory minimum 100%, under all four adverse scenarios.

Such vulnerabilities must be viewed in the context of the severity of the shocks applied, which are necessary to assess systemic risks. It is also worth noting that the banks' deposits base has increased by a further €5.6 billion compared to December 2021, to reach €27.6 billion, making them more sensitive to shocks, considering deposit withdrawals. It should be emphasized that, in exceptional circumstances, the LCR Delegated Regulation allows banks to go below this requirement if such adverse scenarios occur, provided that a plan detailing how the LCR will be restored back to 100% is submitted to the relevant competent authority (CA). However, a comparison of results from previous runs of the frameworks points to sufficient resilience across banks, despite divergencies in starting levels of HQLA at respective reference dates.



### 3.2.3 Net Stable Funding Ratio Stress Test

The NSFR framework assesses the liquidity position of banks over a longer time-horizon to determine potential structural long-term liquidity risks by targeting any potential mismatches between long-term assets and short-term sources of finance on the liabilities side. The NSFR is calculated as the ratio of the banks' holdings of available stable funding (ASF) to their required stable funding (RSF), calculated in the reporting currency for all their transactions, and should be at a minimum of 100%.

The framework is based on a baseline and three adverse scenarios. In the baseline scenario, the ASF and RSF factors applied are those prescribed in the [Regulation \(EU\) 2019/876](#) (hereafter, the CRR2 Regulation). The three adverse scenarios target different components of the banks' ASF and RSF that are deemed most relevant in their business models. Table 3.4 provides a summary of all the scenarios considered in the NSFR framework.<sup>7</sup>

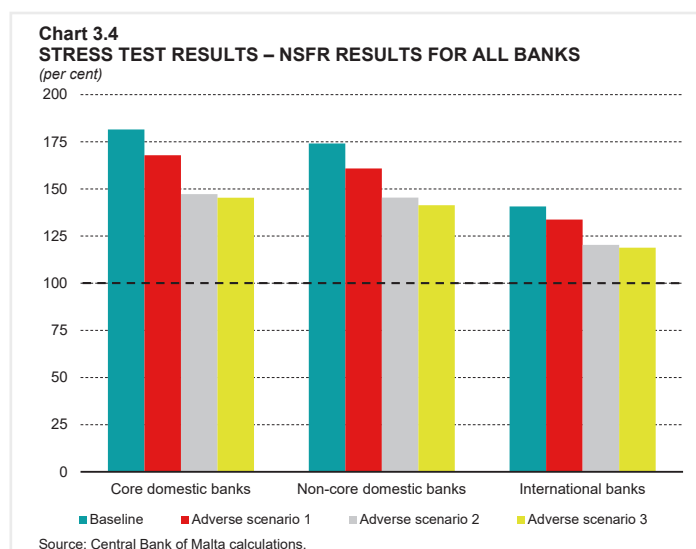
**Table 3.4**

#### DESCRIPTION OF BASELINE AND ADVERSE SCENARIOS (NSFR FRAMEWORK)

Scenario	Description
Baseline	ASF and RSF factors as prescribed by the CRR2 Regulation
Adverse:	
Scenario 1	A higher run-off for retail and wholesale deposits impacting the availability of stable funding
Scenario 2	Adverse scenario 1 with some loans become non-performing requiring more stable funding to support them impacting the RSF
Scenario 3	Adverse scenario 2 with pressure in the market reducing the value of bonds and equities (Level 1, 2A and 2B HQLA and other securities) implying the need for further stable funding

Source: Central Bank of Malta.

Chart 3.4 presents the resulting NSFR, based on June 2022 reference date for the three bank categories, under the baseline and three adverse scenarios. Compared to December 2021, the NSFR of core domestic banks increased from 175% to 182%, while the NSFR of non-core domestic and international banks declined from 185% to 174%, and from 175% to 141%, respectively. Under the adverse scenario 3, which combines all the shocks, the NSFR of the three respective bank categories falls to 145%, 141% and 119%, respectively, remaining above the 100% minimum requirement. Like December 2021, the largest impact stems from adverse scenario 2, which considers an increase in NPLs due to the large concentration of loans for banks in their asset portfolio.



At an individual bank level, overall results show that banks are operating with ample liquidity and manage to maintain a NSFR above the 100% minimum requirement even in the most adverse scenario, with only two small banks falling below the minimum requirement under adverse scenario 2. These shortfalls are driven by the severity of the assumptions applied, which leads to such vulnerabilities being detected at the individual level. If, at any time, the NSFR of an institution falls below this requirement, or is expected to fall below it, the institution shall immediately notify the CA, and submit without undue delay a timely restoration plan of the NSFR. CAs are expected to assess the reasons for the institution's failure to maintain the minimum level before taking any supervisory measures.

### 3.3 Interest Rate Risk in the Banking Book

The IRRBB framework analyses the impact stemming from changes in the yield curve on the banks' business model. Due to the current interest rate environment, where the ECB has been raising interest rates to unwind the accommodative monetary policy stance, and guard against the persistent upward shift in inflation expectations, scenarios assuming increases in the short end of the yield curve have become more relevant. Thus, the framework assesses the impact on the NII from three different shocks to the yield curve, as prescribed in Annex 2 of the 2016 Basel Committee on Banking Supervision [standards](#), namely the *parallel up*, *flattener* and *short rate up* scenarios. The extent of the impact is influenced by, *inter alia*; the interest rate type (fixed, variable or a combination of both); the currency denomination, and the reset date of interest-bearing assets and liabilities. The framework considers the impact of IRRBB on NII over a 12-month time horizon and assumes a static balance sheet. The impact on NII is paired with the impact from the instantaneous revaluation of FV bonds to reflect the discounted sum of future cashflows for the pricing of bonds, following the assumed changes in the yield curve.

Table 3.5 presents the impact on the three bank categories' Tier 1 capital ratios from the three scenarios after the shocks to NII, and revaluation of bonds, following the application of the corporate tax rate of 35% on banks' profits.<sup>8</sup> Based on the composition of interest-bearing assets and liabilities in June 2022, NII improves under all three scenarios, assuming increases in the short end of the yield curve. Conversely, in almost all cases, banks would experience revaluation losses due to the inverse relationship between bond prices and yields. The overall impact is positive on all three bank categories under all three scenarios, given the structure of the banks' interest-bearing portfolio, with assets being mainly variable rate loans and liabilities composed of deposits which are short term, thereby charging 0 or relatively low interest.

**Table 3.5**  
**STRESS TEST RESULTS– IMPACT OF CHANGES IN NII ON THE TIER 1 CAPITAL RATIO**

*Per cent*

		Core domestic banks	Non-core domestic banks	International banks
Initial Tier 1 capital ratio		18.55	20.24	41.23
Parallel up	<i>NII</i>	3.11	1.77	1.26
	<i>Revaluations</i>	-0.84	-0.19	-4.20
	Post-shock Tier 1 capital ratio	20.83	21.82	38.28
Flattener	<i>NII</i>	2.94	1.48	1.16
	<i>Revaluations</i>	-0.08	0.02	-0.53
	Post-shock Tier 1 capital ratio	21.42	21.74	41.86
Short rate up	<i>NII</i>	3.70	1.86	1.46
	<i>Revaluations</i>	-0.34	-0.05	-2.22
	Post-shock Tier 1 capital ratio	21.91	22.05	40.47

Source: Central Bank of Malta calculations.

