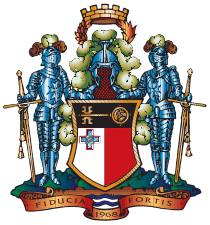

BANK ĊENTRALI TA' MALTA
EUROSISTEMA
CENTRAL BANK OF MALTA

SIXTEENTH FINANCIAL STABILITY REPORT

2023

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Unless otherwise indicated, the cut-off date for regulatory and prudential returns is 28 February 2024. The general risk assessment conducted in this edition of the Financial Stability Report focuses on developments occurring in 2023 but in some instances was updated to consider more recent developments. The source of data in tables and charts is the Central Bank of Malta unless otherwise indicated.

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CONTENTS

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Financial Stability Surveillance and Research Department

Policy, Crisis Management and Stress Testing Department

ABBREVIATIONS

AI	Artificial Intelligence
AMC	amortised cost
AUM	Assets under Management
BCBS	Basel Committee on Banking Supervision
BBMs	borrower-based measures
BIA	Basic Indicator Approach
BLS	bank lending survey
BR	Banking Rule
CBC	counterbalancing capacity
CBM	Central Bank of Malta
CBR	combined buffer requirements
CCoB	Capital Conservation Buffer
CCP	Central Counterparty
CCyB	Countercyclical Capital Buffer
CFIML	Captive Financial Institutions and Money Lenders
CGS	COVID-19 Guarantee Scheme
CMDI	Crisis Management and Deposit Insurance
CQS	credit quality step
CRD	Capital Requirements Directive
CRE	commercial real estate
CRR	Capital Requirements Regulation
cSRI	cyclical systemic risk indicator
DFR	Deposit Facility Rate
DSTI	debt service-to-income
DSTI-O	debt service-to-income at origination
EBA	European Banking Authority
ECB	European Central Bank
EEA	European Economic Area
EERE	Energy Efficiency and Renewable Energy
EIOPA	European Insurance and Occupational Pensions Authority
EME	Emerging Market Economies
ESCB	Eurosystem of Central Banks
ESMA	European Securities and Markets Authority
ESRB	European Systemic Risk Board
EU	European Union
FINREP	financial information reporting
FSB	Financial Stability Board
FSOC	Financial Stability Oversight Council
FSR	Financial Stability Report
FVC	Financial Vehicle Corporations
FVOCI	fair value through other comprehensive income
FVTPL	fair value through profit and loss
GDP	gross domestic product
HP filter	Hodrick-Prescott filter
HQLA	high-quality liquid assets
HRF	Hamilton Regression Filter
ICPF	Insurance Corporations and Pension Funds
IFRS 9	International Financial Reporting Standard 9
IFRS 17	International Financial Reporting Standard 17
IL	index-linked
IMF	International Monetary Fund
INT	Interconnectedness
IRB	internal ratings-based
IRRBB	interest rate risk in the banking book
LCR	liquidity coverage ratio
LGD	Loss Given Default

LHS	Left Hand Scale
LIQ	Liquidity Transformation
LSI	Less Significant Institutions
LTV	loan-to-value
LTV-O	loan-to-value at origination
MAT	Maturity Transformation
MDB	Malta Development Bank
MFI	Monetary Financial Institution
MFSA	Malta Financial Services Authority
MGS	Malta Government Stock
MLF	Marginal Lending Facility
MMF	money market funds
MREL	Minimum Requirement for own funds and Eligible Liabilities
MRO	main refinancing operation
MRR	Minimum Reserve Requirement
MST	Macro Stress Testing
MT	Malta
NACE	Nomenclature générale des Activités économiques dans les Communautés Européennes
NAV	net asset value
NBFI	non-bank financial intermediation
NFC	non-financial corporation
NII	net interest income
NNII	net non-interest income
NPL	non-performing loan
NSFR	net stable funding ratio
NSO	National Statistics Office
NTI	net trading income
OCR	Overall Capital Requirement
ODP	online deposit platform
OFI	other financial intermediaries
O-SIIs	other systemically important institutions
PDW	persistent deposit withdrawals
PIF	Professional Investor Fund
RCR	Redemption coverage ratio
RHS	right-hand scale
ROA	return on assets
ROE	return on equity
RRE	residential real estate
RWA	risk-weighted asset
SCR	Solvency Capital Requirement
sDSTI	stressed debt service-to-income
SRB	Single Resolution Board
SREP	Supervisory Review and Evaluation Process
sSyRB	sectoral systemic risk buffer
S&P	Standard & Poor’s
TLTRO	targeted longer-term refinancing operation
TSCR	total SREP capital requirement
UCITS	Undertakings for the Collective Investment in Transferable Securities
UK	United Kingdom
UL	unit-linked
US	United States
WAIR	weighted average interest rate

THE DOMESTIC FINANCIAL SECTOR

Banks

Core Domestic Banks	Non-core Domestic Banks	International Banks
APS Bank plc	FCM Bank Limited	Akbank T.A.S. (Branch)
Bank of Valletta plc	FIMBank plc	Credit Europe Bank NV (Branch)
BNF Bank plc	IIG Bank (Malta) Limited	Credorax Bank Limited
HSBC Bank Malta plc	Izola Bank plc	European Depositary Bank SA (Malta Branch)
Lombard Bank Malta plc	Merkanti Bank Limited	ECCM Bank plc
MeDirect Bank (Malta) plc	Sparkasse Bank Malta plc	Lidion Bank plc
		Multitude Bank plc
		Novum Bank Limited
		Turkiye Garanti Bankasi A S (Branch)

Domestic Investment Funds

BOV Asset Management Limited	Calamatta Cuschieri Investment Management Limited	Jesmond Mizzi Financial Advisor Limited
BOV Balanced Portfolio Fund	Balanced Strategy Fund	Merill Global Equity Income Fund
BOV Conservative Portfolio Fund	Emerging Market Bond Fund	Merill High Income Fund
BOV Growth Portfolio Fund	Global Balanced Income Fund	Merill Total Return Income Fund
Vilhena Euro Income Fund	Global Opportunities Fund	
Vilhena Euro Liquidity Fund	Growth Strategy Fund	**Reaps Asset Management Limited**
Vilhena European Multi Manager Fund	High Income Bond Fund	APS Diversified Bond Fund
Vilhena Global Themed Fund	Income Strategy Fund	APS Global Equity Fund
Vilhena High Yield Fund	Malta Government Bond Fund	APS Income Fund
Vilhena Malta Bond Fund	Malta High Income Fund	APS Regular Income Ethical Fund
Vilhena Malta Fund		
Vilhena Malta Government Bond Fund	**HSBC Global Asset Management (Malta) Limited**	**Self-managed**
Vilhena Maltese Opportunities Fund	Equity Growth Fund	Amalgamated Growth and Income Fund
Vilhena Sterling Income Fund	International Bond Fund	
Vilhena US Multi Manager Fund	Malta Bond Fund	
	Malta Government Bond Fund	
	Maltese Assets Fund	

Domestic Insurance Companies

Life Insurance Companies	Non-life Insurance Companies
HSBC Life Assurance (Malta) Limited	Argus Insurance (Europe) Limited
IVALIFE Insurance Limited	Atlas Insurance PCC Limited
LifeStar Insurance plc	Citadel Insurance plc
MAPFRE MSV Life plc	Elmo Insurance Limited
	GasanMamo Insurance Limited
	MAPFRE Middlesea plc

This edition of the *Financial Stability Report* is based on the above categorisation of banks, domestically-relevant insurance companies and investment funds.

EXECUTIVE SUMMARY

In this edition of the *Financial Stability Report (Report)*, the Bank provides a comprehensive analysis of the developments that took place throughout 2023.

Since the last *Report* published in July 2023, the global financial environment remained fragile particularly due to escalating geopolitical unrest, weaker economic growth, persistent elevated albeit declining inflation, and tight financing conditions. These factors have contributed to a challenging landscape for financial institutions worldwide. In the early part of 2023, the accumulation of vulnerabilities during the previous period of low interest rates led to disruptions in some banks in the United States and a major bank in Switzerland. Notwithstanding these developments, the *Report* highlights that the euro area banking and non-banking financial sectors remained resilient.

Despite a decline in inflation during 2023, the outlook for 2024 could be impacted by external developments, particularly by heightened geopolitical tensions. In turn, such risk could result in further market volatility with potential asset price corrections.

On the domestic front, the Maltese economy recorded one of the highest growth rates in the euro area even though it expanded at a more moderate pace compared to a year earlier. This expansion was supported by the recovery in tourism and robust domestic demand. Inflation stood slightly higher than the euro area average. This was mainly driven by the decline in energy prices in the Euro area contrasting the stability of such prices locally, with the latter remaining nevertheless at lower levels, but it is expected to converge to the European Central Bank's (ECB) target by 2025. The Maltese financial sector remained resilient, and the domestic banks continued to operate with ample liquidity and capital headroom above regulatory requirements, providing the capacity to absorb shocks. Profitability recovered significantly, with the banks expected to remain profitable even though some downside risks may develop going forward. Resident credit growth continued to be driven by both resident mortgages and non-financial corporation (NFC) lending. Although mortgage credit slowed down from previous highs, it is expected to continue growing at a robust pace. Growth in resident corporate lending persisted, driven primarily by higher loans to property-related sectors. As a result, concentration risks in banks' loan portfolios have risen further.

To address potential systemic cyclical and increasing concentration risks related to the exposure of the domestic banking system to the residential real estate (RRE) sector, during 2023 the Bank implemented a sectoral systemic risk buffer (sSyRB) to be applied on the amount of risk-weighted assets (RWAs) held against domestic mortgages. A buffer rate of 1% was applicable to all institutions operating domestically as from September 2023, and increased to a fully loaded rate of 1.5% in March 2024. This capital-based measure complements borrower-based measures (BBMs), on which further detail, including an overview of main developments of a macroprudential nature both at the domestic and European level, is included in the *Report.*

The non-bank financial sector also exhibited resilience, supported by overall robust capital and liquidity reserves. The domestic life insurance sector saw a modest recovery in the balance sheet, while domestically-relevant investment funds registered the first positive growth in their balance sheet after a period of declines. Both segments were driven by market gains, which among life insurance companies drove further demand for index-linked (IL) and unit-linked (UL) products. Potential risks going forward could arise from higher reassessment of risk premia, particularly during a challenging macroeconomic backdrop amid geopolitical headwinds.

The *Report* highlights that the Maltese financial system remains vulnerable to external shocks, as geopolitical risks amplified, with potential interest rate decreases possibly adversely affecting banks' profitability. Risks to asset quality remained benign, supported by a healthy domestic economy and limited transmission of increases in interest rates on loans. Going forward, downside risks could develop especially if economic growth slows down and inflation surprises on the upside.

In seeking to measure risks, the Bank carries out stress testing exercises to detect and quantify any weaknesses within the financial system. This year's macro stress testing (MST) framework contemplates a scenario characterised by stagflation and a delay in the lowering of short-term interest rates. The framework is complemented by other risk quantification frameworks. It includes an extension of the persistent deposit withdrawals (PDW) framework to also capture the solvency impact of the necessary offload of liquid assets to meet deposit outflows, as well as dedicated sensitivity analyses. Overall, the domestic banking system remains resilient to the contemplated scenario and assumed shocks, mainly as a result of the strong starting position of banks in terms of both solvency and liquidity.

This edition is also complemented with several boxed articles to supplement its analysis. One article addresses the surge in resident NFC lending, aiming to uncover cyclical patterns in credit to Maltese firms to detect any potential signs of excessive credit growth. Another presents the results of the quarterly Bank Lending Surveys (BLS) in Malta, which are also compared to the euro area. Additionally, two articles focus on the non-bank financial sector. One introduces a methodological update for the calculation of the liquid assets ratio for domestically-relevant insurance companies and investment funds, while the other provides an update on the footprint of the domestic non-bank financial institutions (NBFI) sector and an assessment of the sector's bank-like activities. Lastly, another box investigates the significance and effectiveness of O-SII buffers in Malta.

The *Report* is prepared by the Central Bank of Malta through the joint efforts of the Financial Stability Surveillance and Research Department, and the Policy, Crisis Management and Stress Testing Department of the Bank. The *Report* is reviewed by the Bank's Financial Stability Committee, which is responsible to oversee and implement policies related to financial stability and the macroprudential framework.

1. MACROPRUDENTIAL RISK ASSESSEMENT

Financial stability challenges rose in 2023, amid the confluence of events that hit the global economy. Following market disruptions in the fourth quarter of 2022, markets were hit again by the banking turmoil which erupted in the United States (US) and Switzerland in the first quarter of 2023. However, the prompt and decisive actions by respective authorities helped restore market confidence and stem the high risk of contagion. Such events are however forcing a re-evaluation of banking regulation and resolution processes, especially in the US. Nonetheless, the euro area banking system remained resilient, buttressed by strong capital and liquidity buffers coupled with increased profitability.[1] The cost of financing continued to trend upwards on the back of the tighter monetary policies. Against such a backdrop, the possibility of a deterioration in credit quality going forward is plausible. Despite the rising credit risks, leverage, and low liquidity buffers, the euro area's non-bank financial sector demonstrated resilience, whilst remaining highly engaged in primary debt markets.[2] Although financial markets have been somewhat volatile throughout the year, equity prices surged

The global macroeconomic environment remained fragile, amidst heightened geopolitical tensions, elevated inflation, weaker economic growth and tighter financial conditions.

Financial markets performed well; however, prices of some asset classes remained overstretched, and hence vulnerable to abrupt corrections, especially if inflation remains above the ECB's medium-term target.

Domestically, cyclical developments remained robust, driven by strong credit towards property-related loans which adds to concentration risks on banks' loan books.

The domestic financial sector remained resilient backed by strong capital and ample liquidity buffers. Profitability recovered notably, while asset quality improved further.

1 Source: ECB: Financial Stability Review – May 2024.
2 See Footnote 1.

higher whilst bond yields retreated slightly, especially in the last quarter of the year. Meanwhile, the geopolitical tensions in the Middle East escalated further towards the end of the year, which may have adverse effects on the global economy and energy prices, hence inflationary pressures could resurface.

In the face of these events, the Maltese financial system remained resilient. Domestic banks continued to operate with ample liquidity and strong capital buffers, enabling them to withstand possible adverse shocks. They also managed to reap the benefits of the tighter monetary policy stance, improving their net interest income (NII) from placements with the Eurosystem as well as from intermediation activities. Going forward, downside risks to profitability remain driven by the possible adverse impact of the current uncertain macroeconomic environment on the credit growth path and funding costs. Furthermore, markets are pricing in rate cuts in the near term which could affect banks' interest income, especially on their large balances with the Eurosystem.

1.1 Vulnerabilities outside the financial system

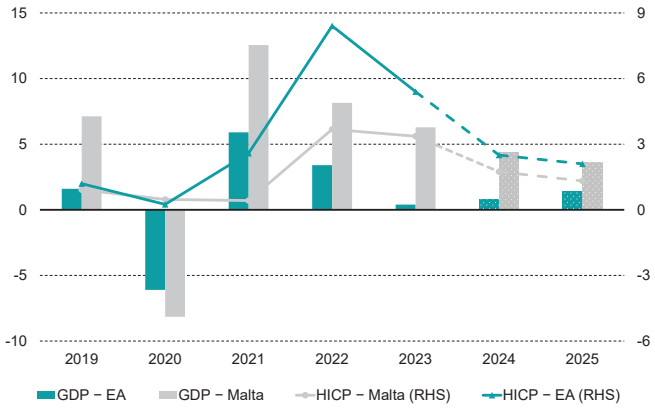
During the year, euro area inflation declined but remained above the ECB's medium-term target of 2%, such that the ECB continued with its contractionary monetary policy. It raised its key interest rates six times in 2023, so that the main refinancing operation (MRO) reached 4.50%. Despite also slowing down domestically, inflation in Malta stood at 5.6%, slightly higher than the 5.4% for the euro area. This was largely driven by higher food prices and services (see Chart 1.1). Inflation in both the euro area and Malta is expected to return close the ECB's target by 2025.

Against this environment, euro area real economic growth slowed down to just 0.4% in 2023, compared to the 3.4% reported in the previous year. This moderation was also attributed to the absence of a strong growth catalyst, primarily seen in weak private consumption, with nominal wage growth trailing behind inflation. Growth was also affected on the external front as exports dwindled in part due to the slowdown in the Chinese economy. Going forward, at 0.8%, growth in real gross domestic product (GDP) is expected to remain subdued in 2024, before recovering to 1.4% in the following year.

Economic activity in Malta also moderated, down by 1.9 percentage points to 6.3% in 2023. Notwithstanding, such growth remained one of the highest in the euro area, spearheaded by the strong recovery in the tourism sector coupled with the robust domestic demand. Looking ahead, economic growth is expected to abate further in the next three years, but it is still projected to remain well above the euro area average. Domestic demand is projected to be the main engine of growth, with private consumption leading the charge followed by export services.

Interest rates have already peaked as the ECB lowered its key interest rates in June 2024. However, their future path is data-dependent and interest rates may be held at elevated levels for a longer period if inflation does not converge to the target level. Such a scenario may have negative repercussions on the growth outlook, compounded by enduring geopolitical tensions, especially due to the ongoing conflict in the Middle East. These continue to exert some upward pressures in commodity prices also compounded by the higher freight costs due to the unsecure trade route channels. In addition, the

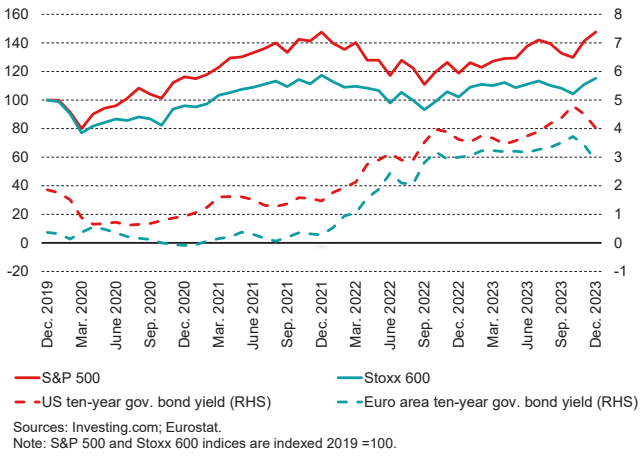
Chart 1.1
GDP AND INFLATION
(per cent)



Sources: Central Bank of Malta; Eurostat.
Note: Dotted line and boxes from 2024 onwards represent forecasts.

economic slowdown in China may have significant adverse spillover effects on the rest of the world, although the strong rebound in the first quarter of 2024 helped lift its near-term economic outlook.

Chart 1.2
FINANCIAL MARKET DEVELOPMENTS
(Index, 2019 = 100, per cent)



Sources: Investing.com; Eurostat.
Note: S&P 500 and Stoxx 600 indices are indexed 2019 =100.