Similar to December 2021, the major positive impact of NII would be experienced under the *short rate up* scenario for all three bank categories. When also taking into consideration the revaluation of FV bonds, core and non-core domestic banks experience the most positive impact under the *short rate up* scenario. International banks would instead benefit most from the *flattener* scenario, despite the lowest increase in NII due to the overall lowest revaluation losses experienced under this scenario. Indeed, international banks fall below their initial capital ratio in both the *parallel up* and *short rate up* scenarios due to the longer-term maturities on their FV portfolio. Conversely, as also observed in December 2021, non-core domestic banks are the only bank category which actually experience revaluation gains under the *flattener* scenario. The specificities of the FV portfolio, specifically the volume of instruments held at FV and their maturity, affect the overall off-setting effect of revaluation losses on the gains in NII observed. Overall, all three bank categories experience higher NII compared to December 2021 in all three scenarios. However, there are some changes when it comes to revaluation losses, particularly international banks which now experience slightly higher losses, but the overall impact on capital remains comparable.

## Notes

- <sup>1</sup> The Bank does not comment on individual bank results for its stress tests due to their scope of assessing the overall resilience of the banking system.
- <sup>2</sup> All core domestic and non-core domestic banks hold debt securities and are in scope of the test while only two international banks form part of the sample.
- <sup>3</sup> The ratings grades are based on an internal index based on the second-best credit rating of the four major external credit assessment institutions, namely: Fitch; Moody's; Standard & Poor's; and DBRS Morningstar.
- <sup>4</sup> See Box 2 of the [Financial Stability Report 2015](#) for further details on the methodology and haircuts applied in the PDW stress test.
- <sup>5</sup> The baseline scenario applies a minimum level of severity based on the LCR Delegated Regulation which is common across all banks whenever the regulation allows ranges. This also serves as a cross-check against information provided by banks, as well as serving as a common starting point for the adverse scenarios.
- <sup>6</sup> See Box 5 of the [Financial Stability Report 2018](#) for further details on the methodology and haircuts applied in the LCR stress test.
- <sup>7</sup> See the [Special Feature on the Net Stable Funding Ratio Stress Test](#) of the [Financial Stability Report 2021](#) for further details on the methodology and haircuts applied in the NSFR stress test.
- <sup>8</sup> Banks may apply a lower tax rate if in previous years they have accumulated deferred tax assets; however, for the scope of this stress test, deferred tax assets are not being considered.





## 4. INSURANCE COMPANIES AND INVESTMENT FUNDS

## 4. INSURANCE COMPANIES AND INVESTMENT FUNDS

### 4.1 The Domestic Insurance Companies

By June 2022, there were 71 licensed insurance companies, one less entity compared to December 2021, as two insurers surrendered their license while a new company was formed. Nine of these companies continued to underwrite risks prevalent in Malta and are classified as domestically-relevant. In the first six months of 2022, the assets of these insurers fell by 9.3% to €3.7 billion, corresponding to 23.6% of GDP. Four of these companies focused on life insurance, while the remaining five specialised in non-life business. Two of the latter are also licensed to sell life policies, but such business accounted for just below 6% of their gross written premium.

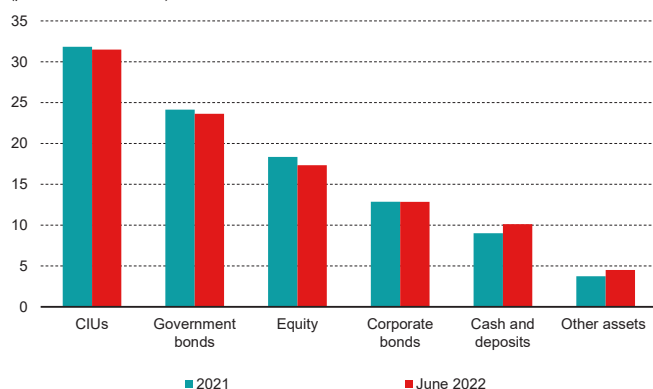
#### 4.1.1 The Domestic Life Insurance Companies

For the first time in three years, the balance sheet of domestic life insurers decreased by more than 11% to €3.1 billion, or about 20% of GDP. The decline in assets of domestically-relevant life insurance companies was mostly due to a reduction in their participation in collective investment undertakings (CIUs) of about 12%, yet such investments still accounted for a sizable portion of their assets (see Chart 4.1). The decline was caused by lower participation in euro area money market and bond funds. On the other hand, intragroup investments, mostly in euro area infrastructure funds grew further, possibly as a way to strategically limit the impact of market volatility.

The value of equity holdings decreased by a more significant 16.0% during the period under review, owing predominantly to the prolonged fall in financial markets, as otherwise on a net basis, life insurers sought to increase their holdings during the period assessed taking advantage of the drop in their prices. The outstanding equity holdings are mainly concentrated in corporations situated in the United States and in other euro area countries, with domestic equities limited to around 17% of the equity portfolios. These were mostly related to shares of corporations in the financial, insurance, and real estate sectors.

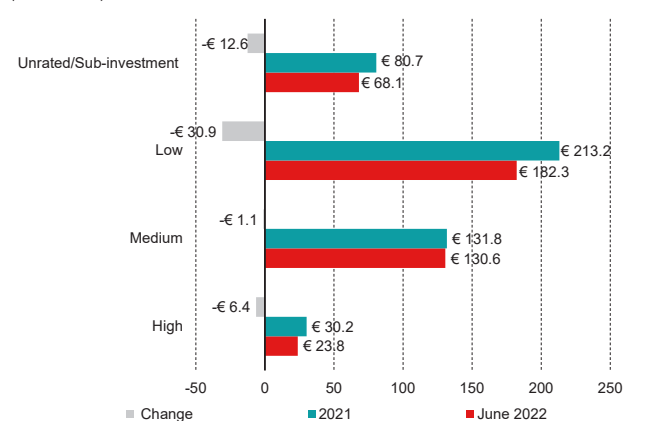
Corporate bond holdings declined by around 11% since December 2021, most likely driven by the impact of rising inflationary pressures, and the ensuing tightening of monetary policy by central banks which eroded their value. The credit rating of the corporate bond portfolios improved slightly, as insurance firms shed some of their sub-investment and low investment grade bonds (see Chart 4.2).

**Chart 4.1**  
**COMPOSITION OF ASSETS HELD BY THE DOMESTIC LIFE INSURANCE SECTOR**  
(per cent of total assets)



Source: Central Bank of Malta.  
Note: Other assets mainly include deferred tax, property, recoverables and receivables, collateralised securities, structured notes, mortgages and loans.

**Chart 4.2**  
**CORPORATE BOND PORTFOLIO – INVESTMENT RATINGS – LIFE INSURANCE SECTOR**  
(EUR millions)



Source: Central Bank of Malta.