Despite the financial stability risks mentioned above, financial markets performed well but are still vulnerable to any potential macroeconomic surprises. After retreating in most of 2022, equity prices recovered strongly in the latter part of 2022 and most of 2023. This resulted in the Stoxx 600 index to increase by 12.7% during the year, with an even more pronounced growth in the US, where the Standard & Poor's (S&P) 500 rose by 24.2% (see Chart 1.2). However, such growth was mostly focused on the technology and communication sectors, aided by the increased interest in Artificial Intelligence (AI) technologies. The US ten-year government bond yield peaked at 4.8% in October 2023, before retreating to 4.0% by year end, which is still above the level in 2022. The euro-area ten-year government bond yield followed the same pattern but fell at a faster rate after peaking at 3.7% in October 2023 to reach 2.9% in December 2023, marginally below the 2022 level. Going forward, prices of some asset classes, especially in some specific sectors, may look overstretched and hence are vulnerable to sudden price corrections if risk sentiment deteriorates, economic growth falters, or inflation pick up momentum amidst the heightened geopolitical tensions.

The phasing-out of government support measures in some euro area countries in response to the previous energy price shock coupled with high inflation prompted some fiscal tightening. However, a deterioration in economic activity in addition to a re-emergence of energy price shocks could give rise to new fiscal measures which may lead to a rise in sovereign debt sustainability risks. In addition, the higher interest rate environment is exposing some possible vulnerabilities in the sovereign debt market, especially for highly-indebted governments. This as new debt issuances and the roll-over of existing debt became costlier impinging on governments' debt servicing capabilities. Nonetheless, on aggregate, the euro area government debt-to-GDP ratio dropped by 2.2 percentage points to 88.6% as at the end of 2023.[3] In Malta, despite the higher re-financing costs, government debt as a share of GDP dropped from 51.6% as at end 2022 to 50.4% in December 2023.[4]

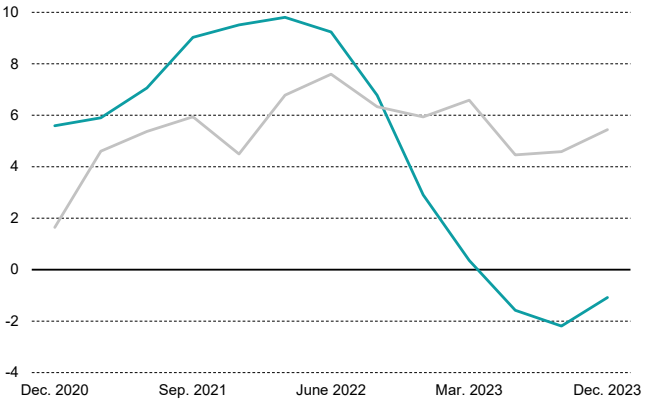
Euro area corporates entered the interest rate cycle on the back of strong metrics, on account of the robust recovery post-pandemic. Nonetheless, they are also feeling the pinch of the increased funding costs and remain vulnerable to the tighter financial conditions especially should inflation stay higher than currently projected, compounded by the expected slowdown in the economy. Some domestic firms were also feeling the effect of a rising interest rate environment, especially those which issued new bonds, or which have bank facilities linked to international benchmark rates. Yet, consolidated corporate debt as a share of GDP trended further downwards due to the faster increase in GDP than debt, standing at 67.8%, in line with the euro area average.[5]

The financial position of the euro area households remained resilient, buttressed by a buoyant labour market, mitigating somewhat the rise in credit risk on banks' balance sheets. However, borrowers with high levels of debt at variable rates are being challenged by the rising financing costs. This also had an adverse effect on

[3] Source: Eurostat.
[4] Source: National Statistics Office (NSO).
[5] Source: ECB Data Portal.

the demand for mortgages, which grew by a mere 0.1% in 2023, down from 3.8% in the previous year. The tighter financing conditions also translated into downward pressures on RRE prices, down by just over 1% (see Chart 1.3). In contrast, the real estate cycle in Malta remained more buoyant albeit at a slower pace than in previous quarters, with house prices rising by 5.4%. In part this reflected the fact that although most mortgages are priced at variable rates, these are linked with the banks' base rates, which remained unchanged throughout the year, resulting in a limited pass-through of interest rates. Mortgage growth did however slow down, as reflected by a drop in the number of signed final deeds of sale, which fell by almost 15% over a year ago. However, promise of sale agreements rose by 8.5%, which is indicative that mortgage demand is likely to remain relatively strong.[6] Housing affordability, measured through the median advertised property price-to-per-capita income ratio stood slightly above the long-term average. At the same time, as per the house price misalignment index, house prices still point towards a slight undervaluation. In addition, the introduction of the sSyRB applicable on RWAs related to resident mortgages is expected to mitigate any repercussions resulting from a possible correction in the real estate market.

Chart 1.3
RRE PRICES
(annual per cent growth rate)



Source: Eurostat.

1.2 Vulnerabilities within the financial system

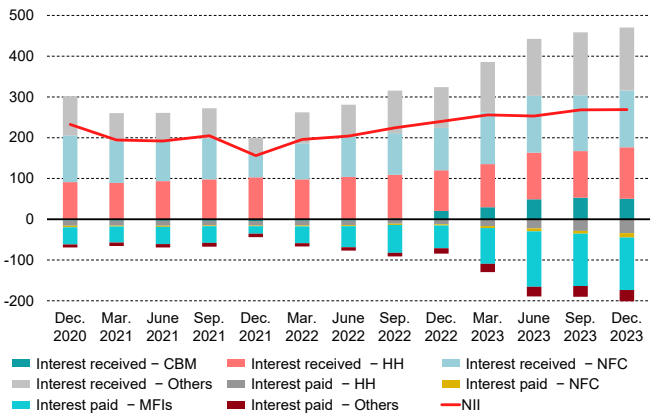
Although financial stability challenges intensified, euro area banks remained resilient and continued to operate with healthy capital and liquidity buffers. The aggregate capital ratio of euro area banks reached 19.9% in Q4 2023, returning to historical highs.[7] Despite easing slightly following targeted longer-term refinancing operations (TLTRO) repayments, liquidity remained ample with the average liquidity coverage ratio (LCR) and the net stable funding ratio (NSFR) standing at 167.1% and 126.8%, respectively. Lending to households and corporates remained fragile on the back of the tighter lending standards and weak credit demand. Although asset quality so far remained healthy, with a non-performing loan (NPL) ratio stable at 1.9%, weak economic growth, tight financing conditions, and geopolitical tensions are likely to further heighten uncertainty going forward. This could potentially adversely affect asset quality and lending growth. In terms of profitability, these banks have until now benefitted from the higher interest rate margins, mostly stemming from variable-rate exposures. Indeed, net interest margins widened by 0.3 percentage point to 1.7%, the highest recorded in these last years, with the return on equity (ROE) and return on assets (ROA) peaking at 10.3% and 0.7%, respectively in 2023.

Domestic banks also managed to reap the benefits of the rising interest rate environment, as NII went up by just over a fifth, driven largely by net income earned on placements with the Eurosystem. As a result, ROA improved by 0.4 percentage point to 1.3% in 2023 (see Chart 1.4). Interest income from intermediation also grew on the back of the strong growth in lending volumes, as base rates were kept largely unchanged. From a sectoral perspective, interest income from non-financial corporate (NFC) loans outgrew the interest earned from household loans, up by over a third and just over 12%, respectively.

[6] Number of final deeds and promise of sale agreements sourced from NSO.
[7] Source: European Banking Authority (EBA) risk dashboard.

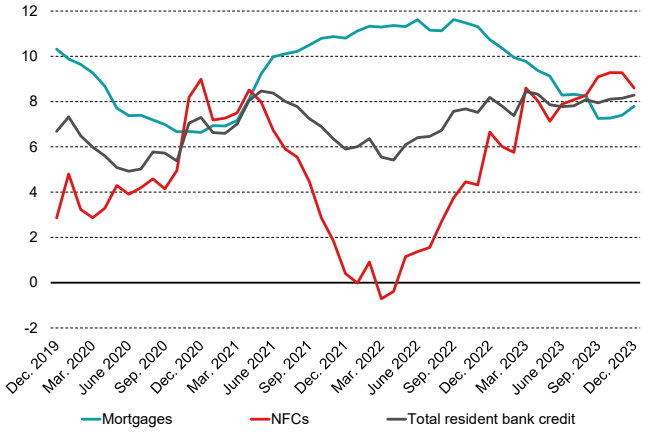
The higher interest rate environment prompted some of the banks to increase their interest rates on their deposits in a bid to compete with the rising bond yields and attract new deposit inflows. However, such developments were mainly focused on term deposits, which despite increasing, still accounted for a minor share of the overall deposits, thereby limiting the increase in banks' interest expenses. Downside risks on profitability remained driven by possible impact on lending volumes and funding costs, albeit profitability could decrease going forward due to the anticipated ECB key interest rate cuts which started in June 2024. Domestic banks continued to operate with ample liquidity buffers as evidenced by the elevated LCR of 373.1% and NSFR of 173.2%. Similarly, domestic banks remained well-capitalised with a total capital ratio of 25.4%, with some banks also issuing subordinated debt to meet the minimum requirement for own funds and eligible liabilities (MREL) requirements, possibly raising some of their funding costs.

Chart 1.4
NII COMPONENTS
(EUR thousands)



Source: Central Bank of Malta.
Note: Figures refer to quarterly flow data. 'Others' mainly include Government and OFIs sectors.

Chart 1.5
ANNUAL CREDIT GROWTH RATE
(per cent)



Source: Central Bank of Malta.

Resident credit kept the strong momentum post-pandemic, increasing steadily by 8.3%. Although growth in mortgages moderated somewhat, credit to NFCs picked up pace (see Chart 1.5). More recent data suggest some softening in lending to private firms. This is also corroborated with the BLS results (see Box 2 in Chapter 2), where participating banks noted that some corporates are starting to feel the pressure of higher financing costs. To date, asset quality remained benign as depicted by the low NPL ratio of 2.1%, down from 2.5% a year earlier. The improvement in the NPL ratio emanated from a faster decrease in NPLs than loans. Such progress in managing credit risk is also confirmed by the low forbearance ratio of 2.2%. Looking ahead, credit risk is expected to remain in check as evidenced by the decline in Stage 2 loans, though if interest rates remain higher than expected, it may push banks to raise their base rates, which may add further pressure on corporates and households to meet their obligations.

The domestic life insurance sector saw a modest recovery in its balance sheet, driven by index and unit-linked contracts, as premia from other contracts decreased reflecting in part higher-yielding investment opportunities. Nonetheless, life insurers maintained strong capital positions. In contrast, non-life insurers reported a slight decline in their assets despite an expansion in their investment portfolios and written premia. The non-life insurers also reported improved liquidity and capital positions. Such developments are

aligned with trends reported within the broader European insurance sector which have also remained resilient with improved capital positions. Still, underwriting challenges persisted, particularly for life insurers due to changing consumer behaviours, which also became evident in Malta. Looking ahead, global capital markets present mixed prospects, especially given ongoing challenges from inflationary pressures and geopolitical uncertainties. Accurate pricing remains crucial for general business products, while the life sector must adapt to evolving customer needs and seize growth opportunities, such as in addressing the climate protection gap.

Meanwhile, domestically-relevant investment sub-funds registered the first growth in two years, in line with the results observed across the sector in the euro area. The outcome was prompted mainly by the significant gains in the equity markets, along with the recovery in bond prices in the last quarter of the year. Euro area investment funds remained vulnerable to liquidity risks, even though the sector continued to shift its bond portfolios towards higher-rated debt instruments. Domestically, risks regarding liquidity and redemptions remained limited. Throughout 2023, redemptions requests decreased to the levels registered before the beginning of the tighter monetary policy environment. Furthermore, domestically-relevant sub-funds operated on the back of an elevated ratio of high-quality liquid assets (HQLA) and low leverage rates.

1.3 Risk horizon

Inflation has eased in recent months, with the ECB announcing a rate cut of 25 basis points in June 2024, but the outlook on inflation is still uncertain. However, the macroeconomic environment remains fragile, especially should inflation remain sticky at elevated levels or surprise on the upside. These risks are exacerbated should the ongoing geopolitical tensions in the Middle East escalate further, which would most likely add further pressures on commodity prices. Such risk has the potential to test financial stability, especially against a backdrop of the existing vulnerabilities in China. Despite the first interest rate cut in almost two years, interest rates remained high, which together with slower economic growth and more restrictive financial conditions has the potential to unravel pre-existing financial vulnerabilities. Adverse surprises from inflation may also trigger an abrupt sell-off in financial markets, especially for those assets for which their price is already overstretched. In addition, the real estate cycle in the euro area is in a downturn, with a possible sustained decline in RRE prices potentially having negative repercussions on banks' collateral values.

Taking a local perspective, the Maltese financial sector remained resilient, supported by strong capital buffers and ample liquidity space. Although the pass-through of interest rates on loans has been limited, this was compensated for by strong credit volumes. Going forward, the domestic financial system remains susceptible to sudden adverse shocks, mostly originating from the vulnerable external environment. The anticipated decrease in interest rates may reduce domestic banks' profitability, particularly for those banks which have significant levels of placements with the Eurosystem. In addition, banks remained highly exposed to the RRE market and a more-than-expected slowdown in this sector may pose adverse effects on their asset quality. Financial institutions should remain vigilant for ongoing risks and vulnerabilities as economic and financial conditions may deteriorate abruptly and in a disorderly manner. The sector should also give due consideration to rising climate-related risks and cyber risks which have exacerbated as the drive for digitalisation intensified. Against this backdrop, the Central Bank of Malta remains committed to ensure that financial stability is preserved through the timely implementation of macroprudential policy tools as deemed necessary. Banks should ensure that they have effective credit risk management frameworks and that their funding plans also incorporate elements of diversification in their funding sources.

Table 1.1
SUMMARY OF RISKS

Main vulnerabilities and risks to financial stability	Description of risk	Risk assessment
Vulnerabilities outside the financial system		
Geopolitical uncertainties	Geopolitical risks continued to increase as the war in Ukraine continued to rage on, coupled with the unrest in the Middle East and the ongoing military tensions between China and Taiwan. All this is happening on the back of increased economic uncertainty influencing voting in national elections across the globe.	
Inflationary pressures	Inflation is on a downward path, with the ECB already lowered the interest rates by 25 basis points in June 2024. This is expected to be accompanied with an increase in disposable income which should help mitigate pressures on borrowers' repayment capabilities. However, the risk of still stubborn inflation could keep interest rates higher-for-longer.	
Reassessment in risk premia	The potential for a reassessment of risk premia remains high amid stretched asset valuations and tighter liquidity conditions. Such risk is particularly present in certain sectors like technology companies including AI, and cloud computing.	
Economic conditions in the euro area and public debt sustainability	Weaker-than-expected economic growth prospects could increase pressure on public debt sustainability. However, such concerns are expected to be somewhat mitigated by the projected lower funding costs on new and rolled-over debt when the ECB continue with its rate cuts.	
Domestic macroeconomic developments	The Maltese economy is expected to continue growing, though at a more moderate pace, with private consumption expected to be the main contributor.	
Real estate market developments	Although residential property sales decreased somewhat, the number of promises of sale agreements rebounded indicating sustained demand. At the same time, property price growth remained strong albeit decelerating. There appears to be some excess supply in some segments of the commercial real estate market, albeit the impact on the financial system is not expected to be systemic.	
Vulnerabilities within the financial system		
Developments in mortgage lending	Resident mortgage lending remained buoyant albeit this slowed down and is expected to grow at more moderate pace. Risks are somewhat mitigated by the conservative lending practices and the introduction of the sSyRB.	
Developments in NFC lending	Growth in resident corporate lending persisted, largely driven by lending to property-related sectors, although other sectors also contributed to such growth.	
Concentration in sectoral lending	Resident lending continued to be largely concentrated in property-related sectors, albeit such share remained largely stable throughout the year.	
Credit quality of the loan portfolio	The overall credit quality of banks' loan books improved, though asset quality concerns could arise, should economic growth slows down, and there are negative surprises in inflation, resulting in a delay in monetary easing.	
Developments related to net income	The higher interest rate environment had a positive effect on domestic banks' income from intermediation as well as from their placements with the Eurosystem. This was also possible as the increase in funding costs was limited so far. However, net income could decrease going forward as a result of the rate cuts by the ECB.	
Liquidity developments	Banks' liquidity remained ample reflecting the significant level of customer deposits and highly liquid assets, limiting concerns of a materialisation of liquidity risks. However, in a rising interest rate environment with higher-yielding investment products, customer deposits growth slowed down, as a result of higher yielding alternative investments opportunities.	
Operational risk	As banks continued with their digitalisation journey, they are becoming more susceptible to higher operational risks, particularly due to increasing cyber threats.	
Domestically-relevant insurances	The life insurance sector recorded an increase in its balance sheet size, with robust capital and liquidity levels. Nevertheless, a declining trend in premia continues to pose challenges, indicating shifting customer behaviour amidst rising interest rates. Meanwhile, non-life insurers saw growth in investment portfolios alongside increased premia and decreased claims.	
Domestically-relevant investment funds	Domestic investment funds registered their first growth in assets after a period of declines, largely driven by the rebound in the equity market. Investments remained concentrated in liquid assets, albeit the levels of cash and deposits fell further. Nonetheless, redemptions decreased closer to historical average levels. Parallel to that, leverage remained low and stable. Risks going forward remain present given the potential of higher reassessment of risk premia given the challenging macroeconomic backdrops and headwinds.	

Risk level: Limited Moderate Elevated

Risk direction: Increased  Stable  Decreased 

BOX 1: MEASURING THE CREDIT GAP FOR MALTESE PRIVATE CORPORATIONS USING THE HAMILTON FILTER[1]

In the aftermath of the great financial crisis, credit to the private sector in Malta ramped up, but underneath the headline figures, at a sectoral level, there was an interplay of differing dynamics. While the corporate sector underwent a deleveraging process, lending to households remained strong, prompting the Central Bank of Malta to implement BBMs in 2019 and later, in 2023, a targeted sectoral sSyRB.[2,3] These measures targeted the mortgage market since this underpinned the primary source of credit growth. Following the onset of the COVID-19 pandemic, lending to corporates picked up momentum, growing by more than 9% by the end of 2020, supported by loan guarantee schemes. As the need for such support measures subsided, growth slowed down to nearly 2% by June 2022, to pick up momentum thereafter. By the end of 2023, credit to resident firms grew by about 7%, necessitating the need to investigate such segment further.

Since it is well established that unsustainable excessive credit growth and leverage can be a source of financial instability, macroprudential authorities carry out exhaustive assessments to unearth budding risks and to try to balance the risk of crises with the cost of policy interventions. The Central Bank of Malta has more recently augmented its assessment of cyclical risk through the construction of the cyclical Systemic Risk Indicator (cSRI), and the multivariate filter credit gap, published in the Bank's 2022 *Financial Stability Report* (FSR) and the 2023 *Interim FSR*, respectively.[4,5] However, the cSRI is an aggregate measure of cyclical risk, and while the multivariate filter credit gap analyses risk within the household and corporate sectors, it is not designed to shed light on different corporate sectors at a disaggregated level. To this end, it was deemed important to enhance such analyses by monitoring the cyclicality in credit to Maltese firms by sector to identify whether the buildup in credit is being driven by sector-specific developments.