Nonetheless, despite the declines, such bond holdings continued to dominate, accounting for about 62% of the overall corporate bond holdings. Meanwhile, medium-rated bonds continued to account for about a third of the portfolio, while high-rated bonds decreased to 5.9% of the portfolio. Most of the corporate bonds were of non-resident corporates, as otherwise bonds issued by domestic entities remained limited to 21.0% of the portfolio.

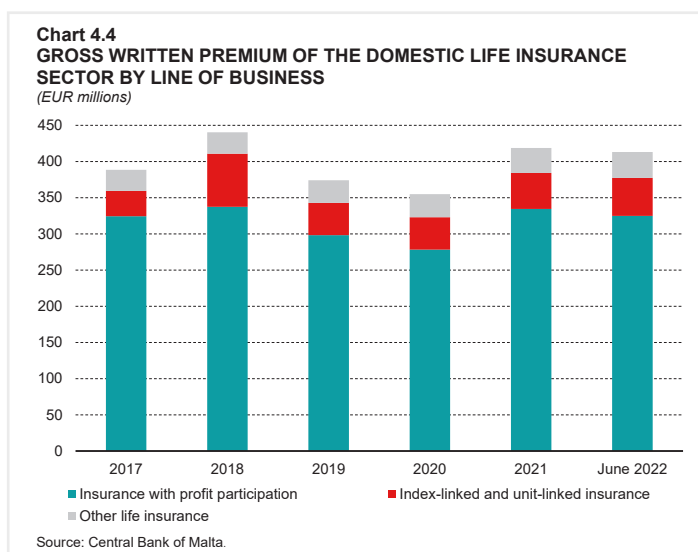
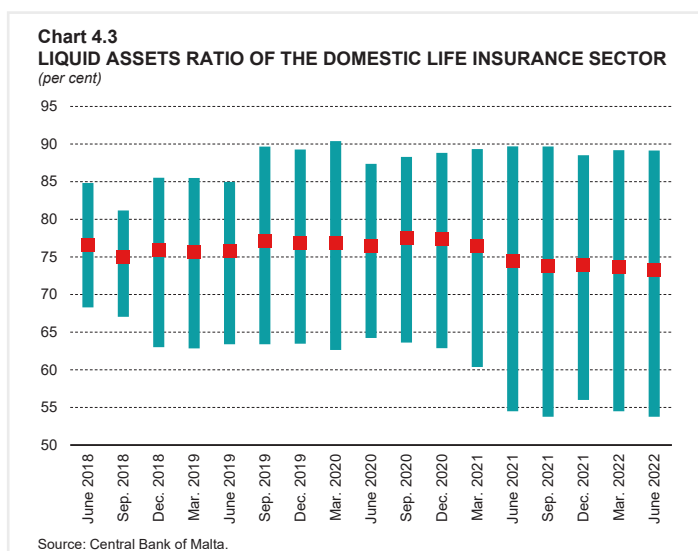
Government bond holdings decreased by a more notable 13.0%. Nonetheless, they remained the preferred asset class in terms of fixed income securities, accounting for almost two-thirds of the bond portfolio. Most of the government bonds were of euro area countries, with Malta Government Stocks (MGS) accounting for a quarter.

While the value of investments fell, life insurers kept their cash and cash equivalents stable, accounting for approximately 10% of total assets. Other asset developments, such as loans and real estate holdings<sup>1</sup> remained limited to less than 5% of total assets.

The consolidation of the life insurers' balance sheet also resulted in a drop in liquid assets. As a result, the liquid assets ratio fell by half a percentage point to 77.3%, with the distribution slightly wider compared to the end of 2021 (see Chart 4.3).

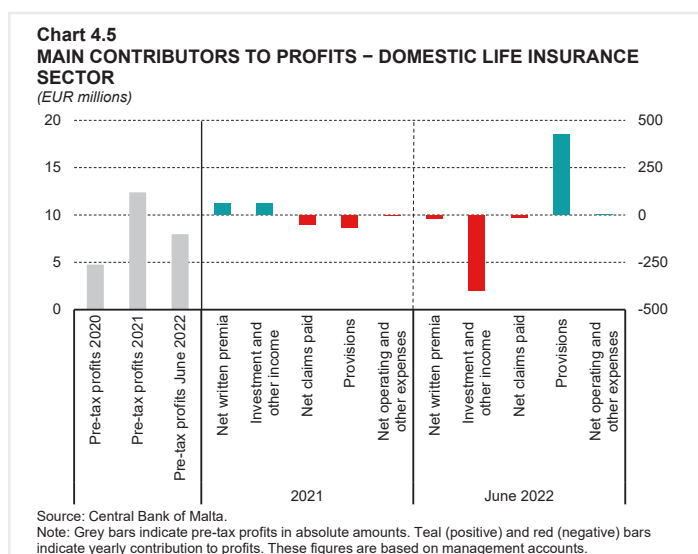
During the first half of 2022, gross written premia declined by 3.5%. This was entirely due to lower “insurances with profit participation”, which accounted for 78.0% of gross written premia, a 1.7 percentage points decline since December 2021 (see Chart 4.4). Meanwhile, ‘index and unit-linked’ and ‘other life insurance’ products both increased to 13.0% and 8.9% of gross written premia, respectively.

The recovery in profitability observed in 2021, was hindered by the intensified market movements during the first half of this year, which resulted in an aggregate loss of almost €390 million in allocated investment returns (see Chart 4.5). As a result, aggregate pre-tax profits declined to €8.0 million in June 2022, compared to €12.4 million in December 2021. Net written premia decreased by 4.0%, while net claims paid increased by 3.7%, both having a negative effect on the underwriting performance of life insurers. Consequently, the loss ratio, which represents the ratio of claims paid out in relation to premia earned, increased by 7.6 percentage points to 99.8% in June 2022. Offsetting such adverse developments, was the level of provisions



for unearned premia and claims, which fell by around €425 million. In June 2022, the expense ratio which defines expenses incurred as a share of net premia written, increased marginally to 10.6% reflecting the drop in operational expenses of about 1.3%. All this caused the pre-tax ROE and ROA to decline by 1.4 and 0.1 percentage points, respectively, to 2.5% and 0.2% by June 2022.

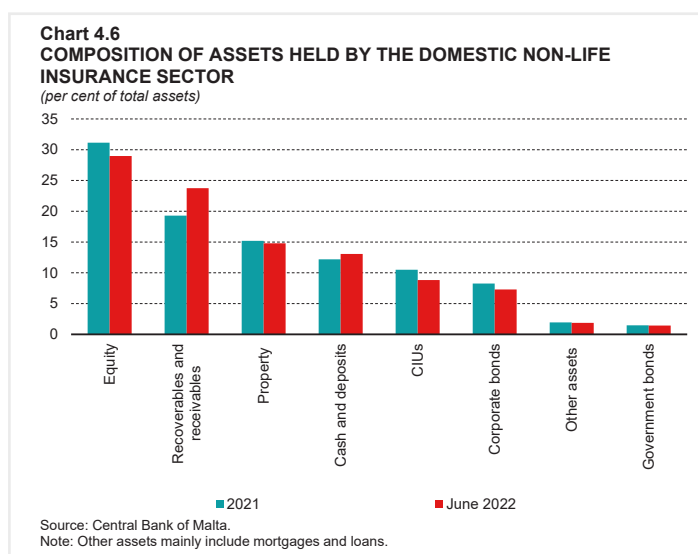
Life insurers' capital buffers remained solid, with an overall solvency ratio of 205.3%, despite contracting by 12.7 percentage points when compared to December 2021, reflecting an increase in solvency capital requirements. In terms of quality, their capital position remained strong, nearly entirely made up of Tier 1 capital.



#### 4.1.2 The Domestic Non-life Insurance Companies

In contrast to the life insurance sector, the assets of domestic non-life insurers continued to grow with the balance sheet increasing by 3.4% to around €540 million as at June 2022. This is equivalent to 3.5% of GDP. Over the period reviewed, the value of equity holdings declined by 3.9%, mostly reflecting the downturn in financial markets during the first half of the year, as otherwise non-life insurers increased their holdings, possibly as they sought to take the opportunity of falling prices (see Chart 4.6). As a result, the share of equities fell by 2.2 percentage points to around 29% of overall assets. Their participation in CIUs declined at a faster rate of 13.3% to represent another 8.8% of assets.

Debt securities holdings declined by 7.0%, to represent just 8.7% of overall assets. The drop was solely driven by corporate bond holdings which decreased by 8.8%, probably due to nervousness in the financial markets as central banks were tightening their monetary policy stance. Holdings of sub-investment grade and medium-rated bonds fell to 36.1% and 33.4% of total holdings, respectively. Meanwhile, low-rated bond holdings increased by 1.1 percentage points but still accounted for only 3.4% of the overall portfolio, while high-rated bond holdings increased by 1.4 percentage points and accounted for more than a quarter of the corporate bonds. While this shows a minor improvement in the overall credit quality of the corporate bond portfolio, it is mainly attributable to one insurance firm's investment decision to invest more in high-rated bonds. Most of the corporate bond holdings were of firms in the United States and the euro area, with domestic holdings representing less than a third of the corporate bond portfolio. Holdings of sovereign bonds, largely of foreign



governments, increased marginally while exposures to MGS declined slightly to account for roughly one-third of the sovereign bond portfolio.

In the first half of the year, recoverables and receivables increased by 4.5 percentage points to 23.8% of non-life insurers' assets, reflecting larger reinsurance and intermediaries' receivables. As non-life insurers offloaded some of their investment holdings, cash and deposits rose by 10.9% to about 13% of assets, with most deposits held primarily with domestic banks. Furthermore, non-life insurers' exposure to the real estate market increased marginally to 15.0% of assets.

The non-life insurers' liquid assets ratio fell by 1.9 percentage points to 33.0% in June 2021, owing to the lower holdings discussed above, particularly in CIUs, corporate bonds, and listed shares (see Chart 4.7). However, the distribution narrowed somewhat, indicating an improvement in the least liquid insurance companies.

Non-life insurers' gross written premia grew by 4.5% to approximately €275 million in June 2022, owing to growth in all non-life business segments, particularly fire and other property damage, reflecting the continued strong interest in the property market. As a result, the share of such business grew to almost 30% of overall gross written premia (see Chart 4.8). Nonetheless, the motor vehicle-related segment continued to represent the main non-life business, accounting for around 41% of the entire written premia.

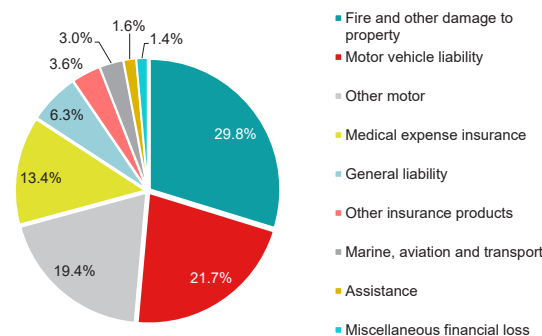
Following the recovery in profitability in 2021, non-life insurers were faced with adverse market dynamics which affected their investment income, falling by €18.8 million (see Chart 4.9). This was offset in

**Chart 4.7**  
**LIQUID ASSET RATIO OF THE DOMESTIC NON-LIFE INSURANCE SECTOR**  
(per cent)



Source: Central Bank of Malta.

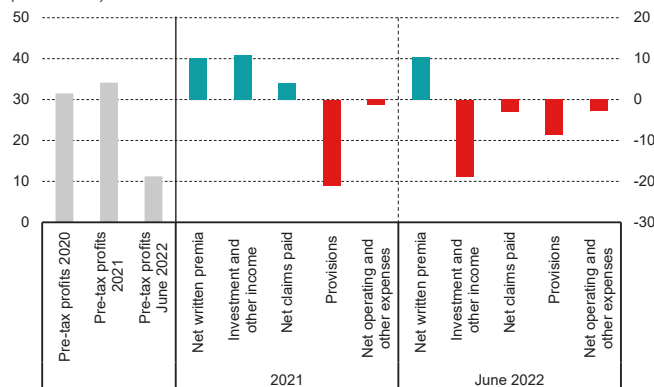
**Chart 4.8**  
**GROSS WRITTEN PREMIUM OF THE DOMESTIC NON-LIFE INSURANCE SECTOR BY LINE OF BUSINESS**  
(per cent of total gross written premia)



Source: Central Bank of Malta.

Note: Solvency II Reporting. Other insurance products include workers' compensation, income protection, other life insurance and profit participation, index-linked and unit-linked insurance.

**Chart 4.9**  
**MAIN CONTRIBUTORS TO PROFITS – DOMESTIC NON-LIFE INSURANCE SECTOR**  
(EUR millions)



Source: Central Bank of Malta.

Note: Grey bars indicate pre-tax profits in absolute amounts. Teal (positive) and red (negative) bars indicate yearly contribution to profits. These figures are based on management accounts.

part by a further increase in net written premia, which rose by €10.5 million. During the first half of this year, expenses incurred rose, while claims and operational expenses also climbed, each by almost €3 million, as claims frequency returned to pre-pandemic levels along with the rising impact of inflation. Furthermore, provisions for unearned premia and claims increased by €8.8 million, as non-life insurers strengthened their reserve buffers to mitigate the impact of inflation on forecasted claims. In view of these developments, profit before tax plummeted to €11.2 million in June 2022, accounting for roughly one-third of the pre-tax profits reported in 2021. As a result, the pre-tax ROE and ROA fell by 10.6 and 4.4 percentage points, respectively, to 2.5% and 2.1% in June 2022.

Focusing on operational developments, the combined ratio fell by 1 percentage point to 75.4%, as the increase in net premia exceeded the impact of higher net claims and expenses. As a result, the loss ratio and expense ratio both fell, down by 0.8 and 0.1 percentage points, respectively. These indicators shed light on the non-life sector's relatively strong operating performance despite the uncertain environment.