This box uses the approach proposed in Hamilton (2018) as it facilitates the construction of credit gaps by sectors of economic activity (NACE).[6] Such application contributes to existing studies by international organisations including the International Monetary Fund (IMF), and other national central banks, which have adopted the Hamilton Regression Filter (HRF) for detrending purposes.[7,8]

The HRF was originally developed by James D. Hamilton as an alternative method to the traditional Hodrick-Prescott (HP) filter. The HP filter has been cited to suffer from a number of limitations, including its susceptibility to generate spurious cycles and its tendency to 'over-shoot' results when data exhibits turning points.[9,10] Rather than applying a smoothing parameter to construct a gap, Hamilton proposes using a variable's own lags to construct a measure of the underlying trend. This is represented by the following regression:

$$Y_t = \beta_0 + \beta_1 Y_{t-h} + \beta_2 Y_{t-h-1} + \cdots + \beta_j Y_{t-h-p} + v_t \quad (1)$$

where Y_t is the observed variable, which for the purpose of this study represents credit in logarithmic form at time t. The value of h reflects beliefs about the duration of the cycle inherent in the variable,

[1] Written by Ms Joanne Ciantar, Senior Expert within the Financial Stability Surveillance Office of the Central Bank of Malta. The author would like to thank Dr William Gatt Fenech, Mr Andrew Spiteri, Ms Wendy Zammit and Mr Alan Cassar for their helpful comments and suggestions.

[2] See Central Bank of Malta Directive No.16 'Regulation on Borrower-Based Measures'.

[3] See Central Bank of Malta (2023) 'Statement of Decision on the implementation of a sectoral Systemic Risk Buffer on RRE domestic Mortgages in Malta'.

[4] See Vella, S (2023). Box 1: A cyclical Systemic Risk Indicator for Malta, in *Financial Stability Report* 2022, Central Bank of Malta.

[5] See Gatt Fenech, W (2023). Special Feature: A measure of the credit gap for Malta, in *Interim Financial Stability Report* 2023.

[6] See Hamilton, J (2018): 'Why you Should Never Use the Hodrick-Prescott Filter'.

[7] See Baba, et. al (2020): 'How Should Credit Gaps Be Measured? An Application to European Countries'. In *IMF Working Paper*.

[8] See Schüler, Y (2018): 'On the cyclical properties of Hamilton's regression filter'. In *Deutsche Bundesbank Discussion Paper*.

[9] See Hamilton, J (2018) and Baba, C, et. al (2020).

[10] See Lang, J. H. and Welz, P. (2017): 'Measuring credit gaps for macroprudential policy'. In European Central Bank *Financial Stability Review* 2017.

with higher values translating into longer cycles. In this regard, Hamilton (2018) recommends a value of five years (h = 20 quarters) for the detrending of the credit variable, reflecting the property that financial cycles are long. Three lags of the variable are also included (p = 3), which were found to be sufficient for the applications below. The model in equation (1) is typically estimated using Ordinary Least Squares, and the residuals v_t constitute the cycle.

The model is estimated using quarterly credit data for the period 1993-2023 for overall resident private firms and for several sectors.[11] As can be observed in Table 1, the availability of sectoral credit

Table 1
CREDIT DATA REPORTING BY SECTOR OF ECONOMIC ACTIVITY

March 1993-September 2003	September 2003-May 2010	June 2010-to date
Transport, storage and communication	Transport, storage and communication	Transportation and storage
		Information and communication
Manufacturing	Manufacturing	Manufacturing
Building and construction	Construction	Construction
	Real estate, renting and business activities	Real estate activities
Hotel, restaurant and tourist trades	Hotels and Restaurants, excluding related construction activities	Accommodation and food service activities
Wholesale and retail trades	Wholesale and retail trade, repairs	Wholesale and retail trade; repair of motor vehicles and motorcycles
Energy and water	Electricity, gas and water supply	Electricity, gas, steam and air conditioning supply
		Water supply; sewerage waste management and remediation activities
Other(1)	Agriculture	Agriculture and forestry
	Community, recreational and personal service activities	Arts, entertainment and recreation
	Education	Education
	Extraterritorial organisations and bodies	Activities of extraterritorial organisations and bodies
	Financial intermediation	Financial and insurance activities
	Fishing	Fishing and aquaculture
	Health and social work	Human health and social work activities
	Mining and quarrying	Mining and quarrying
	Public administration	Public administration and defence; compulsory social security
		Administrative and support service activities
		Professional, scientific, and technical activities
		Other service activities

Sources: Eurostat; Central Bank of Malta.

(1) Includes loans to agriculture and fishing, mining and quarrying, public administration, education, health and social work, financial and insurance activities (including interbank loans), professional, scientific and technical activities, administrative and support service activities, arts, entertainment and recreation, other services activities, and extraterritorial bodies and organisations.

[11] Since only the private sector is being considered, loans to the general government and public corporations were excluded both on a sectoral basis as well as from the overall figure.

data varied throughout the period observed, with historical data available at a less granular form.[12] As a result, the oldest sectoral composition was used to benefit from the entire time-series available.[13] This resulted in the development of seven credit gaps, including one for overall credit to private firms, as well as for the below sectors:

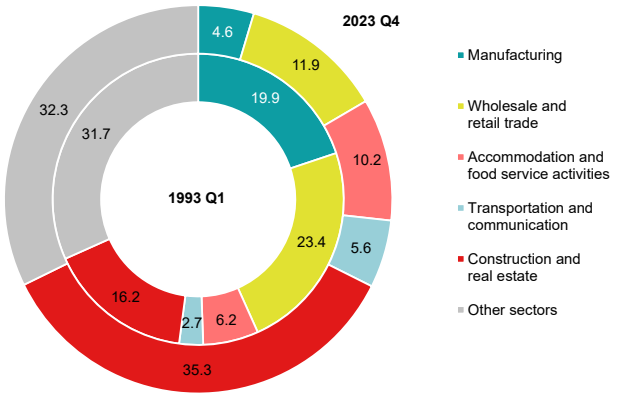
1. Manufacturing sector (NACE C)
2. Wholesale and retail trade sector (NACE G)
3. Accommodation and food service activities sector (NACE I)
4. Transportation and communication sectors (NACE H and NACE J)
5. Construction and real estate sectors (NACE F and NACE L)
6. Other sectors[14,15]

1. Sectoral and overall private firms' credit gaps for Malta

The construction and real estate sectors are key drivers of credit to the Maltese private corporations, as reflected in the sizeable share of loans granted by the domestic banks (see Chart 1). However, this was not always the case, with the share of 16.2% growing significantly over the last 30 years to reach over 35%. The second most prominent sector as at the end of 2023 is the 'other sectors' category, which is composed of several sectors, including the financial sector. This cannot be disaggregated further due to historical statistical methodologies.

The application of the HRF on overall Maltese private firms' credit evidences a long credit cycle ranging between ten to 15 years (see Chart 2). This is in line with existing literature that financial cycles are typically of a longer duration compared to business cycles.[16] Three periods of possible excessive credit are identified; the first captured at its final stages in the late 1990s likely reflecting the impact of the financial liberalisation introduced at the time, the second during the

Chart 1
LOANS TO MALTESE PRIVATE FIRMS BY SECTOR
(per cent)

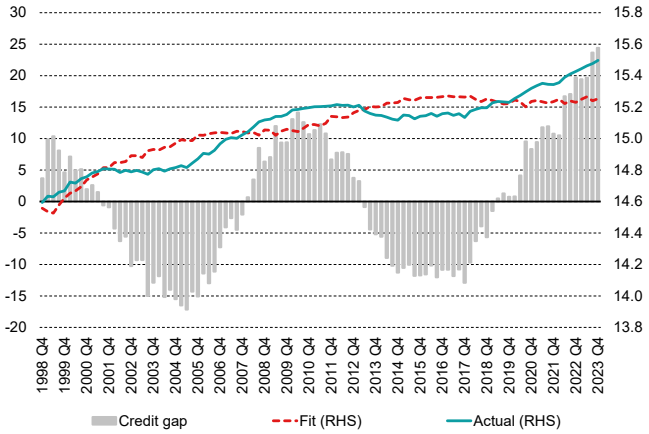


Source: Central Bank of Malta.
Note: Shares for 1993 Q1 are based on data that has been adjusted to avoid breaks in the time-series.

[12] The NACE classifications reflect the main economic activity as reported in Central Bank of Malta data.
[13] Due to the minor representativeness of credit facilities to the Energy and Water sectors within overall credit to resident private firms, these have been considered within Other Sectors for the purpose of this study.
[14] Based on Eurostat NACE Rev. 2 terminology, this incorporates the following sectors: Agriculture, forestry and fishing (NACE A), Mining and quarrying (NACE B), Electricity, gas, steam and air conditioning supply (NACE D), Water supply; sewerage, waste management and remediation activities (NACE E), Financial and insurance activities (NACE K), Professional, scientific and technical activities (NACE M), Administrative and support service activities (NACE N), Public administration and defence; compulsory social security (NACE O), Education (NACE P), Human health and social work activities (NACE Q), Arts, entertainment and recreation (NACE R), Other service activities (NACE S), and Activities of extraterritorial organisations and bodies (NACE U).
[15] In December 2023, data for Other Sectors is composed as follows: 50.5% pertain to the Financial sector (NACE K), 0.7% to Agriculture (NACE A1 and A2), 5.1% to Fishing (NACE A3), 20.1% to Professional services (NACE M), 11.9% to the Administrative sector (NACE N), 2.9% to the Education sector (NACE P), 4.9% to Human health activities (NACE Q), 2.2% to the Arts and entertainment sector (NACE R), and 1.5% to Other Services (NACE S). The Mining and quarrying (NACE B), Public administration (NACE O) and Extra-territorial activities (NACE U) represented a negligible amount.
[16] See Drehmann and Yetman (2020): 'Which credit gap is better at predicting financial crises? A comparison of univariate filters'. In Bank for International Settlements Working Papers.

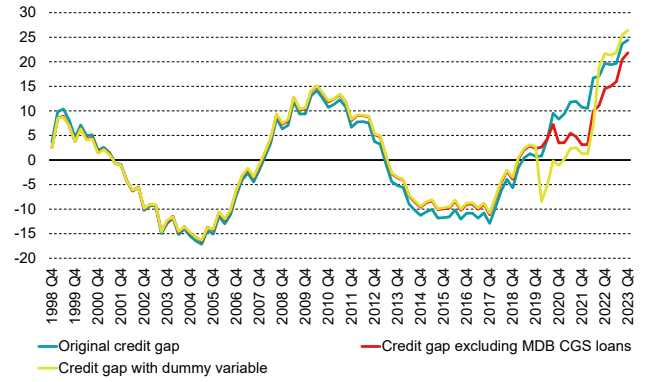
global financial crisis, which persisted until the first quarter of 2013, and the third starting in 2019 Q2. The latter positive credit gap persisted to reach 24.4% in the last quarter of 2023, the highest throughout the 30-year period being analysed.[17] Since the period assessed was characterised by exceptional events, namely the COVID-19 pandemic, the credit gap was re-generated to adjust for its impact on credit growth. When considering two different approaches, namely when excluding loans granted through the Malta Development Bank (MDB) COVID-19 Guarantee Scheme (CGS) and when introducing a dummy variable, results for December 2023 would remain unchanged (see Chart 3).[18]

Chart 2
CREDIT GAP OF RESIDENT PRIVATE FIRMS BASED ON THE HRF
(per cent; log)



Sources: Author's estimates; Central Bank of Malta.

Chart 3
CREDIT GAP OF OVERALL RESIDENT PRIVATE FIRMS WHEN ADJUSTING FOR COVID-19
(per cent)



Sources: Author's estimates; MDB; Central Bank of Malta.
Note: MDB CGS outstanding loans are excluded from 2020 Q2 onwards. The dummy variable takes the value of one between 2020 Q1 and 2022 Q2.

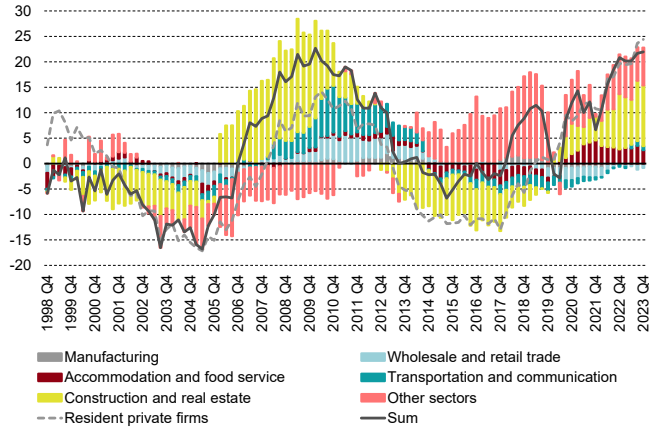
As outlined earlier, one of the main advantages of this study is the ability to estimate credit gaps for each of the sectors specified above. The sectoral credit gaps could then be combined to better identify the importance of each sector in driving credit to resident private firms, resulting in a second measure of the overall credit gap to be produced (see Chart 4).[19] At 21.9% in December 2023, it stood very close to that estimated for overall credit.

The credit cycle of the construction and real estate sectors mirrors very closely that observed for resident private firms (see Chart 5). These two sectors were the primary contributors in the early stages of the positive credit gap during the global financial crisis as the gap for these sectors peaked and exceeded 50%. Activity in these sectors started to exceed the estimated levels again in the 2020s, with data for the last quarter of 2023 suggesting that the credit gap stood at 33.8%. While this is significant, it is still

[17] These results remain unchanged when considering varying values of h and p in the HRF application.
[18] MDB CGS loans granted between 2020 Q2 and 2023 Q4 were excluded, while the dummy variable took the value of one between 2020 Q1 and 2022 Q2 and zero for all remaining periods.
[19] This was done by weighting the credit gaps of each sector according to their share within overall credit to resident private firms. These weights reflect the changing compositions of each sector over time. The sum of the contributions of the sectoral gaps does not necessarily equate to the credit gap estimated over the aggregate time series.

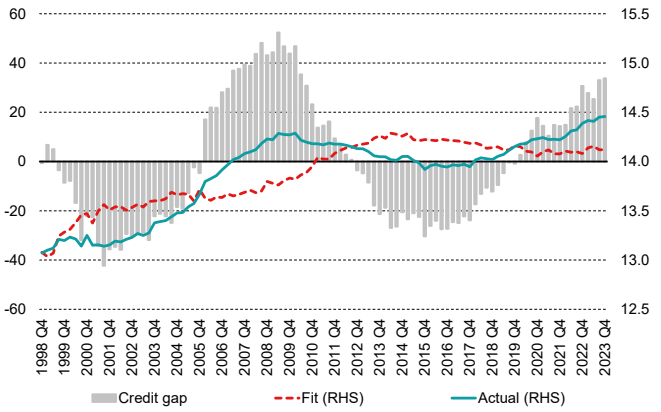
below the peak observed in the past property boom of 2007-2008. Representing 11.9 percentage points of the accumulation of weighted positive gaps as at December 2023, these two sectors were the primary driver behind recent developments within the credit to Maltese private firms, as also shown in Gatt Fenech (2023).

Chart 4
SECTORAL CREDIT GAPS BASED ON THE HRF
(per cent)



Sources: Author's estimates; Central Bank of Malta.

Chart 5
CREDIT GAP OF THE CONSTRUCTION AND REAL ESTATE SECTORS BASED ON THE HRF
(per cent; log)



Sources: Author's estimates; Central Bank of Malta.

However, other sectors also played a role in the recent positive credit gap. One such sector is the accommodation and food service activities sector. Recent results of the HRF show that the credit gap of this sector is at its highest level over the 30-year period examined. Nevertheless, as it constitutes a lower share in overall credit, its contribution to the combined gap is much more contained at 2.6 percentage points as at the end of 2023. Similarly, despite ending 2023 with a positive credit gap, the transportation and communication sectors contributed just 0.8 percentage point, suggesting minimum impact on overall credit to Maltese firms. Meanwhile, the manufacturing and wholesale and retail trade sectors ended 2023 with negative credit gaps and are thus not considered to be contributing to the most recent developments observed within the overall private firm credit. The remaining share of the gap is in fact largely attributable to the other sectors, primarily reflecting loans to the financial sector. Should these be excluded, the credit gap for Maltese private NFCs corresponds to 21.0% in December 2023.[20] In contrast, when excluding the financial sector, the credit gap of the other remaining sectors would turn negative to -1.7% during the same period.

2. HRF results compared with other gap extraction methods

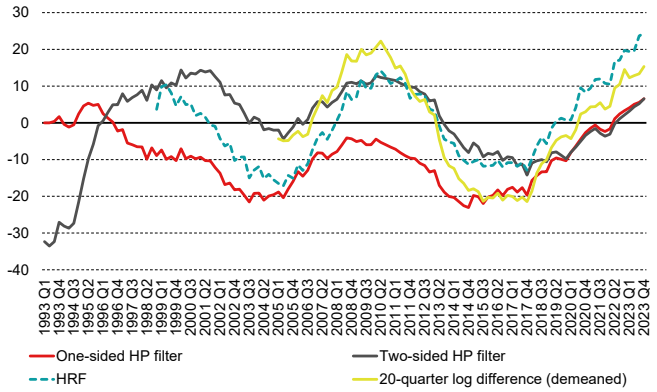
To assess the performance of the HRF as a robust mechanism for signalling excessive credit growth within the private firms' sector in Malta, its results are being compared with alternative metrics. One

[20] The separate credit gaps generated for Maltese private NFCs and other non-financial sectors were generated from 2003 Q1, reflecting data availability on financial loans.

of this, used by Drehmann and Yetman (2018) and Hamilton and Leff (2020), is the five-year (or 20-quarter) log differences.[21,22,23] The other metric is the HP filter, including both a one-sided application for detrending as proposed by Borio and Lowe (2002) and as used in the assessment of the countercyclical capital buffer (CCyB), as well as its two-sided application. The former considers only past observations to estimate the trend, while the latter considers both past and future observations.[24] As guided by literature, a smoothing parameter of 400,000 was used in both applications.

Chart 6 illustrates the results for credit to Maltese private firms extracted using the above three methods, compared to those derived using the HRF. All gap extraction methods, except for the one-sided HP filter, are largely consistent in their estimates of the cycle and its turning points, with some having more pronounced peaks and troughs than others throughout the period analysed. In fact, all metrics, bar the one-sided HP filter, indicate that credit was above historical levels during the global financial crisis. Importantly, all gap extraction methods signal a positive credit gap for resident private firms by the end of 2023, with the one formulated by the HRF opening at a faster pace. Such consistency in results was also observed from a sectoral perspective.[25]

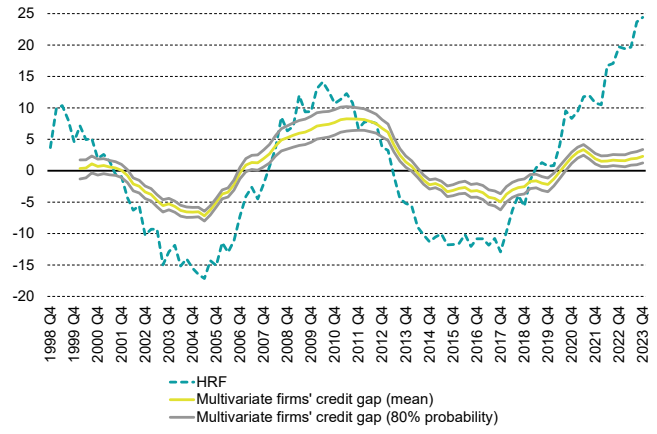
Chart 6
THE HRF VERSUS OTHER GAP EXTRACTION METHODS
(per cent)



Sources: Author's estimates; Central Bank of Malta.
Note: A lambda of 400,000 is applied for the one-sided and two-sided HP filters. 20-quarter log difference represents growth rates and is being worked on a time-series starting from 2000 Q1.

The HRF results for the credit gap extracted for resident private firms are also assessed against the findings of the firms' credit gap derived using the multivariate filter (see Chart 7).[26] As

Chart 7
THE HRF VERSUS THE MULTIVARIATE FIRMS' CREDIT GAP
(per cent)



Sources: Author's estimates; Gatt Fenech (2023).

[21] See Drehmann and Yetman (2018): 'Why you should use the Hodrick-Prescott filter – at least to generate credit gap'. In Bank for International Settlements Working Papers.
[22] See Hamilton and Leff (2020): 'Measuring the Credit Gap'.
[23] The 20-quarter log differences have been demeaned and extracted based on data starting from 2000 Q1 to adjust for the impact of the financial liberalisation programme in Malta in the 1990s.
[24] See Borio and Lowe (2002): 'Asset prices, financial and monetary stability: exploring the nexus'.
[25] More details will be published in Ciantar, J. (forthcoming), Analysing the Credit Gap in Maltese Private Firms: Insights from the Hamilton Filter methodology, *Central Bank of Malta Working Paper*.
[26] See Gatt Fenech, W. (2023).

can be deduced from Chart 7, both credit gaps are positive with the duration and the turning points of the credit cycle also consistent across both methods.[27]

3. Conclusion

The need for a sectoral credit gap measure for Maltese private firms has been mainly motivated by strong growth rates observed in recent years and the need to ascertain any potential sources of risks at a sectoral level.

This box proposed a univariate statistical filter as recommended in Hamilton (2018) to facilitate the extraction of seven separate credit gaps. Results for the last quarter of 2023 show a positive credit gap for resident private firms of 24.4%, with similar conclusions when adjusting for the COVID-19 pandemic period and excluding credit to financial entities.

When benchmarked with other gap measurement techniques, the results produced by the HRF are largely consistent. Credit developments within the construction and real estate industry and, to a lesser extent, the accommodation and food service activities sector have particularly contributed to the conclusions observed within the overall credit gap. Although at 33.8%, the HRF credit gap for the construction and real estate sectors is positive, it is still lower than peaks observed during the global financial crisis. Results for the accommodation and food service activities sector reflect the significant expansion of the industry over a prolonged period, which has become more pronounced following the substantial aid received during the COVID-19 pandemic. Nonetheless, its impact on the overall credit gap was more limited given the relatively small share of credit granted to this sector.

The robustness checks performed have all produced identical outcomes, especially for overall credit. As a result, this analysis can enhance the Bank's current toolkit in assessing cyclical risk, by shedding light on sector-specific developments. Such insights are useful in calibrating the appropriate macroprudential policy stance and tools in Malta.

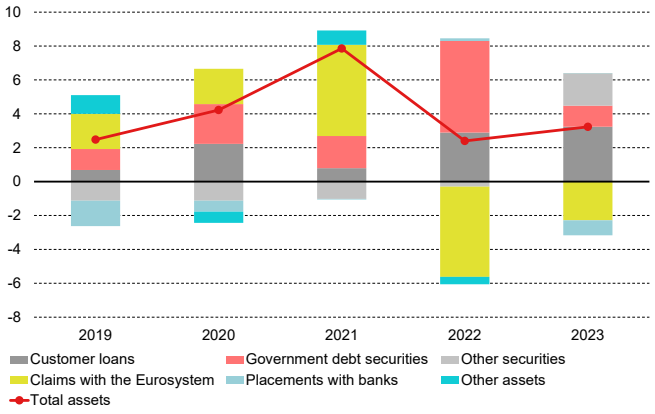
[27] The observable difference in magnitude is due to differing methodologies.

2. DEVELOPMENTS IN THE BANKING SECTOR

2.1 Core domestic banks

The balance sheet of core domestic banks grew by 3.2% to reach €29.4 billion, representing just over 151% of GDP. Customer loans continued with their upward trajectory, strengthening their position as the largest asset component, constituting nearly half of these banks' total assets (see Chart 2.1). Concurrently, securities, predominantly bonds, were also pivotal for this year's balance sheet growth, registering an annual increase of 11.5% and contributing to a further 29.6% of total assets. This surge was principally fuelled by the banks' endeavours to capitalize on the elevated yields of bonds, which led to a decline in placements with the Eurosystem for the second year running.

Chart 2.1
CONTRIBUTION TO BALANCE SHEET GROWTH – CORE DOMESTIC BANKS
(percentage points)

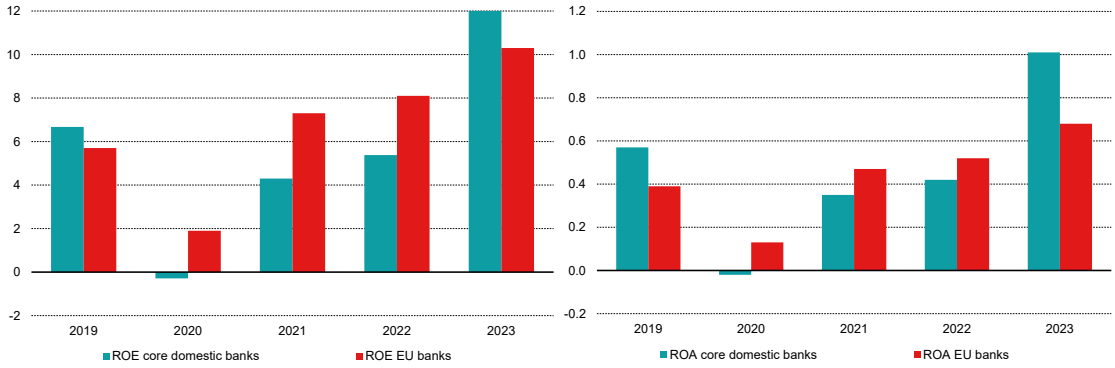


Source: Central Bank of Malta.

2.1.1 Profitability

In 2023 core domestic banks achieved a strong rise in profitability, as evidenced by more than a twofold increase in pre-tax profits, reaching around €440 million. Consequently, the post-tax ROE and ROA for the year stood at 12.0% and 1.0%, respectively, compared to 5.4% and 0.4% in 2022 (see Chart 2.2). In terms of performance, these levels of profitability have positioned these banks ahead of their EU counterparts. The surge in profits primarily stemmed from a substantial increase in NII, which rose by 57.5%, to constitute nearly 80% of total gross income. A substantial share of this income stemmed from placements with the Central Bank of Malta, representing almost 15% of gross income. NII from intermediation also trended higher, up by just over a fifth, to account for more than half of gross income. This, on the back of wider margins particularly because of higher interest rates on corporate loans, coupled with increased loan volumes (see Chart 2.3). Specifically,

Chart 2.2
PROFITABILITY RATIOS
(per cent)



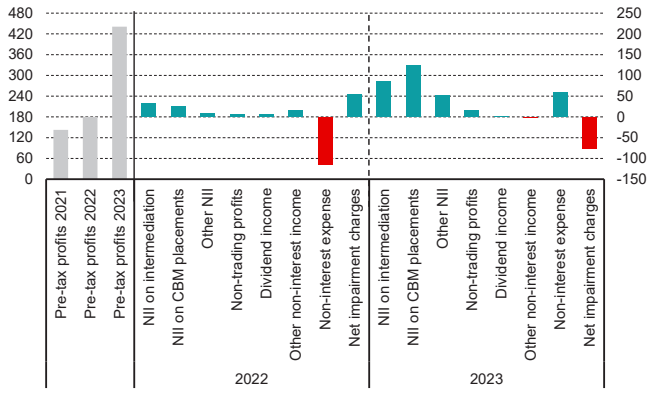
Sources: Central Bank of Malta; EBA.

the weighted average interest rate (WAIR) on corporate loans increased by 62 basis points to 4.82%, whereas that on mortgages remained largely unchanged at 2.69% (see Chart 2.4). Despite a 15 basis-point increase, the WAIR on deposits remained modest at 0.32%, primarily because most deposits are withdrawable on demand, limiting the rise in funding costs. These banks also reported positive developments in other interest income, primarily attributable to higher bond yields. Although to a lesser extent, non-interest income also grew, largely driven by higher non-trading profits. Furthermore, non-interest expenses declined, largely reflecting the one-time litigation cost incurred by one bank in 2022. Indeed, operating costs, mainly staff expenses, increased moderately. Meanwhile, after two consecutive years of reversals and recoveries of impairment losses, these banks reported some net impairment charges. The substantial improvement in gross income, coupled with the reduction in operational expenses, led to a significant reduction in the cost-to-income ratio, from 82.3% in 2022 to 50.9%, below the EU average of 55.1%.[1]

2.1.2 Credit dynamics

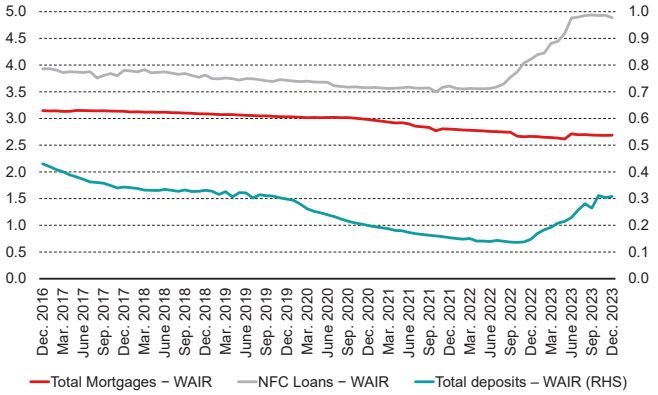
Overall credit growth remained robust, up by 6.8% as in the previous year. This growth continued to be driven by resident mortgages, up by 7.6%. Such growth was slower than the 10.3% observed in the previous year, reflecting fewer final deeds of sale signed during the reporting period (refer to Chart 2.5). Consequently, resident mortgages now constitute slightly over half of the total resident loan portfolio. Credit to resident firms picked up momentum, up by almost 7%. This reflected considerable growth

Chart 2.3
MAIN CONTRIBUTORS TO PROFITS – CORE DOMESTIC BANKS
(EUR millions)



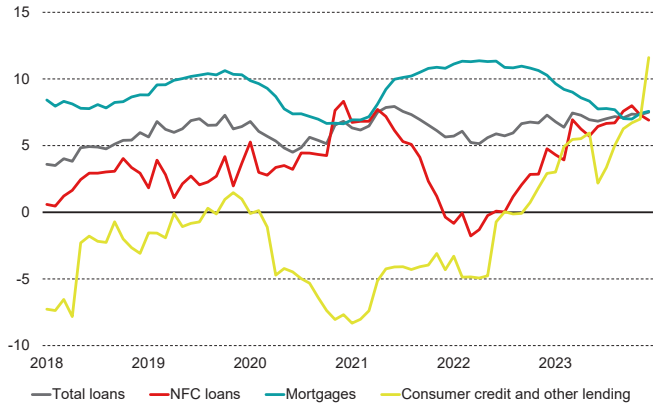
Source: Central Bank of Malta.
Note: Grey bars indicate pre-tax profits in absolute amounts. Teal (positive) and red (negative) bars indicate yearly contributions to profits.

Chart 2.4
INTEREST RATE DEVELOPMENTS – CORE DOMESTIC BANKS
(per cent)



Source: Central Bank of Malta.
Note: Data refers to the annualised agreed WAIR on outstanding resident exposures by core domestic banks.

Chart 2.5
ANNUAL GROWTH RATE OF RESIDENT LOANS – CORE DOMESTIC BANKS
(per cent)

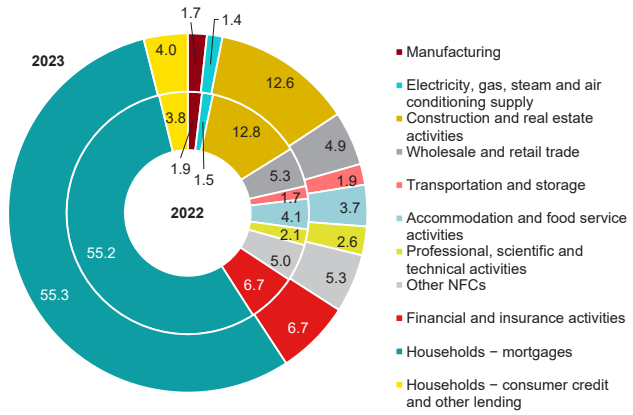


Source: Central Bank of Malta.

[1] Source: EBA risk dashboard 2023Q4.

in resident public NFCs, largely energy related, as otherwise resident private NFC credit decelerated from 6.5% in 2022 to 5.9% by year end, though still significantly above pre-pandemic growth rates. The rise in private resident NFC lending was primarily driven by the construction and real estate sector, which accounted for about 12.6% of resident loans (see Chart 2.6). Concentration towards property-related loans remained elevated, with such exposures representing just over two-thirds of the overall resident loans. Notable increases were also recorded in other sectors such as the professional, scientific and technical activities, fishing and aquaculture, as well as the transport and storage sectors, though these sectors still accounted for a minor portion of the overall total resident loan portfolios.[2] Meanwhile, consumer credit grew at double-digit rates, but remained limited to just 4.0% of total resident credit. Contacts with banks confirmed that growth in consumer credit was being driven by increased lending towards green products at advantageous rates.

Chart 2.6
RESIDENT LOANS BY NACE – CORE DOMESTIC BANKS
(per cent)



Source: Central Bank of Malta.

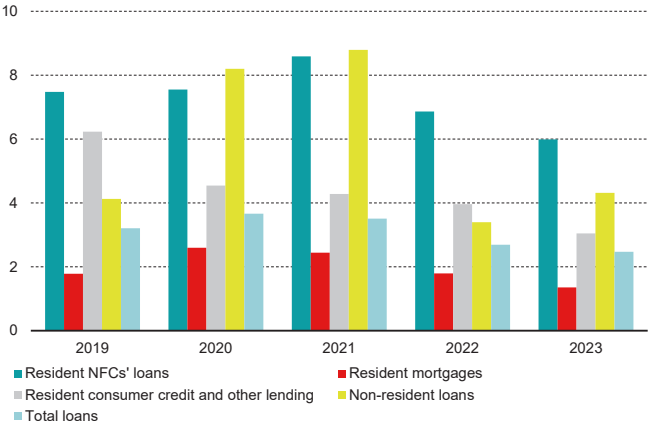
2.1.3 Asset quality

Non-performing loans

A slow pass-through of interest rates on loans and a robust domestic economy supported the quality of this groups' asset portfolio. As a result, the declining trend in the overall NPL ratio persisted, with the ratio improving by 0.2 percentage point to 2.5% (see Chart 2.7). Similarly, excluding placements, the NPL ratio fell by about 0.5 percentage point to 3.2%. Particularly noteworthy is the resident NPL ratio, which reached its lowest level in the past five years to 2.3% in 2023. Meanwhile, the non-resident NPL ratio increased by almost 1 percentage point to 4.3%, though it remained much lower than during the pandemic.

The NPL ratio for resident mortgages declined by 0.4 percentage point to 1.4%, while that for resident consumer credit decreased by 0.9 percentage point to 3.0%. These improvements reflected both lower NPLs and higher outstanding credit. The NPL ratio for domestic NFCs also continued on a downward trend, dropping by 0.9 percentage point to 6.0%. This drop was driven by reduced NPLs in the accommodation and

Chart 2.7
NPL RATIOS – CORE DOMESTIC BANKS
(per cent)



Source: Central Bank of Malta.

[2] In Chart 2.6, the fishing and aquaculture sector is included in the Other NFCs category.

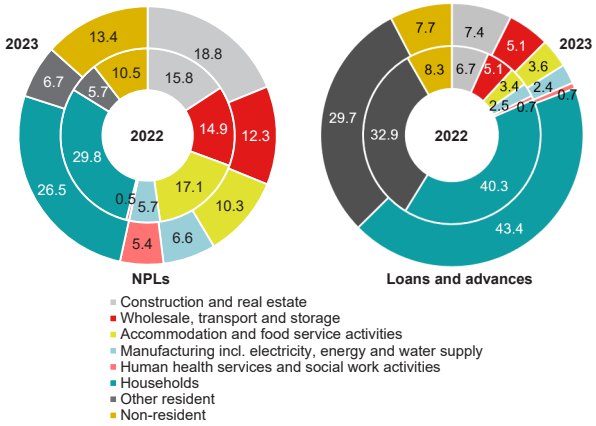
food services sectors, as well as, to a lesser extent, in the wholesale and retail trade sector, resulting in a lower share of overall NPLs (see Chart 2.8). This was also accompanied by an expansion in loans to resident private NFCs. On the other hand, there was a significant increase in NPLs within the human health services and social work activities sector, resulting in their contribution to the overall NPLs to increase to 5.4%. NPLs of resident construction and real estate sectors rose by almost 10%, partly offsetting the drop reported in 2022. As a result, their share in overall NPLs rose by 3 percentage points to 18.8%.

Loans and provisions

The enhancement in the credit quality of the loan portfolio and its outlook were further reinforced by declines in both Stage 2 and Stage 3 loans to account for 5.8% and 3.3% of overall loans, respectively. Stage 1 loans increased further, with their share rising by 3.6 percentage points to 91.0% (refer to Chart 2.9). Such developments were also reflected in related provisioning levels, which dropped by 13%, primarily propelled by reductions in Stage 3 provisions which nonetheless still comprised around two-thirds of total provisions. Meanwhile, Stage 1 and Stage 2 provisions also decreased, albeit to a lesser degree, each accounting for approximately 17% of total provisions.

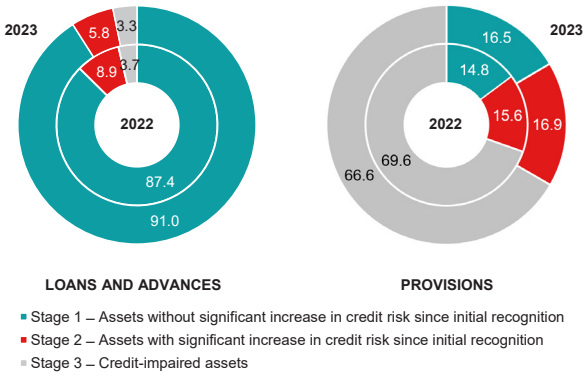
Provisions declined at a faster pace than the outstanding level of NPLs. Consequently, the total coverage ratio declined by 2.5 percentage points to 44.0% (see Chart 2.10). Taking into consideration the collateral underlying such exposures, almost all NPLs would be fully covered, somewhat mitigating credit risk for these banks.

Chart 2.8
SECTORAL ALLOCATION OF LOANS AND ADVANCES AND NPLs – CORE DOMESTIC BANKS
(per cent)



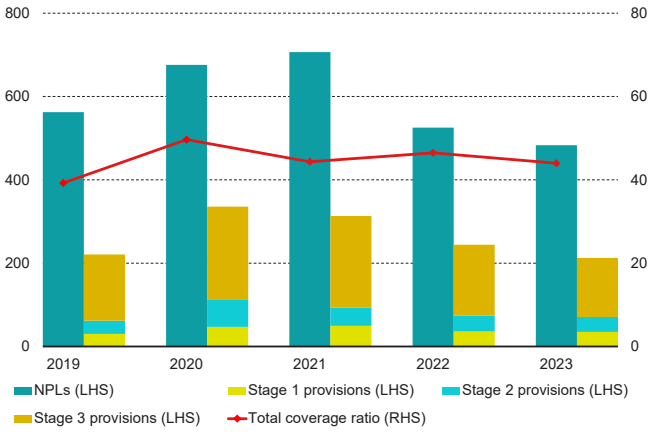
Source: Central Bank of Malta.