The capital position of non-life insurers remained solid, with an overall solvency ratio of 241.5%, even though this represented a drop of around 4 percentage points compared to December 2021, on the back of lower eligible own funds. The non-life sector's own funds are nearly entirely made up of Tier 1 Capital.

### 4.1.3 Domestic Insurance Risk Outlook

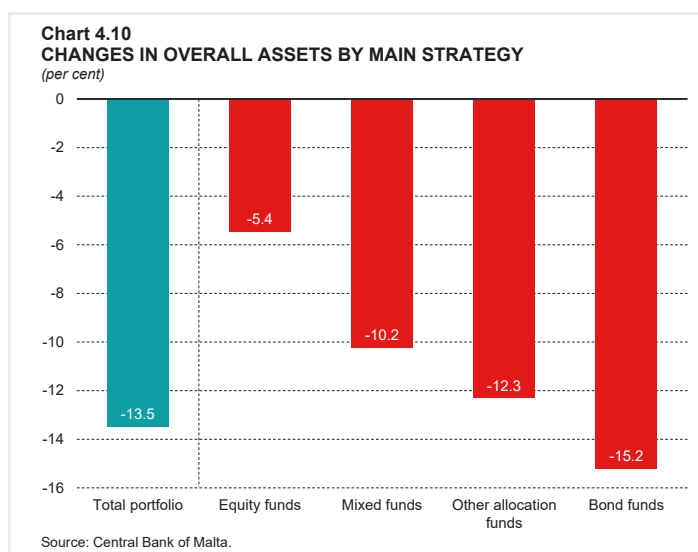
The macroeconomic environment is increasingly becoming more challenging for insurers, with the outlook depending on the duration of, and the potential escalation of geopolitical tensions, accompanied by a globally weaker-than-expected growth prospect. As previously indicated, bonds and equity prices decreased, owing to still heightened uncertainty, having a significant impact on insurers' profitability. Going forward, the risk of further, possibly abrupt, market correction remains high, potentially resulting in further valuation losses. Furthermore, depending on the duration gap of the insurance undertakings, inflationary pressures affect their positions on both the asset and liability side. On the asset side, rising bond yields due to inflation may boost assets, as new investments earn higher returns. This is especially true for the life sector, which has long-term liabilities that allow for investment in longer-term assets. On the other hand, higher-cost claims could have a major impact on non-life insurers' liabilities.

The uncertain external economic outlook, as well as the significant downside risk for the corporate sector in general, may have an impact on the credit quality of insurers' bond portfolio. Furthermore, inflation creates significant underwriting risks to the insurance sector in general due to policyholders' decreased disposable income which could possibly result in lower demand for life insurance products.

### 4.2 Domestic Investment Funds

By the end of June 2022, the number of domestically-relevant sub-funds remained unchanged at 38. All but one were licensed as retail Undertakings for the Collective Investment in Transferable Securities (UCITS), with the remaining sub-fund licensed as a Professional Investor Fund (PIF).

During this period, the overall assets of domestically-relevant investment funds decreased by 13.5% to €1.6 billion, representing about 10.3% of GDP (see Chart 4.10). This reflected the tightening of monetary policy, as the increase in interest rates in the United States



and the United Kingdom, and expectations of rate hikes in the euro area, significantly impacted bond yields. For instance, the euro area yield for AAA-rated bonds with a 10-year maturity has risen by nearly 150 basis points during the period under review.

Furthermore, after recovering from the effects of the pandemic, the equity market once again experienced strong movements, driven by increased macroeconomic uncertainty and geopolitical developments. Throughout this period, both the Euro Stoxx 50 and the S&P 500 registered losses of around 20%, significantly impacting the performance of investment funds exposed to them. These developments contributed to the drop in asset valuations across all the domestically-relevant investment funds. Furthermore, withdrawals by investors also contributed to the overall drop. Since end 2021, bond funds contracted by about 15.2%, while equity funds declined at a slower pace of 5.4%.

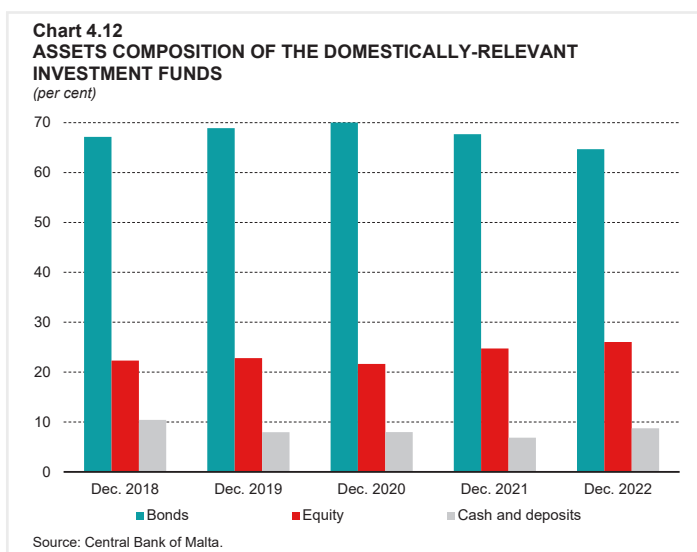
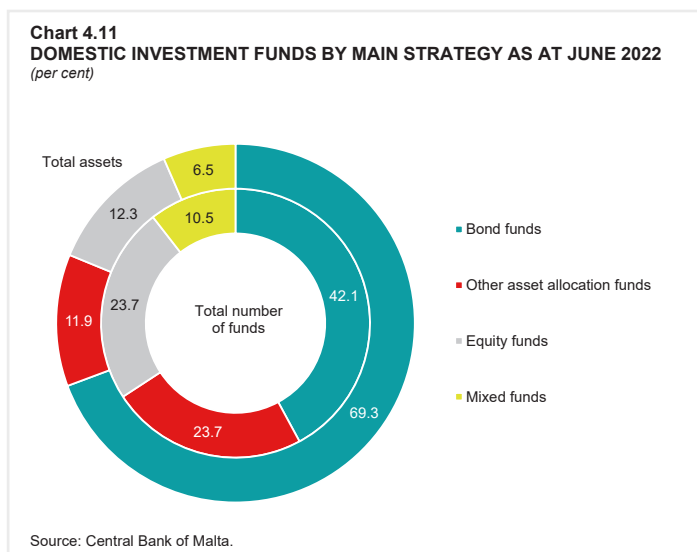
Despite the significant declines, bond funds remained the preferred investment instrument, with 16 sub-funds accounting for around 69% of the overall assets (see Chart 4.11). The remaining sub-funds were equally split into equity and other asset allocation funds, accounting for 12.3% and 11.9% of the overall assets, respectively. Mixed funds represented the lowest share, both in terms of units and assets.