Chart 2.9
STAGE ALLOCATION OF LOANS AND ADVANCES AND PROVISIONS – CORE DOMESTIC BANKS
(per cent)



Source: Central Bank of Malta.

Chart 2.10
COVERAGE RATIO – CORE DOMESTIC BANKS
(EUR millions; per cent)

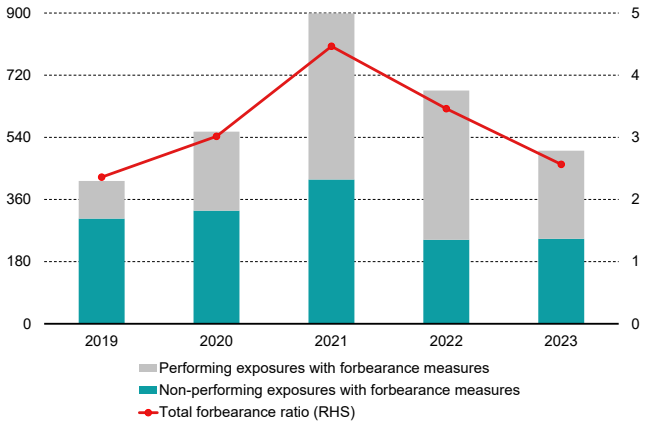


Source: Central Bank of Malta.

Loan exposures with forbearance measures

The total volume of loans subject to forbearance measures dropped by just over a quarter, driven exclusively by a decline in performing exposures with forbearance measures, while non-performing exposures saw a slight increase. This, alongside a rise in overall loan volumes contributed to an enhancement in the forbearance ratio which decreased by 0.9 percentage point to 2.6%, to just above the levels reported in 2019 (see Chart 2.11). Its composition however changed, with around half being performing forborne exposures, a share much higher than pre-pandemic observations.

Chart 2.11
FORBORNE LOAN EXPOSURES – CORE DOMESTIC BANKS
(EUR millions; per cent)

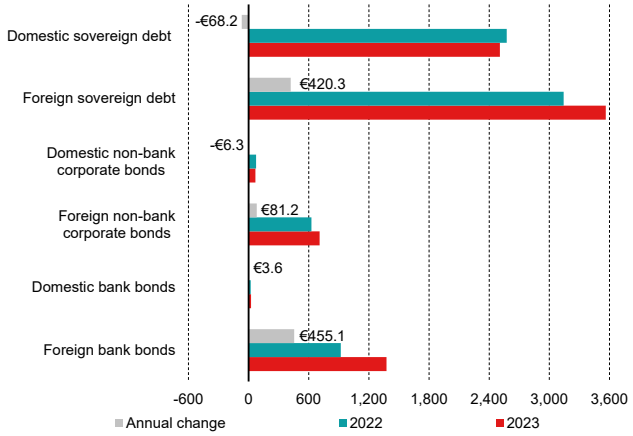


Source: Central Bank of Malta.

The securities portfolio

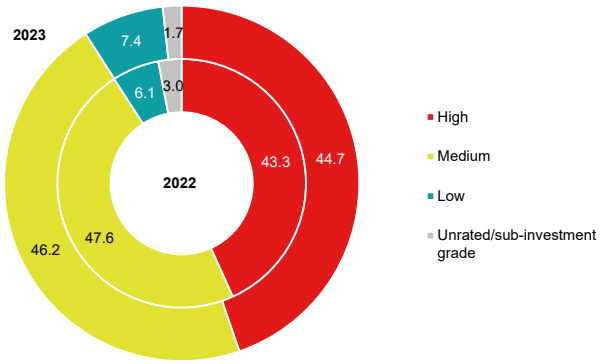
The overall bond portfolio expanded further as these banks continued to take advantage of the elevated bond yields. Indeed, the portfolio of fixed-income securities increased by 12.0% over the previous year, to represent just over a quarter of total assets. During the year, investments were directed towards bonds of foreign banks and governments, and to a much lesser extent in non-resident corporates. Meanwhile, these banks shed a small part of their domestic bond exposures, particularly sovereigns with their bias towards domestic exposures falling further as a result (see Chart 2.12). In view of these developments, holdings of foreign bonds, primarily sovereigns, accounted for the largest share, reaching 68.5%. Despite the increasing concerns of the higher sovereign-bank nexus, the quality of the bond portfolio improved as these banks invested a significant portion of the portfolio in high-rated bonds. Furthermore about 46% of the bonds were medium-rated with the share of sub-investment grade bonds declining further (see Chart 2.13). Equity holdings remained relatively stable over the year, representing just 1.5% of total assets.

Chart 2.12
BOND PORTFOLIO – CORE DOMESTIC BANKS
(EUR millions)



Source: Central Bank of Malta.

Chart 2.13
BOND HOLDINGS BY RATING – CORE DOMESTIC BANKS
(per cent)



Source: Central Bank of Malta.

Note: Investment-grade bonds carrying a rating of AA- or above are regarded 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+. Sub-investment grade bonds are rated lower than BBB-.

2.1.4 Funding and liquidity

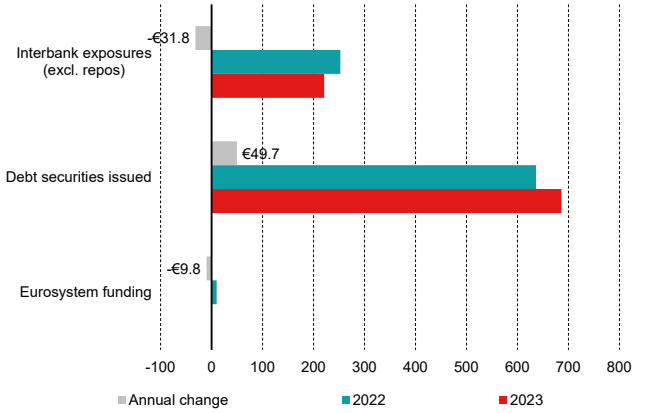
Eurosystem and wholesale funding

The monetary policy tightening has ended the availability of cheap sources of funds from the Eurosystem.[3] Given their ample liquidity, these banks repaid early the TLTROs in 2022, with recourse to Eurosystem funding dwindling further to less than €0.25 million by year end (see Chart 2.14). Interbank funding also contracted, though at a slower pace than in the previous year. Meanwhile, debt securities issued by these banks increased by almost €50 million in the form of subordinated debt, also in a bid to strengthen their capital base and meet regulatory requirements.

Customer deposits

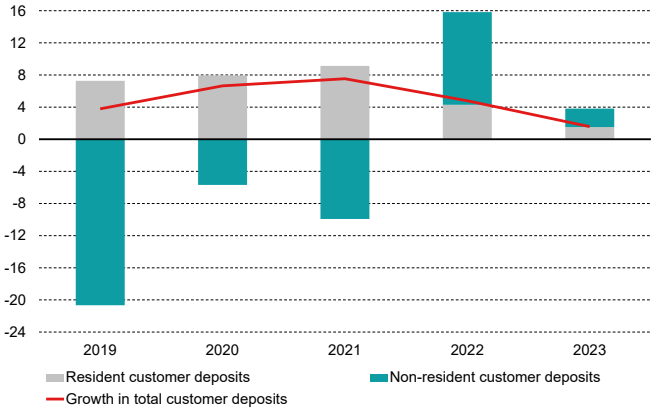
The downward trend in the growth of customer deposits persisted in 2023, as these banks faced competitive pressures from higher yielding investment products. Indeed, customer deposits grew by just 1.6% in 2023, compared to the 4.8% in the previous year (see Chart 2.15). Growth in resident customer deposits slowed down to 1.5%, compared to a peak of 9.1% in 2021, in part reflecting the limited pass through of interest rates on deposits. Nonetheless, at just over three-quarters of their total assets, such deposits continued financing the bulk of business activities (see Chart 2.16). Deposits from resident households rose by 3.4%, to represent more than two-thirds of the overall customer deposits, while resident corporate deposits shrank by 3.3%, largely driven by the wholesale and retail trade sector. Meanwhile, customer deposits from the financial and insurance activities sector also fell by 16.3%.[4]

Chart 2.14
DEVELOPMENTS IN NON-RETAIL FUNDING – CORE DOMESTIC BANKS
(EUR millions)



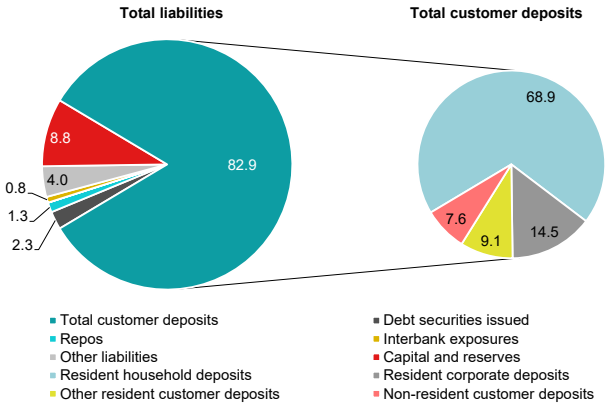
Source: Central Bank of Malta.

Chart 2.15
CONTRIBUTION TO GROWTH IN CUSTOMER DEPOSITS – CORE DOMESTIC BANKS
(percentage points; per cent)



Source: Central Bank of Malta.

Chart 2.16
BANKS' LIABILITIES COMPONENTS – CORE DOMESTIC BANKS (2023)
(per cent)



Source: Central Bank of Malta.
Note: Total customer deposits pie chart represents the 82.9% in the total liabilites pie chart. This adds up to 100%.

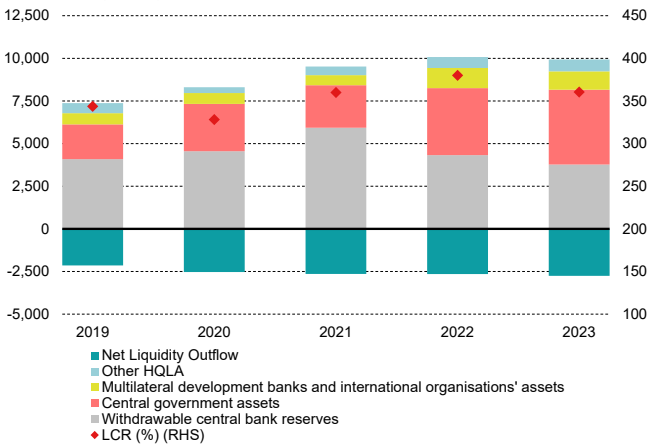
[3] In October 2022, the ECB recalibrated the outstanding TLTROs so that their interest rate will be indexed to average applicable key ECB interest rates. Also, this was accompanied by three additional voluntary early repayment dates introduced for banks wishing to terminate or reduce borrowings before maturity.

[4] The financial and insurance activities sector also includes pension funds, non-MMFs, and OFIs.

Liquidity

Despite deteriorating slightly, the liquidity position of these banks remained healthy as evidenced by the robust LCR of 360.4% (see Chart 2.17). HQLA contracted, primarily on account of lower central bank placements, which declined substantially such that the increase in central governments' assets was outweighed. These developments are very similar to the previous year, where the monetary policy tightening encouraged banks to invest more heavily in higher yielding and highly liquid government bonds at the expense of central banks' reserves, despite the latter paying a more attractive remuneration. Similarly, the NSFR also dropped by 12 percentage points, albeit at 175.2%, this ratio remained comfortably above the regulatory requirement. The slower deposit growth and sustained credit led to the customer loans-to-deposits ratio to advance by almost 3 percentage points to 58.9%. This in part reflected the limited interest rate pass-through on deposits. Nevertheless, comparatively, euro area banks reported a much worse liquidity position, with the ratio reaching 108.6%.[5]

Chart 2.17
LCR – CORE DOMESTIC BANKS
(EUR millions; per cent)

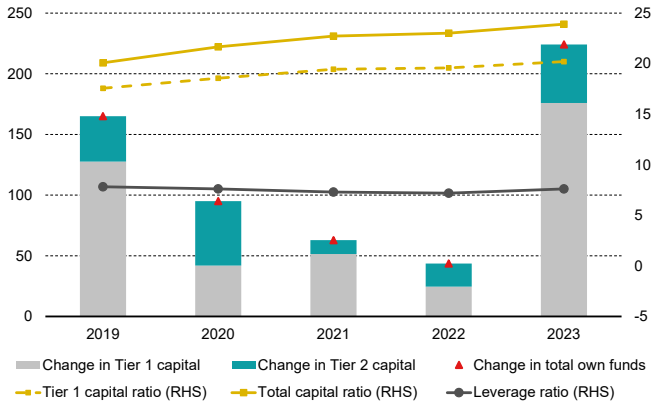


Source: Central Bank of Malta.

2.1.5 Capital and leverage

Total own funds rose significantly, up by 9.2%, primarily driven by higher Tier 1 capital owing to higher retained earnings, and to a lower extent Tier 2 capital reflecting the issuance of subordinated bonds by one bank (see Chart 2.18). Total risk exposures also rose. Consequently, the total capital ratio edged up by 0.9 percentage point to 23.9%. Meanwhile, the increased occurrence and sophistication of cyber-threats worldwide as well as other challenges triggered by the drive for digitalisation have prompted domestic banks to focus more on addressing potential operational risks. Against this backdrop, operational risk exposures rose by just over a fifth, to account for 10.5% of total risk exposures (see Chart 2.19). Nonetheless, credit risk remained the most prevalent type of risk exposure, representing 89.3% of total risk exposures, with the RWA under such category also increasing throughout the year. The risk profile of these banks deteriorated slightly to 38.8%, as total

Chart 2.18
CHANGE IN TOTAL OWN FUNDS, CAPITAL AND LEVERAGE RATIOS – CORE DOMESTIC BANKS
(EUR millions; per cent)

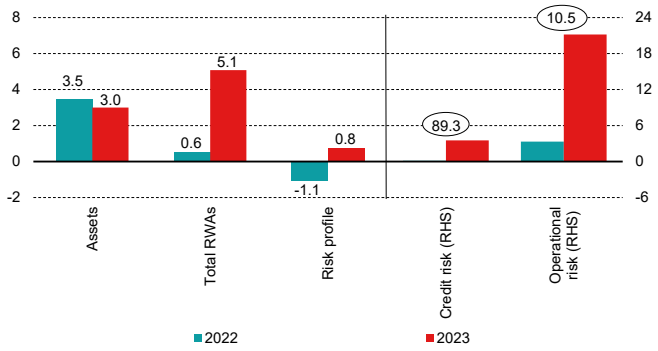


Source: Central Bank of Malta.

[5] Source: EBA risk dashboard 2023Q4.

risk exposures rose at a faster pace than total assets. This stood slightly above that of EU banks at 35.3%.[6] Meanwhile, the leverage ratio strengthened further, up by 0.4 percentage point to 7.6%.

Chart 2.19
GROWTH IN ASSETS AND TOTAL RISK EXPOSURE – CORE DOMESTIC BANKS
(per cent)



Source: Central Bank of Malta.
Note: Asset growth figures within the chart are obtained from FINREP returns, differing slightly from the BR/06 Statutory Financial Information on which balance sheet developments is based. Percentages in circles represent the share of total risk exposure in 2023. Other percentages refer to the annual growth rate.

2.1.6 Risk outlook

Financial developments for this group of banks during the year were shaped by the continued monetary policy tightening. Indeed, the high interest rate environment had encouraged banks to invest more heavily in fixed income securities to take advantage of the higher yields. Although mortgage growth slowed down, promises of sale agreements increased, signaling a still robust mortgage market going forward, which together with continued demand for credit by NFCs should aid in maintaining healthy profitability levels. Profitability is however likely to be impacted negatively, to some extent, by the expected interest rates cuts, especially reflecting the large placements with the Eurosystem. The confluence of such risks can be exacerbated if economic growth surprises on the downside, with possible adverse effects on asset quality, even though so far, this has remained benign supported by a robust domestic economy and limited transmission of interest rates on loans.

On the funding side, although the increased competition for deposits may linger for some time, banks remained highly liquid. These banks also managed to increase their capital to remain well-capitalised despite the increased funding pressures. However, banks should also keep investing in a robust infrastructure aimed towards targeting ongoing cyber threats in view of the increased drive for digitalisation and the use of AI within the financial industry. It is thus important that institutions remain vigilant and put in place robust cybersecurity practices as these are crucial for maintaining financial stability. Core domestic banks are also encouraged to be sufficiently prepared for dealing with possible transition and physical climate-related risks, while at the same time facilitating the green transition of the economy.

[6] See Footnote 5.

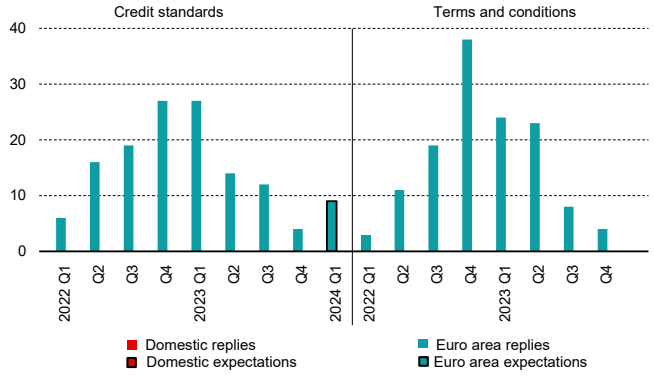
BOX 2: UPDATE ON THE BANK LENDING SURVEY[1]

The purpose of this article is to present an overview of the responses received in the 2023 BLS rounds.[2] Across the euro area, 150 banks were surveyed, four of which are Maltese banks. The latter, collectively account for over 87% of overall domestic bank credit. The BLS aims to track every quarter's recent and expected developments in lending policies and credit demand of enterprises and households.[3] Additionally, the survey includes ad hoc questions on specific topics such as funding conditions, the impact of new regulatory and supervisory measures, climate-related risks, as well as the effects of key ECB interest rates on bank profitability, amongst others.

Loans to enterprises

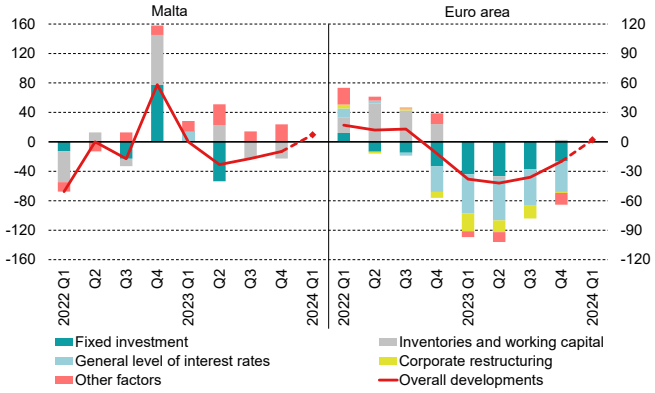
As in previous years, Maltese banks reported no changes in their overall credit standards and terms and conditions for new loans to enterprises (see Chart 1). Notwithstanding, some signs of tightening were reported for loans linked to market rates, which however did not affect overall margins. Meanwhile, following the increase in the overall demand for corporate loans reported in the last quarter of 2022, no changes were reported in the first quarter of 2023 (see Chart 2). In subsequent quarters, weaker demand was reported owing to reduced fixed investment in the construction and real estate sectors as well as lower needs for inventories and

Chart 1
CORPORATE CREDIT STANDARDS AND TERMS AND CONDITIONS
(+ indicates net tightening/- indicates net easing)



Sources: ECB; Central Bank of Malta calculations.
Note: Given domestic replies indicate no change in lending standards, no domestic developments are visible in the chart.