#### 4.2.1 Risk Assessment

##### Asset composition

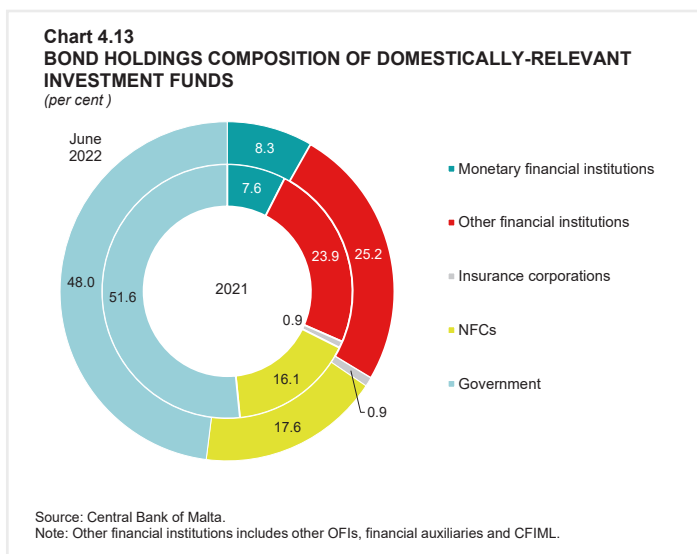
The asset composition of the domestically-relevant investment funds remained dominated by fixed income securities (see Chart 4.12). Notwithstanding, their share in total assets declined by 3.0 percentage points to around 65%, the lowest share in the last five years, in part due to the sharp rise in yields. Although holdings of equities declined by 8.7%, their share in total assets rose by 1.3 percentage points to 26.0%. Cash and deposits increased to 8.2% of assets, reverting the drop reported in 2021, limiting somewhat liquidity concerns.

Around 63% of the bonds were issued by Maltese entities, while around 18% were bonds of other euro area entities. The remaining share represented bonds issued by entities located outside the euro area. A significant share of the bond portfolio remained invested in

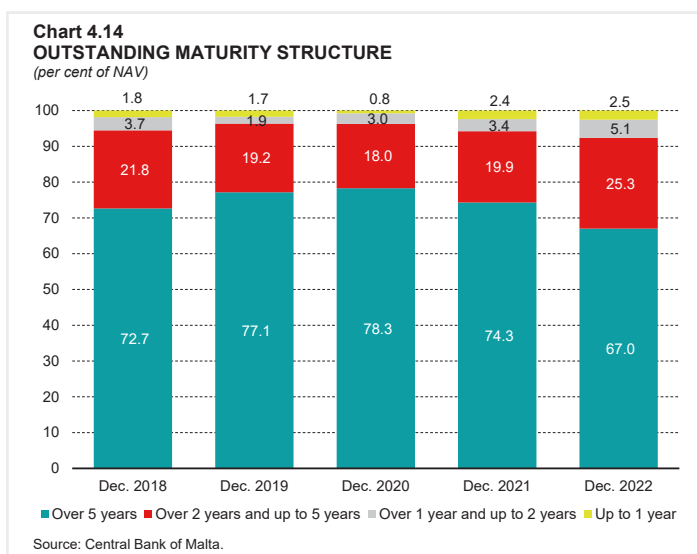


sovereign bonds. However, these declined by 3.6 percentage points to 48.0%, with MGS accounting for a considerable portion, which points towards significant home bias (see Chart 4.13).

Holdings of corporate bonds issued by financial entities remained stable, at about 25% of the portfolio. Such holdings mainly consisted of bonds issued by other financial institutions, primarily Captive Financial Institutions and Money Lenders (CFIML), which stood at the same levels registered in December 2021. Bank bonds rose by 0.7 percentage point to some 8% of the overall bond holdings, reflecting increased bond holdings of banks in the United States. Yet, at about 43%, domestic bank bonds accounted for a significant stake. Bonds of insurance firms remained limited to less than 1% of the bond portfolios. None of the insurance firms operated locally, with the majority located in other euro area countries. Although holdings of NFC bonds declined, their share rose by 1.5 percentage points to 17.6% of the overall, with Maltese firms accounting for almost a third. The rest of the NFC bonds were equally split between those located outside the euro area, primarily in the United States and other euro area countries. On aggregate, the bond portfolio continued to indicate some level of concentration, biased towards Maltese assets.



The bond portfolio of domestically-relevant investment funds continued to be highly skewed towards bonds, with an outstanding maturity of over five years (see Chart 4.14). However, after reaching almost 78% of the overall portfolio at the end of 2020, the share decreased somewhat in 2021, and by a further 7.1 percentage points to 67.0% of the overall bond holdings by end June 2022. This indicates that such bonds may have been affected by the general rise in interest rates, and possibly withdrawals by investors. The smaller share on the portfolio was balanced by an increase in the exposure to short and medium-term bonds, as otherwise holdings with very short maturity term remained relatively limited. The adverse macroeconomic developments and the anticipation of interest rate increases prompted fund managers to reduce the duration of their portfolios to limit volatility, and interest rate sensitivity in their bond portfolios. Estimates for the modified duration (see Chart 4.15), which is a financial indicator<sup>2</sup> that expresses the percentage change in the bond's portfolio value given a 1% change in the interest rate, show that by June 2022 the modified duration dropped to 5.97 from 7.03 six months earlier.

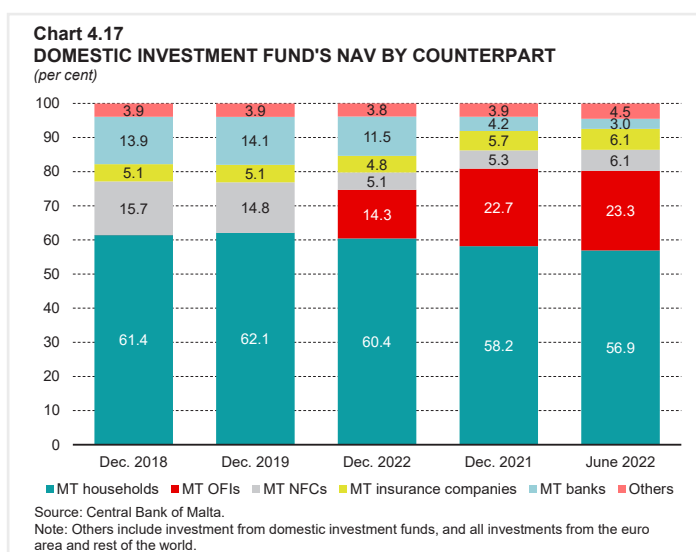
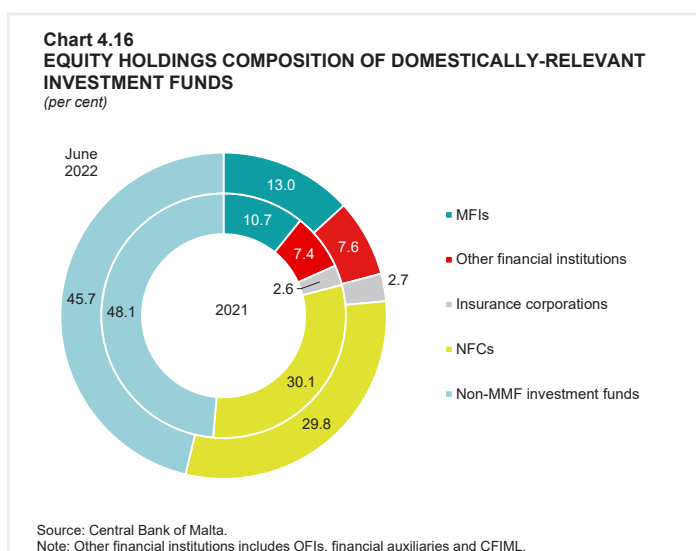
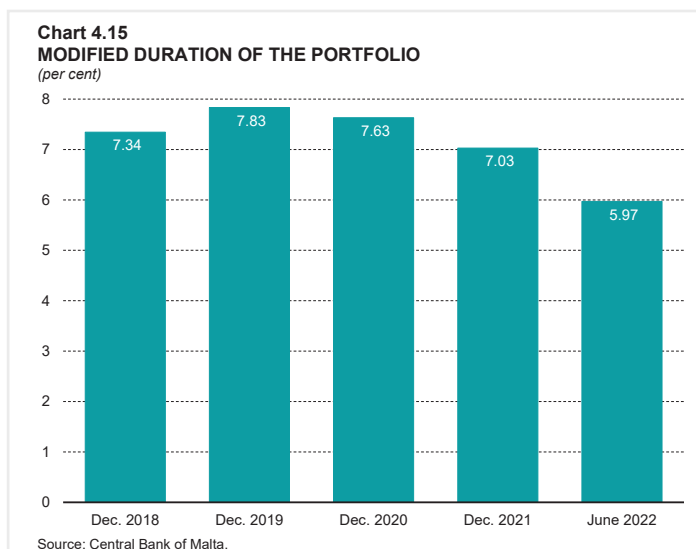


The losses registered on equity holdings during the first half of 2022 were largely driven by investments in other non-MMF investment funds, whose share fell by 2.4 percentage points, representing almost half of the overall portfolio (see Chart 4.16). NFCs' holdings remained stable at around 30%. The rest of the equities related to investments in financial entities, largely consisting of equities issued by monetary financial institutions (MFIs), which grew by 2.3%. Equities of other financial institutions and insurance corporations declined by 7.1% and 6.2%, respectively, though their share in the equity portfolio is comparatively small.

Equities remained largely oriented towards holdings of foreign entities, representing around 58% of the overall equities' portfolio, despite shrinking by around 3% since end 2021. These were heavily concentrated in euro area entities, which represented almost 45% of the portfolio by June 2022, with exposure to the United States and other foreign countries outside the euro area remaining stable throughout this period. This reduction was largely balanced by increased holdings of domestic equities which rose by 3.6 percentage points to 42%.

### Investors

Maltese households remained the principal investors in domestically-relevant sub-funds, accounting for 56.9% of the total NAV. Over six months, the share declined by 1.3 percentage points, reaching the lowest level in the past five years (see Chart 4.17). Domestic banks also shed their investment to just 3.0% of the NAV by June 2022. In contrast, insurance firms and other financial institutions stepped up their investments to 6.1% and 23.3% of overall NAV, respectively. In addition, NFCs also raised their



investments up by 0.8 percentage point to 6.1% of the overall NAV in June 2022. Participation by non-resident investors grew by 0.6 percentage point, but remained limited to 4.4% of the total NAV, in line with the domestic focus of these sub-funds.

### *Liquidity and leverage*

As at June 2022, the domestically-relevant investment funds remained highly liquid with low leverage. Overall, domestically-relevant sub-funds maintained a healthy liquidity position, in view of their strong holdings of liquid assets such as sovereign debt and equities. Throughout the first half of the year, the liquidity ratio increased by 1.3 percentage points to 73.2%, returning to pre-pandemic levels. This was mainly driven by an 11.1% increase in deposits with banks, during a period where some of the investments were sold.

Furthermore, leverage of domestically-relevant sub-funds remained limited, partly because most of them are licensed and regulated under the UCITS Directive.<sup>3</sup> Despite having registered high volatility and significant losses during the first months of the year, the leverage of domestically-relevant investment funds, calculated as assets under management (AUM)-to-NAV ratio, stood at 100.5% in June 2022, marginally lower than the 100.6% registered six months earlier.

### **4.2.2 Risk Outlook**

Geopolitical developments caused severe volatility in financial markets, which was also accompanied by sharp increases in energy and other commodity prices. Adverse developments are likely to persist in the short-to-medium-term perspective. Inflationary pressures intensified during the first half of the year, with central banks tightening their monetary policy stance.

With bonds accounting for almost two-thirds of total assets held by domestically-relevant investment funds, most of which consist of sovereign debt with long-term maturity, the continued increase in interest rates will negatively impact their prices, as already observed in the first half of 2022. This may push bond funds to continue to balance their portfolio structure, increasing the participation in assets with short and medium-term maturity to mitigate their losses. Although cross correlation of bond and equity prices have risen, limiting somewhat investment diversification opportunities, portfolio managers may be prompted to shift towards a bond laddering strategy, to deliver more stable returns to their investors. In the same way, funds could aim to move to increased exposures to equities as they search for higher yields.

Structural risks continued to be present due to the sub-funds' interconnectedness with the core domestic banks. In fact, most of the sub-funds are managed by asset management companies owned by core domestic banks. These links impact the group's performance, where the overall consolidated results could be directly impacted by the performance of the sector. Nonetheless, such companies are set up as separate legal entities, subject to the provisions of the Maltese Companies Act and the Investment Services Act, though potential step-in risks should not be discounted. Several liquidity management tools such as redemption gates and redemption fees are available for most of the funds and could contribute to mitigate against any potential risks emanating from excessive redemption requests. However, none of these tools were required because, as indicated above, the domestically-relevant investment funds increased their liquidity levels in the first half of the year.

## Notes

<sup>1</sup> Over 88% of life insurance firms' total real estate exposure is owned for investment purposes.

<sup>2</sup> The modified duration is a financial metric to measure the bond's price sensitivity to a 1% change in interest rates. Meaning, that a given 100-bps movement in yield, a security with a Modified Duration of 5.97, would inversely move in price-by-price by 5.97%.

<sup>3</sup> UCITS Directive Article 83 restricts borrowing for retail to up to 10% of their assets and on a temporary basis (as found in <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:302:0032:0096:en:PDF>).