Chart 2
CORPORATE CREDIT DEMAND
(+ indicates increase/ - indicates decrease)



Sources: ECB; Central Bank of Malta calculations.
Note: Domestic and euro area developments are plotted on the left and right axis, respectively. Stacked columns show the factors impacting corporate credit demand. Markers plotted on 2024Q1 refer to expectations.

[1] Prepared by Mr Shaun Zaffarese, Analyst within Financial Stability and Surveillance Office. The author would like to thank Mr Christian Mamo, Senior Economist and 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.

[2] The BLS data for all euro area countries is published on the ECB Data Portal.

[3] Lending policies include credit standards and terms and conditions. Credit standards refer to the bank's internal guidelines or loan approval criteria, established prior to the actual loan negotiation. These specify the required borrower characteristics such as income levels, age, and employment status which banks consider in their credit scoring methods. Credit terms and conditions refer to the conditions of a loan that a bank is willing to grant, namely the interest rate, loan size, fees, collateral requirements, maturity terms and other conditions.

working capital. On the other hand, one bank reported higher demand by firms seeking to refinance existing bonds and loans linked to market rates. During the first quarter of 2024, on balance, banks expected an increase in demand for corporate loans, driven largely by one bank's improved capital position, which enabled it to focus more on expanding its corporate loan portfolio.

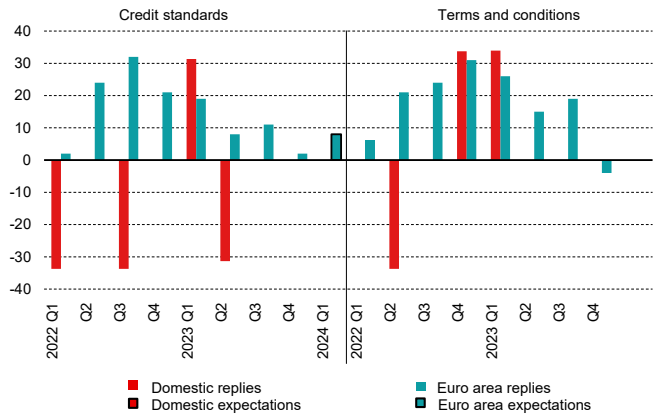
In contrast, in 2023, euro area banks reported further net tightening in corporate credit standards and terms and conditions, although gradually less as the year progressed. Such tightening was due to banks' risk perceptions and lower risk tolerance as rising interest rates and weak economic growth weighed on the creditworthiness of firms. This mainly led to wider margins on both average and riskier loans, coupled with higher collateral requirements. In line with this, net demand for euro area corporate loans declined in 2023, particularly in the first half of the year, amid higher interest rates and declining fixed investment.

Loans to households for house purchase

On balance, domestic banks tightened their lending policies for mortgages in the first quarter of 2023, driven by developments in both credit standards and terms and conditions (see Chart 3). This reflected lower risk tolerance, particularly towards high loan-to-value (LTV) lending, as well as increased funding costs which led to wider loan margins against market rates on both average and riskier loans. The tightening in credit standards was in part reversed in the second quarter following the adoption of a bank-specific measure. This allowed a higher LTV ratio but within the limits set by Directive 16, for borrowers having a low debt service-to-income (DSTI) ratio.[4] Meanwhile, net demand for mortgages remained strong, and increased during the second and third quarters of 2023 (see Chart 4).

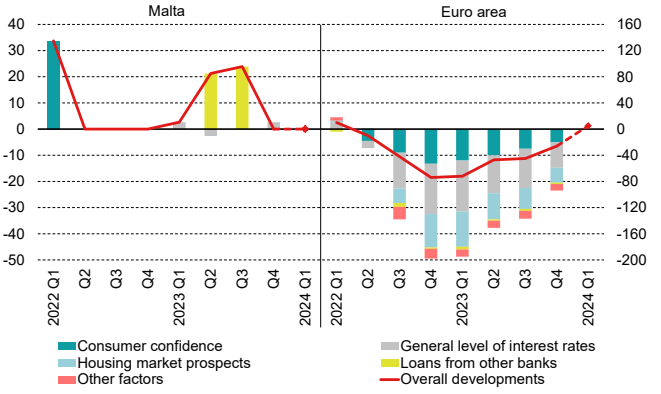
Euro area participant banks reported a net tightening in mortgages' credit standards

Chart 3
MORTGAGE CREDIT STANDARDS AND TERMS AND CONDITIONS
(+ indicates net tightening/- indicates net easing)



Sources: ECB; Central Bank of Malta calculations.

Chart 4
MORTGAGE CREDIT DEMAND
(+ indicates increase/ - indicates decrease)



Sources: ECB; Central Bank of Malta calculations.
Note: Domestic and euro area developments are plotted on the left and right axis, respectively. Stacked columns show the factors impacting mortgage demand. Markers plotted on 2024Q1 refer to expectations.

[4] Central Bank of Malta Directive No.16 'Regulation on Borrower-Based Measures'.

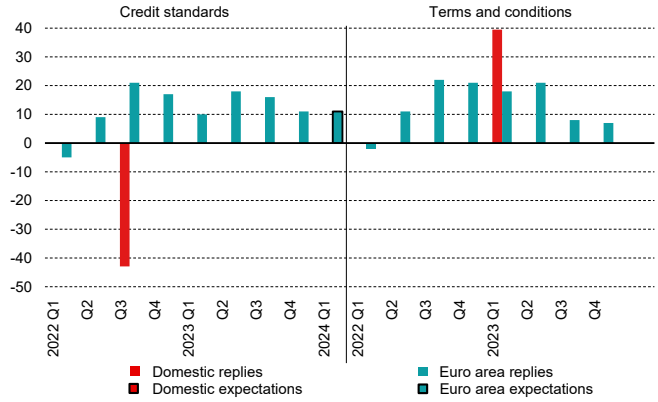
and terms and conditions throughout 2023. This was largely driven by higher risk perceptions and lower risk tolerance amid concerns on the general economic outlook, borrowers' creditworthiness and housing market prospects. Such tightening was also driven by increased funding costs propelled by the higher interest rate environment. This resulted in wider margins for both risky and average loans. Nonetheless, the extent of tightening decreased throughout the year, with a very marginal easing in terms and conditions reported in the last quarter of the year. Still, credit standards were expected to tighten in the first quarter of 2024 owing to tighter financing conditions, coupled with worsening consumer confidence. As a result, lower demand for mortgages was reported, with more muted developments expected in the first quarter of 2024.

Consumer credit and other lending to households

Domestic participants left credit standards for new consumer loans unchanged in 2023 but tightened terms and conditions in the first quarter, through wider margins on both average and riskier loans in response to higher cost of funding and balance sheet constraints (see Chart 5). Concurrently, demand was reported as stable in the first half of the year, with some increases reported in the latter half, particularly related to green financing for electric vehicles and other green loans under the Energy Efficiency and Renewable Energy (EERE) scheme (see Chart 6).[5]

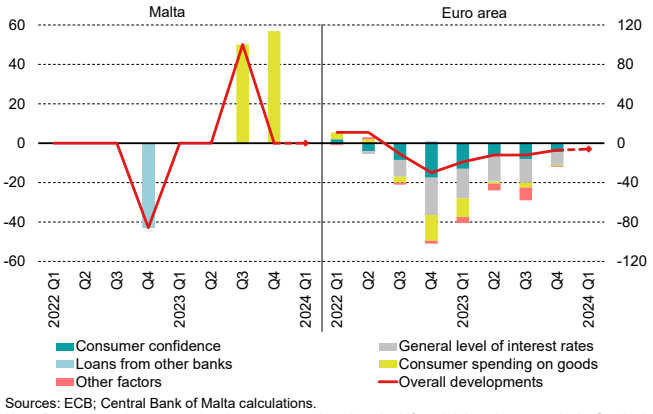
In the euro area, banks tightened further their lending policies during 2023. This reflected heightened risk perceptions and lower risk tolerance owing to the uncertain economic outlook and consumers' creditworthiness, along with higher cost of funding and increased balance sheet constraints. These factors led to wider loan margins which in turn, negatively impacted loan demand at a time of lower consumer confidence.

Chart 5
CONSUMER CREDIT STANDARDS AND TERMS AND CONDITIONS
(+ indicates net tightening/- indicates net easing)



Sources: ECB; Central Bank of Malta calculations.

Chart 6
CONSUMER CREDIT DEMAND
(+ indicates increase/ - indicates decrease)



Sources: ECB; Central Bank of Malta calculations.
Note: Domestic and euro area developments are plotted on the left and right axis, respectively. Stacked columns show the factors impacting consumer credit demand. Markers plotted on 2024Q1 refer to expectations.

[5] Two banks partnered with the European Investment Fund to deliver interest-free loans under the scheme of EERE during the first ten years.

Ad hoc questions

The first ad hoc question delves into detail regarding the wholesale and retail funding situation of BLS banks. Access to retail funding deteriorated slightly as some domestic BLS banks reported increased competitive pressures and more advantageous investment opportunities as bond yields rose. Otherwise, access to wholesale funding remained unaffected. Euro area banks reported deteriorating access for both retail and wholesale funding. Retail funding, particularly short-term, was impacted adversely in the first nine months of the year due to similar drivers reported domestically. A slight improvement was then reported in the last quarter of the year, driven by improved long-term funding. Access to money markets and debt securities also deteriorated, mostly in the first quarter of 2023, reflecting the short-lived market turmoil in March, and the lower surplus liquidity resulting from the voluntary early repayments in TLTRO III. Access to wholesale funding sources improved slightly in the last quarter of the year. Some tightening, albeit to a lower extent, was reported for access to securitisation and the ability to transfer credit risk off the balance sheet.

Another ad hoc question addressed the impact of new regulatory and supervisory actions on banks' assets, capital position, and lending policies in 2023. Some domestic banks reported continued expansion of their balance sheet, with some issuing MREL-eligible debt to meet their Pillar I and Pillar II capital requirements. Such developments are also expected to continue over the coming year. In the euro area, banks reported an increase in their capital, mainly through growth in retained earnings, as well as rising liquid and RWAs. This reflected the renewed attention towards liquidity levels following the March 2023 market turmoil and higher risk weights in anticipation of a potential increase in credit risk. Euro area banks also reported a net tightening in credit standards and margins across most loan categories.

Regarding lending conditions and demand across the main economic sectors, in 2023, local demand for commercial real estate (CRE) loans dropped mainly due to weaker demand for office space as the tendency for work-from-home practices rose. This was coupled with tighter credit standards, and terms and conditions for lending to the construction sector due to fears of a potential slowdown in the sector. This situation is expected to linger throughout the first half of 2024. Concurrently, following an increase in the first half of the year, demand for corporate loans in the manufacturing, and wholesale and retail trade sectors fell in the second half, while lending to the education sector look promising for the first half of 2024. In the euro area, lending conditions for firms tightened and demand dropped across all the main economic sectors, particularly for property-related loans in the context of falling real estate prices, rising lending rates, and higher construction costs. In addition, declines in collateral values and structural changes within the CRE segment affected the profitability of investment projects. As a result, banks reported higher risk perceptions and reduced risk tolerance to the CRE market across Europe in a bid to limit their adverse impact on their NPL ratio. These developments were expected to persist during the first half of 2024.

The survey also delved deeper on the effect of monetary policy and its tightening effect throughout the year. Responses indicated that the phase-out of the Eurosystem's TLTRO III had no impact on the domestic financial situation and lending policies. However, euro area banks noted the adverse impact on their liquidity positions, profitability, and funding conditions. Furthermore, in the first quarter of 2023, a tightening impact was reported on credit standards, particularly for loans to firms, while in the second and third quarters of the year, euro area participants reported a mild tightening effect on terms and conditions and downward pressures on loan volumes. Meanwhile, the impact of rising ECB key interest rates impacted positively the net interest margins of domestic BLS banks through wider margins and favourable yields on bond purchases. Some banks however reported adverse impact on their non-interest income due to lower valuations of fixed-income financial instruments. Looking ahead, one bank anticipated lower profits through tighter margins, due to its plan to increase remuneration rates on deposits in the six months ending March 2024 in a bid to remain competitive.

Similarly, euro area banks reported a markedly positive impact on their net interest margins, resulting in higher NII in the second and third quarters of 2023, although this was expected to slow down substantially in the subsequent six months. On the other hand, a negative impact was reported on loan and deposit volumes and a drop in non-interest income through capital losses and lower net fee and commission income, as well as higher provisioning needs and impairments.

In addition, because of the ECB's monetary policy asset portfolio, one domestic bank reported that during the six months ending March 2023 it utilised its excess reserves to purchase holdings of euro area sovereign bonds. Some respondents also reported an increase in their NII because of the ECB's portfolio rebalancing. Euro area banks also reported a positive impact on profitability from higher NII. However, they also reported a negative impact on their market financing conditions, liquidity positions and total assets. There was also a continued net tightening impact on terms and conditions accompanied by a negative impact on lending volumes.

Meanwhile, during the second half of 2023, domestic banks' excess liquidity held with the Eurosystem had no impact on their lending policies and volumes. However, euro area banks experienced a decline in excess liquidity which led to tighter credit standards, and terms and conditions. Such development was however limited and is expected to persist.

In the July 2023 survey round, respondents were asked about the impact of climate-related risks on their lending behaviour. Domestic respondents did not report any changes in their overall credit standards, and terms and conditions. However, it was highlighted that firms in transition and green firms benefit from advantageous terms and interest rates towards green initiatives, such as for investing in electric vehicles and renewable energy, reflecting products developed as part of the EERE scheme.[6] Meanwhile, some banks reported that demand increased for loans to all categories, whether brown, firms in transition, and green, and is expected to continue in 2024. This is more so for green firms due to higher fixed investment and corporate restructuring related to climate change. Such lending was supported by fiscal incentives through beneficial rates for customers qualifying for the banks' ESG products. In the euro area, banks tightened credit standards for brown firms but eased conditions for green firms and those in transition, with such changes expected to continue in the first half of 2024. Climate change awareness has raised demand for loans by transitioning and green firms, driven by corporate restructuring, investment needs for a sustainable economy and supported by fiscal measures and green bond issuance.

Conclusion

The 2023 BLS results shed light on the divergence in the interest rate pass-through between Malta and the euro area, as lending policies were largely stable for all loan categories in Malta. This contrasts with the tightening reported in the euro area because of higher risk perceptions and lower risk tolerance. This resulted in changes in domestic loan demand to be quite muted and mostly unrelated to the increasing ECB key interest rates. Conversely, lower demand for all loan categories was reported in the euro area. Meanwhile, rising ECB interest rates resulted in higher NII for banks across the euro area, including Malta, but capital deductions, as well as lower non-interest income and higher provisions were reported in the case of the euro area. Tighter monetary policy also resulted in higher funding costs, which negatively affected access to short-term retail funding, both in Malta and the euro area.

[6] "Green firms" – Firms that do not contribute or contribute little to climate risk; "Firms in transition" – Firms that contribute to climate change, which are making relevant progress in the transition; "Brown firms" – Firms that highly contribute to climate change, which have not yet started or have so far made only little progress in the transition.

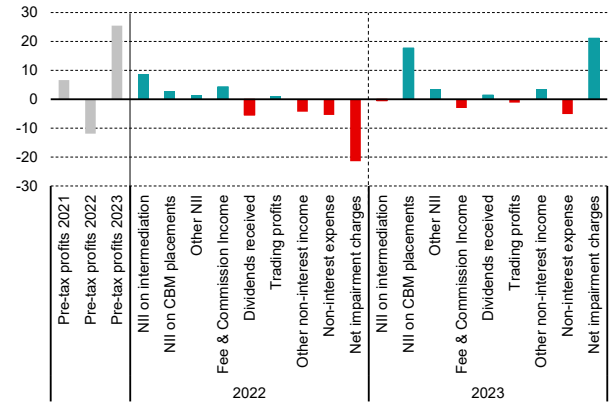
2.2 Non-core domestic banks

Despite the challenges of the broader macroeconomic environment, the non-core domestic banks expanded their balance sheet by 5.2% compared to 2022, representing 18.5% of GDP. This growth was exclusively driven by resident assets, since an increase in customer deposits resulted in further placements with the Central Bank of Malta, and a rise in resident loans. Meanwhile, non-resident assets fell by 7.3%, mainly reflecting lower non-resident loans. As a result, the share of resident lending went up by 10.8 percentage points to almost half of these banks' overall customer loan book. Nevertheless, these banks continued to represent a marginal share of overall resident lending within the banking system of just 3.8% as at December 2023. Meanwhile, non-core domestic banks continued to be funded primarily from customer deposits, especially from non-residents.

2.2.1 Profitability

The non-core domestic banks recovered from the losses incurred in 2022, ending the year with pre-tax profits of €25.5 million (see Chart 2.20). Consequently, these banks' ROE and ROA improved from -3.4% and -0.4% in 2022 to 5.9% and 0.6% a year later, respectively. This turnaround was primarily fuelled by a significant reduction in net impairment charges, which fell by 83.0%, coupled with a notable increase in interest income from placements with the Central Bank of Malta. As a result, NII grew by 53.0% to account for 63.8% of overall gross income in 2023. The expansion in NII was also supported by increased other interest income, largely from dividends. Otherwise, the NII earned from intermediation fell by 1.8%, as interest expenses on household deposits and to a lesser extent on corporate deposits, grew at a faster rate than interest earned from loans to NFCs and to a lesser extent other financial intermediaries (OFIs).

Chart 2.20
MAIN CONTRIBUTORS TO PROFITS – NON-CORE DOMESTIC BANKS
(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 the change in profits.

Similarly, non-interest income rose, yet by a more modest rate of 2.0%, mainly due to higher dividends received. In contrast, fees and commissions income fell by 13.3%.

Non-interest expenses increased by 8.7%, a slower pace than in the previous year, driven by higher staff and administrative costs. Yet, overall, there was a significant improvement in the cost-efficiency driven by higher gross income, with the operational cost-to-income ratio strengthening from 81.0% in 2022 to 67.4% in 2023.

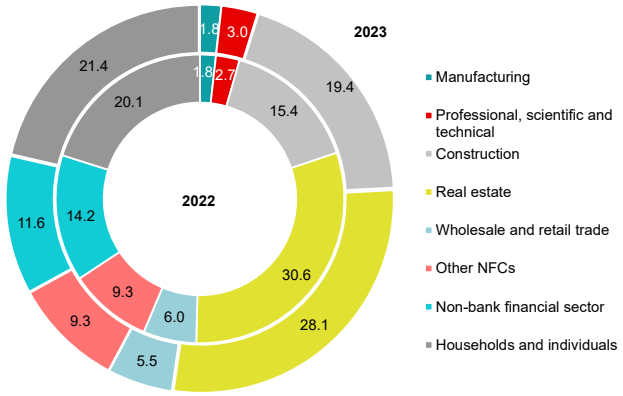
2.2.2 Credit dynamics

The loan books of non-core domestic banks grew marginally, up by just 0.7%, exclusively due to higher loans to residents, which expanded by 28.8%. On the other hand, loans to non-residents contracted. Lending to resident corporates increased by almost a third, mainly concentrated towards companies operating in the construction and real estate sector, which now represent 47.5% of these banks' overall resident loan book (see Chart 2.21). Credit to Maltese households also increased substantially, up by 37.1%, largely driven by the active involvement of two banks in the domestic mortgage market. As a result, loans to resident households now constitute about 22% of overall resident customer loans. Meanwhile, loans issued to resident OFIs fell by 2.6 percentage points to 11.6% of total resident customer loans.

During 2023, loans to non-resident customers contracted by 17.2%, mostly driven by reduced lending to firms, largely in the information and communication, and the wholesale and retail trade sectors (see Chart 2.22). Consequently, the share of foreign NFC lending on overall non-resident customer loans fell by almost 6 percentage points to 39.3%. Although loans to foreign OFIs also dropped by 8.5%, their share increased to 60.6% in 2023. Meanwhile, loans to foreign households also contracted to continue to represent a marginal share.

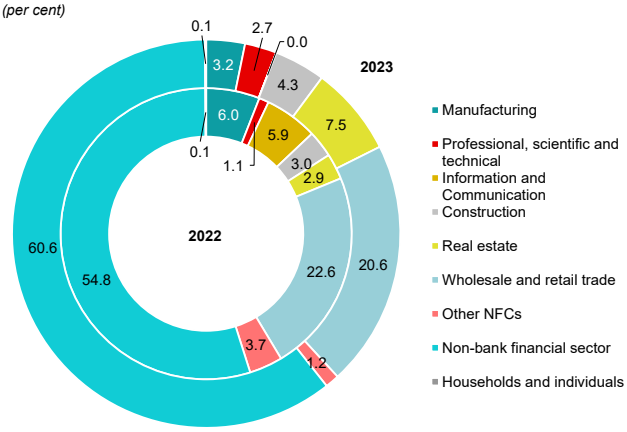
Concurrently, interbank placements dropped by 6.6% over 2022, driven by lower placements with both unrelated foreign and resident banks.

Chart 2.21
RESIDENT CUSTOMER LOANS BY SECTOR – NON-CORE DOMESTIC BANKS
(per cent)



Source: Central Bank of Malta.

Chart 2.22
NON-RESIDENT CUSTOMER LOANS BY SECTOR – NON-CORE DOMESTIC BANKS
(per cent)



Source: Central Bank of Malta.

2.2.3 Asset quality

The loan portfolio

The quality of the loan portfolios remained resilient despite challenging macroeconomic conditions and increases in interest rates on some corporate loans. Indeed, these banks reported an improvement in their credit quality, with the NPL ratio dropping by 3.3 percentage points to 0.9%, the lowest level reported in more than a decade. Excluding placements with the Central Bank of Malta, the NPL ratio would have decreased to 1.4%, down from 6.4% in 2022. This resulted from lower NPLs which shrunk by nearly 76%, largely reflecting one bank's strategic decision to write off NFC NPLs. As a result, the overall NFC NPL ratio fell by almost 10 percentage points to 2.7% by the end of 2023. From a sectoral perspective, such drop was particularly noticeable in the wholesale and retail trade and the manufacturing sectors. Conversely, household NPLs increased, but the related NPL ratio remained negligible at 0.04%.

Stage 2 and Stage 3 loans decreased by around 28% and 75%, respectively, with purchased or originated credit-impaired loans almost completely wiped out (see Chart 2.23). As a result, the share of Stage 1 loans continued to grow to account for 95.4% of total loans. However, the forbearance ratio edged up by 0.5 percentage point to 1.1% in December 2023, yet remained in line with ratios reported before the COVID-19 pandemic.

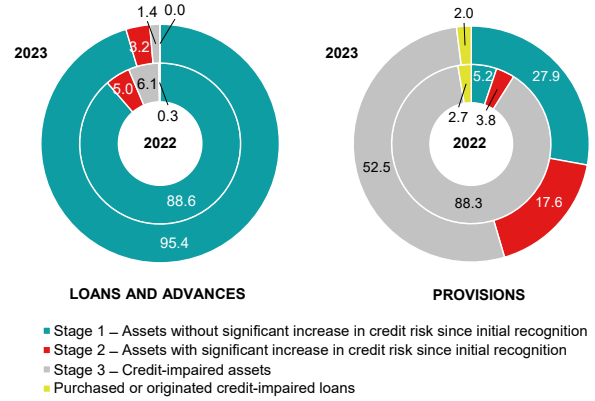
Non-core domestic banks reduced their provisions, primarily those related to Stage 3 loans, reflecting the write-offs carried out during the year. As a result, the coverage ratio dropped by 4.0 percentage points,

although it remained at a high level of 68.7%. Meanwhile, both Stage 1 and Stage 2 loans provisions rose by 23.6% and 7.0%, respectively, to represent around 28% and 18% of the overall provisions.

The securities portfolio

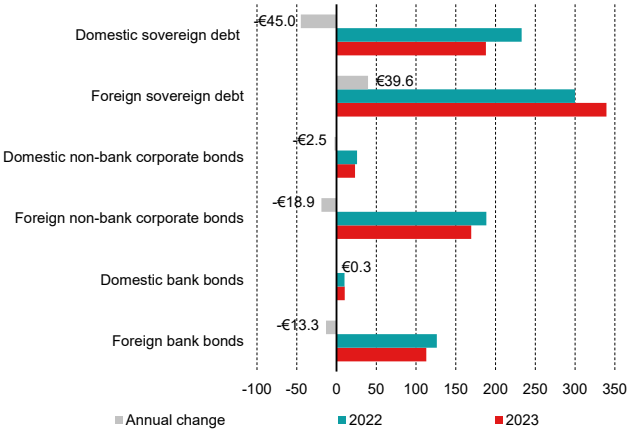
Equity holdings of non-core domestic banks rose by 2.8% in 2023, to account for more than a fifth of the overall securities portfolio. This largely reflected foreign equities as otherwise holdings of domestic equities dropped to negligible amounts. Meanwhile, these banks reduced their holdings of both bank and corporate bonds, for the overall bond portfolio to drop by 4.5% (see Chart 2.24). Instead, they increased their investments in foreign government paper, comprising 64.4% of overall government exposures and 9.4% of total assets, primarily in Treasury bills issued by the French government. Holdings of domestic Treasury bills fell, while investments in Malta Government Stocks (MGS) increased to lock in higher yields possibly in anticipation of a future cut in interest rates. By the end of 2023, nearly 85% of the bond portfolio consisted of high and medium-rated bonds, almost equally split. The remainder was composed of low-rated and unrated bonds. Notwithstanding, this group of banks did not report any non-performing securities by the end of 2023.

Chart 2.23
STAGE ALLOCATION OF LOANS AND ADVANCES AND PROVISIONS – NON-CORE DOMESTIC BANKS
(per cent)



Source: Central Bank of Malta.

Chart 2.24
BOND PORTFOLIO – NON-CORE DOMESTIC BANKS
(EUR millions)



Source: Central Bank of Malta.

2.2.4 Funding and liquidity

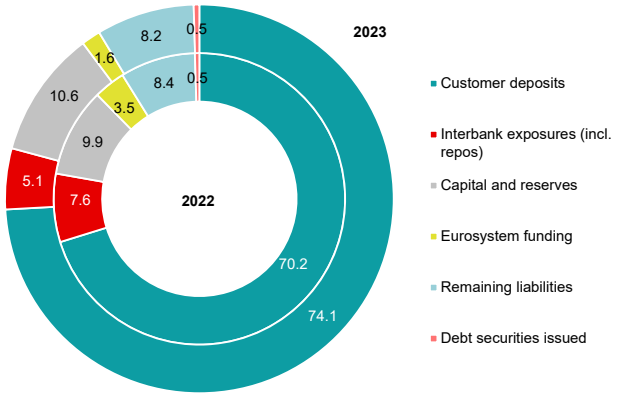
The liquidity position of the non-core domestic banks remained solid, with the LCR and NSFR strengthening by 77.1 and 17.2 percentage points to 393.0% and 191.3%, respectively. This improvement was driven by a 24.5% expansion in liquid assets, primarily comprising high-quality covered bonds and withdrawable central bank reserves, as net liquidity outflows remained largely unchanged.

Customer deposits remained the primary source of funding for this group of banks, increasing by 11.1% to finance almost three-fourths of overall assets in December 2023 (see Chart 2.25). The bulk of these deposits continued to originate from non-residents, with resident customer deposits representing just over a fifth of overall customer deposits. The growth in overall customer deposits was largely attributed to households, which financed slightly more than a third of assets and accounted for 45.6% of overall customer deposits. Additionally, 90% of household deposits were time deposits, reducing the risk of sudden withdrawals and rollover risks. Deposits of non-bank financial institutions, primarily those of OFIs, were the second most

important funding avenue, representing 42.1% of total customer deposits. Meanwhile, interbank placements continued to represent a marginal share of overall funding, financing just 4.3% of overall assets in December 2023.

Funding from capital and reserves also increased to almost 11% of total assets. These banks also reported a shift in the composition of their liabilities, as they moved away from interbank exposures and Eurosystem funding. By year end these financed nearly 5% and 2% of total assets, respectively.

Chart 2.25
FUNDING STRUCTURE – NON-CORE DOMESTIC BANKS
(per cent)

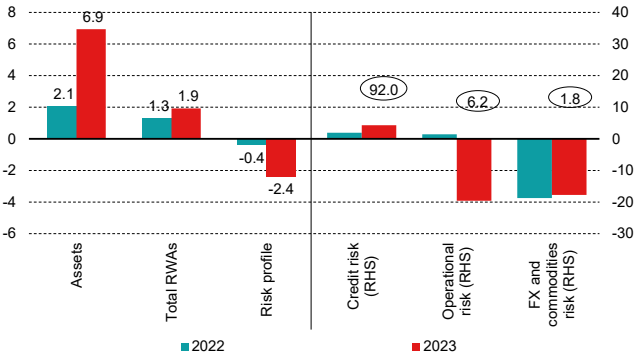


Source: Central Bank of Malta.

2.2.5 Capital and leverage

The non-core domestic banks strengthened further their solvency position with the total capital ratio reaching 21.5%. This improvement stemmed from an increase in total own funds, which rose by 7.6%, primarily driven by Common Equity Tier I capital. Despite growing, the 1.9% increase in total RWAs fell short of the increase in total own funds. Such growth was driven by RWAs associated with credit risk, which was partly offset by lower RWAs related to operational risk and remaining risk exposures (see Chart 2.26).

Chart 2.26
GROWTH IN ASSETS AND TOTAL RISK EXPOSURE – NON-CORE DOMESTIC BANKS
(per cent)



Source: Central Bank of Malta.
Note: Asset growth figures are obtained from FINREP returns, differing slightly from the BR/06 Statutory Financial Information on which balance sheet developments is based. Percentages in circles represent the share of total risk exposure in 2023. Other percentages refer to the annual growth rate.

Moreover, this group of banks maintained a high leverage ratio of 9.6%, which rose marginally during the year.

2.2.6 Risk outlook

In 2023, the non-core domestic banks reported a solid performance. Nonetheless, the potential realisation of external macro-financial risks, fuelled by weaker macroeconomic outlook and global geopolitical uncertainty, could heighten risks for these banks, particularly due to their exposure to non-residents. These banks have stepped up their ties with Malta which is anticipated to result in a more diversified business model minimising dependencies, while contributing to more competition within the local sector.

These banks have reported a significant recovery in profitability compared to the previous year, though cost pressures could present challenges going forward. While the ability of households and NFCs to repay loans may be impacted in a future scenario of persisting inflation, the ample liquidity and robust capital ratios continue to provide resilience for these banks against potential risks. Notwithstanding, exercising a high degree of prudence, especially in these banks' provisioning and credit risk management policies, remains crucial.

BOX 3: THE IMPACT OF THE ECB'S MONETARY POLICY TIGHTENING ON DEPOSIT FLOWS AND INTEREST MARGINS

Introduction

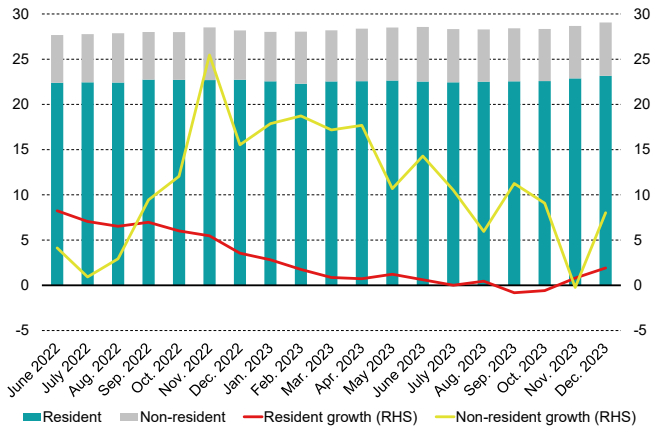
Following an eight-year period of negative rates, the ECB started to raise interest rates in mid-2022 amid concerns of high inflation. This led to an increase in overall deposit rates of euro area banks, particularly for time deposits, though these remain below historical levels, indicating a weaker pass through.[1] In Malta, this was even more limited, with only a few banks raising some of their deposit interest rates. This has resulted in some diverging trends across banks to be observed in the inflow of domestic deposits. The pass-through was even more limited on the loan book, with banks keeping their base rates unchanged. Changes were largely limited to margins on new mortgage lending, or for NFC loans linked with market rates. This box addresses two related elements. The first section looks at trends in deposit flows across two groups of banks since the most recent monetary policy tightening. This in an attempt to identify any discernible differences in their deposit interest rate strategies. Keeping unchanged the composition of these two groups of banks, the second section looks at how these groups' Loan and Deposit Betas[2] and the spreads of lending and deposit rates evolved against the ECB's Main Refinancing Rate across time and across different monetary policy cycles. The aim of the second section is therefore to enquire whether the differences in interest rate strategies between these two given groups is observable across time.

Section 1: How did interest rate changes affect deposit flows?[3]

Since June 2022, the ECB raised its key interest rates on ten occasions, with the Main Refinancing Rate reaching 4.5% in September 2023. However, this did not lead to a significant growth in overall customer deposits in the Maltese banking sector, which in the 18 months under review increased by a relatively modest 5.0% to €29.1 billion in December 2023 (see Chart 1). While this growth stemmed from both resident and non-resident deposits, it represented a slow-down compared to 2021. This slowdown could reflect a number of factors including lower economic growth and the fact that higher interest rates created better investment opportunities elsewhere, particularly in higher bond yields.

Furthermore, the overall slower increase in customer deposits masks diverging developments across different sectors and banks. This reflects their varying interest rate strategies, largely influenced by their business models, market share and liquidity. As a result, this box

Chart 1
CUSTOMER DEPOSITS BY RESIDENCY – TOTAL BANKING SECTOR
(EUR billions; per cent)



Source: Central Bank of Malta.

[1] Source: ECB: Monetary dynamics during the tightening cycle (europa.eu).

[2] Deposit/Loan Beta looks at the change in the retail deposit rate or lending rate as a share of a market rate. Refer to Section 2 for further details.

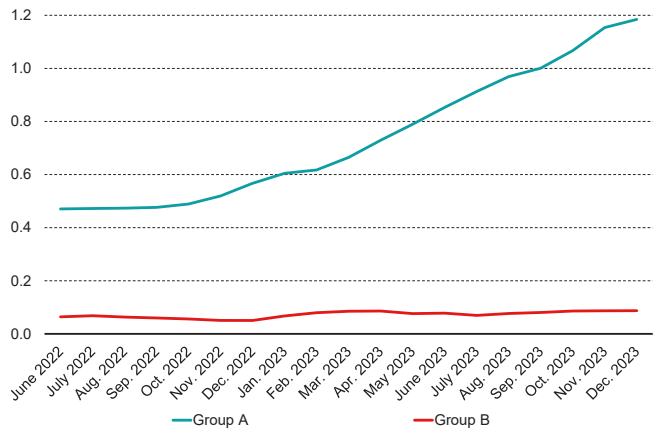
[3] Prepared by Mr Shaun Zaffarese, Analyst within Financial Stability and Surveillance Office. The author would like to thank Mr Christian Mamo, Senior Economist and Mr Andrew Spiteri, Manager within the same office, Ms Wendy Zammit, Head, Financial Stability Surveillance and Research Department and Mr Alan Cassar, Chief Officer Financial Stability and Statistics Division for their valuable suggestions.

focuses on resident customer deposits, which continued to account for the bulk of deposits in core domestic and non-core domestic banks. The analysis splits these banks into two groups, distinguishing on the basis of their response to the interest rate pass-through on deposits, with the classification highlighting shifting patterns in deposit flows between the groups, rather than distinguishing between core or non-core domestic banks.[4]

Developments in WAIR

During these 18 months, the WAIR on outstanding resident customer deposits of the core domestic and non-core domestic banks increased by 0.2 percentage point, to 0.35% in December 2023. The weighted average increase of 0.2 percentage point was used as the threshold to split banks into two groups: **Group A** includes banks which reported an increase of more than 0.2 percentage point, while **Group B** are those banks which reported an increase, if any, of less than or equal to 0.2 percentage point. Group A's WAIR stood at 1.18% in December 2023, an increase of around 0.7 percentage point from 0.47% in June 2022. In contrast, Group B's WAIR grew by just 0.02 percentage point to 0.09% (see Chart 2).

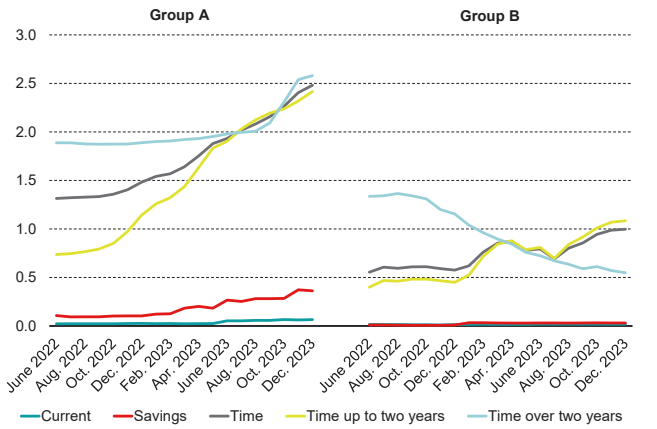
Chart 2
WAIR OF OVERALL RESIDENT DEPOSITS BY BANK GROUP
(per cent)



Source: Central Bank of Malta.

As evident in Chart 3, the increase in the WAIR on resident deposits mainly stemmed from time deposits for both groups. This could be observed in particular for deposits with shorter maturities, as banks may have possibly opted not to commit to higher interest rates fixed for longer maturities in line with expectations of possible monetary policy reversals in the medium term.