**APPENDIX**

**Appendix**  
**FINANCIAL SOUNDNESS INDICATORS**

	Core Domestic Banks					Non-Core Domestic Banks					International Banks <sup>1</sup>					Total Banks <sup>1</sup>					
	2018	2019	2020	2021	June 2022	2018	2019	2020	2021	June 2022	2018	2019	2020	2021	June 2022	2018	2019	2020	2021	June 2022	
<b>Capital<sup>2</sup></b>																					
Regulatory capital to RWAs	18.1	20.1	21.7	22.7	21.8	17.9	19.2	20.2	20.4	20.5	52.1	46.6	52.5	46.4	43.5	22.6	23.7	25.8	25.6	24.5	
Regulatory Tier 1 capital to RWAs	16.0	17.6	18.6	19.4	18.6	17.6	18.9	19.9	20.1	20.2	49.5	46.5	52.4	46.4	43.5	20.6	21.7	23.4	23.1	22.1	
Leverage ratio	7.3	7.8	7.6	7.3	6.9	10.8	11.0	9.5	10.0	9.5	35.1	38.7	42.4	34.2	39.6	10.2	10.6	10.5	9.6	9.2	
Large exposures to total own funds	84.1	75.9	69.6	66.8	75.5	200.6	140.7	175.8	173.6	212.8	79.1	84.3	83.3	68.2	62.6	92.6	84.3	81.8	76.9	86.0	
RWAs to total assets	48.5	46.2	42.9	39.1	38.3	63.9	61.1	49.0	50.6	50.5	80.3	88.3	82.8	74.8	85.4	52.7	51.1	46.6	43.0	42.7	
<b>Profitability</b>																					
ROA <sup>3</sup>	0.5	0.6	0.0	0.4	0.2	0.2	1.3	-1.5	0.2	0.1	1.4	1.1	2.2	1.5	1.7	0.9	0.8	0.6	0.7	0.6	
ROE <sup>2,3</sup>	6.5	6.7	-0.3	4.3	2.3	1.7	11.0	-12.7	2.4	1.5	5.2	5.8	6.2	11.6	7.1	5.7	6.8	0.4	6.0	3.5	
Operational cost-to-income ratio	62.8	66.3	68.0	75.2	90.3	62.2	47.0	95.8	82.2	81.5	29.9	39.9	35.1	47.2	50.1	47.4	53.9	51.7	61.8	70.1	
Interest margin to gross income	62.3	63.7	73.2	72.1	70.0	36.6	31.5	48.9	40.9	43.0	81.1	56.1	64.8	56.4	53.8	69.8	58.0	67.7	62.7	60.6	
Non-interest expense to gross income	64.3	67.8	70.0	77.0	91.6	62.6	47.1	97.5	83.3	82.2	29.9	39.9	35.2	47.3	50.1	48.1	54.7	52.7	62.7	70.7	
Personnel expenses to non-interest expenses	37.8	43.8	45.8	41.2	34.2	50.4	50.2	48.3	48.5	48.8	14.2	13.5	12.7	10.8	10.2	31.4	34.6	34.2	30.3	26.8	
Non-interest income to gross income	37.7	36.3	26.8	27.9	30.0	63.4	68.5	51.1	59.1	57.0	18.9	43.9	35.2	43.6	46.2	30.2	42.0	32.3	37.3	39.4	
Net impairment charges to gross income	9.0	0.1	29.2	-3.4	-5.3	29.0	12.8	79.5	6.3	13.5	21.7	24.2	18.7	18.5	15.1	16.0	11.0	25.6	7.9	5.7	
<b>Asset Quality</b>																					
NPLs to total own funds <sup>2</sup>	27.8	25.1	28.9	28.9	27.2	26.4	34.8	53.1	34.2	35.5	13.3	8.0	9.7	10.4	10.2	23.2	21.3	25.4	24.9	24.0	
NPLs to total gross loans	3.4	3.2	3.7	3.4	3.1	4.2	5.4	7.1	5.1	5.3	2.4	1.8	1.9	1.4	1.4	3.1	3.0	3.5	3.1	2.9	
Non-performing exposures to total gross exposures	2.6	2.5	2.8	2.7	2.4	3.4	4.6	5.6	3.8	3.9	1.6	1.3	1.3	1.0	0.9	2.2	2.2	2.6	2.3	2.1	
Total coverage ratio <sup>4</sup>	43.5	42.9	52.5	46.6	52.4	56.1	41.0	47.6	59.8	64.6	61.8	78.5	91.4	147.5	150.4	49.6	49.2	57.2	59.9	65.4	
Unsecured loans to total lending	28.6	25.1	23.2	20.1	19.1	73.5	77.6	80.8	71.9	71.0	17.2	22.4	19.7	21.5	22.5	26.8	27.1	25.6	23.8	23.5	
Share of Stage 3 provisions to total provisions	71.7	71.9	66.7	69.2	67.4	91.5	91.4	93.0	90.2	89.5	59.2	48.3	44.6	27.9	31.9	69.3	67.0	65.2	59.8	60.9	
Forborne loans to gross loans	2.5	2.4	3.0	4.4	4.2	1.5	0.9	0.5	0.8	0.7	2.0	3.8	3.3	7.4	8.0	2.2	2.7	2.9	4.9	4.9	
<b>Liquidity</b>																					
LCR <sup>2</sup>	417.6	343.7	328.2	359.9	374.0	422.3	374.7	325.4	356.8	357.8	572.9	364.9	686.6	2469.6	1152.2	420.7	347.5	332.7	379.0	382.9	
Liquid assets to total assets <sup>2</sup>	27.8	31.0	33.3	35.6	36.9	32.0	36.2	40.3	33.2	31.0	6.9	7.6	11.8	27.3	21.2	26.3	29.6	32.3	34.7	35.3	
Customer loans to customer deposits	60.9	59.5	58.4	55.2	55.2	50.5	46.6	46.5	52.2	52.8	208.4	376.6	462.3	267	270.5	79	79.3	75.4	67.5	67.2	
CBC on net cash outflows	187.7	139.0	169.9	189.3	213.5	248.2	245.4	238.1	300.8	286.8	87.9	78.5	326.3	601.9	120.4	192.7	149.5	180.2	204.0	218.9	
NSFR <sup>2</sup>				174.0	180.0				178.4	180.1				155.3	153.7				172.8	178.1	
<b>Balance Sheet</b>																					
Assets-to-GDP	186.1	175.9	197.0	189.2	182.2	20.9	20.9	23.3	23.1	22.3	132.5	96.2	88.5	77.8	73.7	339.5	293.0	308.8	290.1	278.2	
Domestic debt securities to total assets	6.5	6.4	8.3	8.8	9.4	2.1	2.9	7.2	7.9	7.3	0.1	0.0	0.1	0.2	0.1	3.7	4.1	5.9	6.4	6.8	
Foreign debt securities to total assets	15.8	15.4	13.8	12.4	12.7	14.0	10.7	12.2	15.9	17.4	29.5	26.4	25.2	24.0	28.3	21.1	18.7	16.9	15.8	17.2	
Customer loans to total assets	48.5	48.0	48.2	45.4	46.0	34.8	33.1	33.2	34.5	35.9	37.6	43.4	43.9	36.9	36.9	42.8	42.3	45.8	45.4	43.4	
Interbank exposures to total assets	7.8	6.2	5.3	4.9	5.0	21.6	14.7	9.7	9.4	8.9	13.0	13.5	12.3	17.8	14.9	10.7	9.2	7.6	8.7	7.9	

<sup>1</sup> Satabank plc is excluded from 2018 figures onwards following the MFSA's decision to appoint a competent person in October 2018 in terms of Article 29(1)(c) and (d) of the Banking Act. Its licence was withdrawn on 30 June 2020.

<sup>2</sup> Data for international banks excludes the branches of foreign banks.

<sup>3</sup> Based on profits after tax.

<sup>4</sup> For the core domestic banks the ratio includes 'Reserve for General Banking Risks' as per the revised Banking Rule 09/2019.