Chart 3
WAIR OF RESIDENT DEPOSITS BY TYPE AND BANK GROUP
(per cent)



Source: Central Bank of Malta.

Group A's WAIR on resident term deposits nearly doubled from an already comparatively high 1.3% in June 2022 to 2.5% in December 2023. This was largely driven by the significant increase in interest rates on time deposits with maturities of less than two years,

[4] International banks are excluded from this study based on their very limited holdings of just 0.5% of the overall resident deposits.

up by 1.7 percentage points to 2.4% in December 2023. Interest rates on longer time deposits for this group were slightly higher at 2.6% in December 2023, but followed a less pronounced increase of 0.7 percentage point. Current and savings deposits' WAIR increased but to a much lower extent. Meanwhile, Group B's increase of the WAIR on time deposits was more contained, up from 0.6% in June 2022 to 1.0% in December 2023. This was primarily due to a lower increase of 0.7 percentage point in the interest rates paid on time deposits with maturities of less than two years to just above 1%. In addition, the rate on longer term time deposits of Group B fell from 1.3% in June 2022 to 0.6% in December 2023, with some banks opting to focus on demand deposits, cutting the rates offered on term accounts. Current and savings deposits WAIR remained practically unchanged.

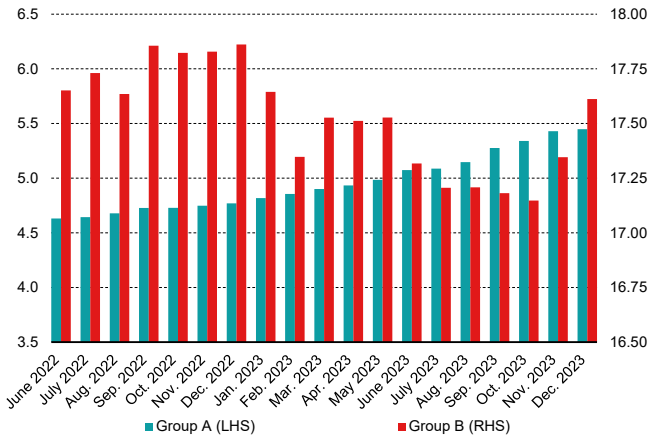
The more aggressive approach of Group A can be attributed to an array of factors. As at June 2022, Group A accounted for only a fifth of the outstanding resident customer deposits, with Group B enjoying a much bigger residual market share. Group A also held a relatively weaker, albeit still ample, liquidity position compared to Group B. In June 2022, Group A's LCR stood at 229.5% while that of Group B was almost double at 428.5%. Similarly, the resident customer loans-to-deposits ratio stood higher for Group A at 87.3% compared to 50.2% of Group B. This meant that to implement any growth strategy, Group A needed to attract more deposits through more aggressive interest rate offerings.

Developments in deposits flow

Group's A strategy in offering higher interest rates resulted in increased resident deposits, which rose by 17.6% during the period reviewed (see Chart 4). This came at the expense of Group B, which saw their overall deposits drop marginally by 0.2%. However, such minimal drop masks the noticeable drop up until October 2023 which was almost fully reversed in the last two months of the year. In line with such developments, on the back of a faster growth in their balance sheet, Group A saw their share in overall assets of the banks under scope to increase from 27.9% in June 2022 to around 30%. Despite the increase in resident deposits reported by Group A, their customer loans to deposits ratio still increased due to a faster rise in customer loans, which stood at 92.1% in December 2023. Group B also reported a higher ratio, albeit remaining well below that of Group A, at 53.8%. Group A was however able to increase their LCR by 23.4 percentage points to 252.9% in December 2023, with an almost identical drop reported by Group B to reach 404.1%.

Following the meaningful increase in WAIR of time deposits, which traditionally always offered higher remuneration, Group A's time deposits increased by almost 50% or €752.0 million to €2.3 billion, while the increase in resident current and savings deposits was much more contained, up by 2.1% or €65.5 million. Conversely, Group B's time deposits dropped by 35.8% or €611.6 million to just €1.1 billion, offset in part by an increase in resident current and savings deposits, which grew by 3.6% or €572.4

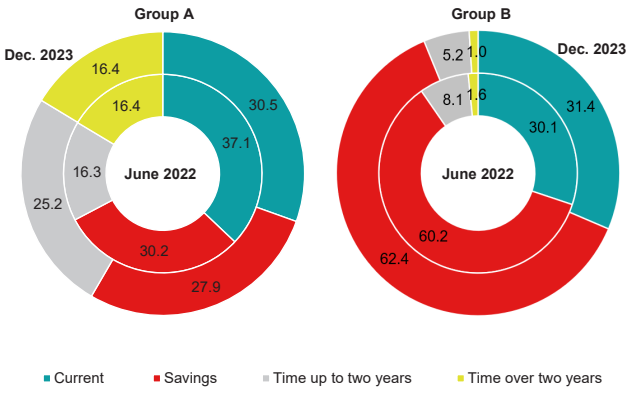
Chart 4
OUTSTANDING RESIDENT DEPOSITS BY BANK GROUP
(EUR billions)



Source: Central Bank of Malta.

million. This indicates that rather than a change in maturity strategy of resident clients, the move in deposits reflected a search-for-yield among those who traditionally invested in time deposits, moving from Group B to Group A, which focused more on terms deposits offering a higher return. In line with this, a very noticeable difference emerged in the composition of resident deposits held by these two groups of banks, with Group A's share of time deposits increasing from 32.7% in June 2022 to 41.6% in December 2023, while Group B's fell by 3.5 percentage points to just 6.2% (see Chart 5). In both cases, such developments resulted from flows into time deposits with maturities of up to two years. As a result, almost 94% of Group B's deposits were of short-term nature, in line with their funding strategy tapping into low cost, yet sticky, deposits.

Chart 5
COMPOSITION OF RESIDENT DEPOSITS BY TYPE AND BANK GROUP
(percentage share)



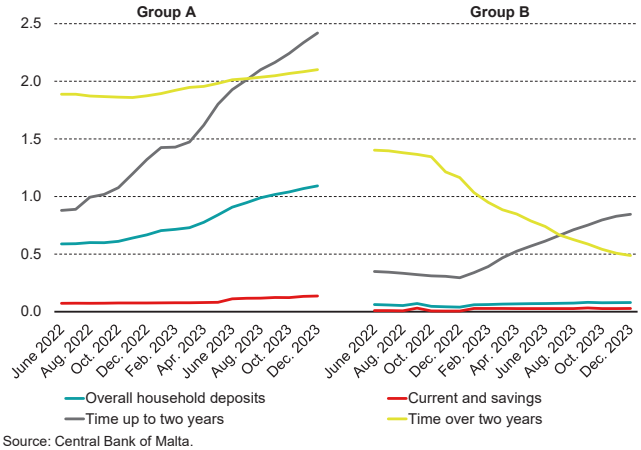
Source: Central Bank of Malta.

Sectoral deposits analysis

This section analyses the deposit flow patterns of resident households and NFCs. Aggregating both bank groups, the aggregate WAIR of resident household deposits almost doubled to 0.32%, while that for resident NFCs almost tripled to 0.19%. The still-low interest rates are influenced by the high share of deposits withdrawable on demand which offer a low interest rate when compared to term deposits.

For both sectors, the increase in WAIR was mainly driven by Group A, which reported an increase of 0.5 percentage point to 1.09% for resident household deposits, while that for NFCs' deposits the rate rose by 0.55 percentage point to 0.74% (see Charts 6 and 7). These increases were largely related to developments in time deposits, particularly those tied for up to two years. The rate paid on the latter increased by just above 1.5 percentage points for both households and NFCs, to stand at 2.4% for both sectors in December 2023. For Group B the increase in both resident households and NFCs'

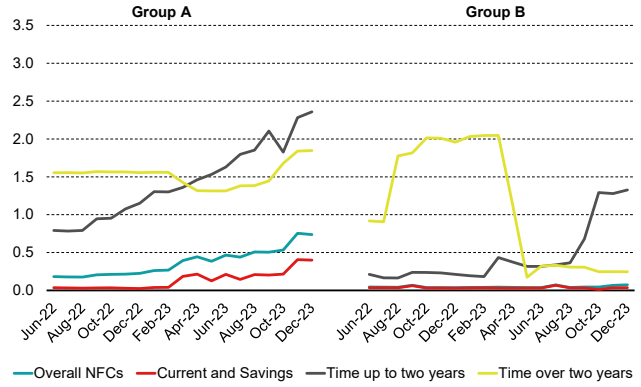
Chart 6
RESIDENT HOUSEHOLD DEPOSITS' WAIR BY MATURITY
(per cent)



Source: Central Bank of Malta.

WAIR was more contained at 0.02 and 0.03 percentage point to 0.08% and 0.07%, respectively. These increases were also driven by higher rates on time deposits with maturities of up to two years which increased by 0.5 percentage point to 0.85% for households and by 1.1 percentage points to 1.3% for NFCs.

Chart 7
RESIDENT NFC DEPOSITS' WAIR BY MATURITY
(per cent)



Source: Central Bank of Malta.
Note: Group B's NFC time deposits with a maturity of over two years represented on average only 0.2% of this group's overall NFC deposits. The drops reported in the WAIR of such deposits in April and May 2023 do not reflect system-wide developments.

Despite Group A's relatively more aggressive strategy in setting deposit interest rates, diverging trends were observed for households' and NFCs' deposits flows. Resident household deposits were more responsive to the relatively higher rates offered by Group A, as they increased by 29.0%, mostly from time deposits with a maturity of less than two years and followed by current deposits. By comparison, Group B reported a relatively much smaller 1.4% increase in household deposits. Furthermore, this increase exclusively reflected higher current deposits which are largely not remunerated, and in turn partly offset a significant drop in time deposits. On the other hand, given that NFCs tend to have long term relationships with banks, the higher WAIR was insufficient to cause a shift from Group B to Group A. In fact, NFC deposits of Group A increased by 2.7% or €15.8 million, mainly short-term deposits from construction and real estate and manufacturing sectors. Meanwhile, NFC deposits of Group B increased by 2.7% driven by higher current deposits, with inflows largely from the public administration and defence.

Conclusion

Although the ECB's tighter monetary policy stance resulted in a subdued policy pass-through in Malta, one could still observe diverging strategies adopted by the Maltese banks in response. The banks captured in Group A exhibited a more aggressive interest rate approach, leading to a substantial rise in resident deposits primarily in time deposits with shorter term to maturity. In contrast, Group B, which adopted a more conservative strategy, experienced a marginal decline in deposits, particularly in short-term time deposits. Group A's approach, while resulting in higher funding costs, allowed the banks to maintain a growth trajectory, with overall assets increasing by 10.7% during the 18 months assessed compared to the 0.3% of Group B. Meanwhile, Group B continued to operate on the back of ample liquidity, and at a limited cost, thanks to their strategic position in resident deposit holdings.

Section 2: Assessment of Deposit and Loan Betas and the spreads between Deposit and Loan Rates and the ECB MRO[5]

The limited pass-through of interest rates within the Maltese banking sector is attributed to the banks' ample liquidity and healthy capital positions.[6] Debono (2024) emphasized that Malta's transmission onto mortgage rates and lending to NFCs was noticeably weaker than in other countries in the euro area. This, in part, is due to the higher lending rates Maltese banks reported before the monetary policy tightening. However, in terms of deposit rates, the transmission was somewhat more in line with that of other euro area countries.

This section aims to assess historical changes in both the deposit rates and lending rates to households and NFCs, divided into the two groups identified in Section A. This is aimed to shed new light on the extent of how the monetary policy pass-through differed between these two groups of banks under different monetary policy regimes. This is achieved by identifying different Deposit and Loan Betas estimated as indicated below.[7] For the purpose of this Section, the retail deposit rate was based on outstanding deposits,[8] while the retail lending rate was estimated as the 12-month moving average rate on new lending.

$$Deposit\ rate/Loan\ rate\ Beta = \frac{\text{Change in retail deposit rate or lending rate}}{\text{Change in ECB Main Refinancing rate}}$$

The Beta indicates the proportion of the change in the interest rate on MROs that was passed on to the banks' clients, serving as a measure of the pass-through of monetary policy as well as the pricing power of the two groups of banks.[9] A Beta of one means that the change in the retail rate matches the change in the ECB's MRO rate. A Beta above 1 indicates that the change in the retail rate exceeded that of the MRO, while a Beta below 1 means that the change in the retail rate fell short of the change in the MRO rate. A negative Beta means that the change in the retail rate was in the opposite direction to the change in the ECB's MRO rate. The analysis also looks into the spreads between bank rates and the ECB's MRO rates.

Deposit interest rates

Data on interest rates for outstanding resident deposits by households and NFC is available from March 2007 – the period when the ECB was in the latter stages of its monetary policy tightening to combat inflation and before concerns of a Global Financial Crisis emerged. As depicted in Chart 8, both groups of banks were raising their deposit rates at the time, with Group A's interest rate on overall household and NFC deposits reached a high of 3.4%, while that of Group B peaked at a lower average rate of 3.0% in the third quarter of 2008. This increase was largely driven by time deposits. At that time, the ECB's MRO had peaked at 4.25%.

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5 Prepared by Mr Andrew Spiteri, Manager within the Financial Stability and Surveillance Office. The author would like to thank Ms Wendy Zammit, Head of the Financial Stability Surveillance and Research Department, and Mr Alan Cassar, Chief Officer of the Financial Stability and Statistics Division, for their valuable suggestions.

6 See Debono, N. (2024). The transmission of monetary policy in Malta: A focus on retail bank interest rates, Central Bank of Malta.

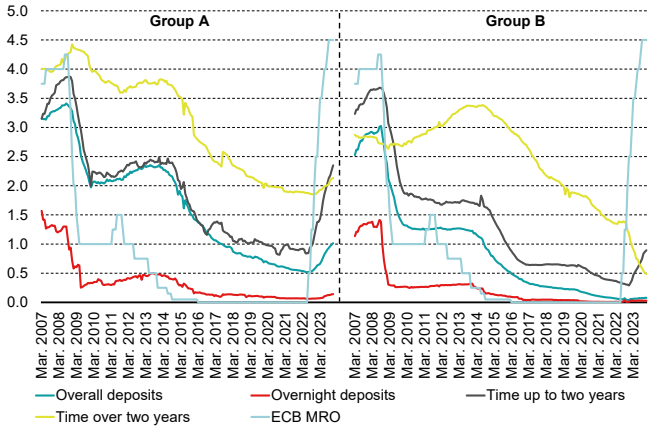
7 See IMF (2024) Interest Pass-Through in Malta, IMF Country Report No. 24/34.

8 Outstanding deposits are taken into consideration, rather than new deposits, because information on new overnight deposits, which represent 77.5% of overall resident household and NFC deposits, is not available due to the characteristics of such deposits. Consequently, it is not possible to obtain an accurate weighted average of rates granted on new deposits.

9 The ECB MRO serves as a benchmark for the monetary policy rate. It was adopted for both the Loan and Deposit Betas. Following the ECB's Operational Review, the ECB is now focusing on the Deposit Facility Rate (DFR) to steer monetary policy reflecting the excess liquidity in the system. However, for consistency purposes, the analysis continued to be estimated on the MRO. Deposit Betas would largely remain the same should the DFR be used.

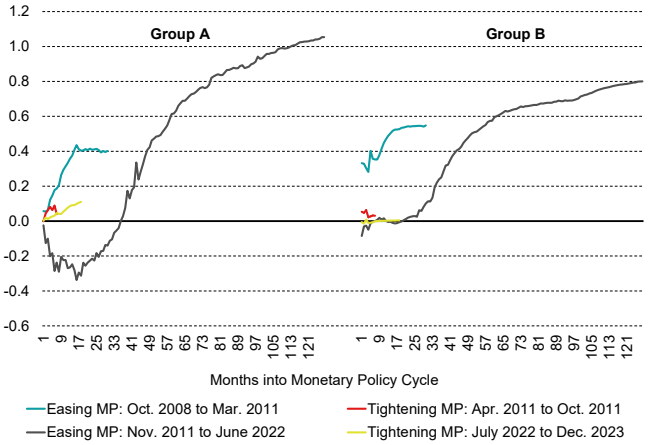
Between October 2008 and June 2022, the ECB embarked on an easing and accommodative monetary policy stance, interrupted only by a brief marginal tightening in 2011. Domestic banks within both groups cut their deposit interest rates noticeably until the 2011 tightening, particularly Group B, which cut rates by 1.8 percentage points, while Group A reduced rates by 1.3 percentage points. As the ECB cut its MRO rate by 3.25 percentage points during the period, the passthrough was not complete, with the Deposit Beta for Group B larger than that for Group A, standing at 0.55 and 0.40, respectively in March 2011 (see Chart 9). For both groups, the developments were driven largely by time deposits with maturity of up to two years.

Chart 8
RESIDENT OUTSTANDING DEPOSIT INTEREST RATES
(per cent)



Source: Central Bank of Malta.

Chart 9
CUMULATIVE DEPOSIT BETAS



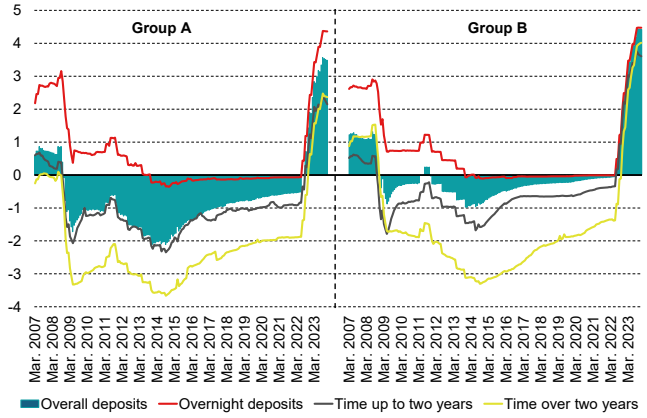
Sources: Central Bank of Malta; authors' calculations.

During the brief tightening in 2011, where the ECB's MRO rate was increased by 0.5 percentage point to 1.5%, domestic banks did not react much, with only Group A raising marginally interest rates. However, as the ECB embarked on a path of monetary easing to address economic challenges during and after the euro area debt crisis, Group A continued to raise its deposit rates, resulting in a negative Deposit Beta to be reported. Group B did not raise its rates but was also hesitant to follow the ECB in its rate cuts, resulting in a Beta close to 0. The ECB continued with its easing stance, cutting the MRO rate by a total of 1.5 percentage points to 0% in March 2016, establishing the low-for-long interest rate environment and with domestic banks cutting their deposit rates. Group A reported an overall deposit Beta of 1.05 during this period, resulting in an overall interest rate of 0.5% as of June 2022. Meanwhile, the Deposit Beta of Group B was more contained at 0.80, which however saw the overall interest rate to drop to less than 0.1%. The developments were driven by term deposits of up to and over two years within both groups.

In 2022, inflation in the euro area soared to a double-digit level. This was triggered by a combination of factors, including higher energy and food prices and supply chain disruptions, all somewhat linked

to the war in Ukraine. These coincided with a surge in demand following the pandemic. As a result, the ECB initiated a significant tightening phase at an unprecedented pace, with the MRO reaching 4.5% by the third quarter of 2023. However, the pass-through effect this time was very limited. By the end of 2023, Group B's overall resident deposit rate had risen only marginally to 0.8%, largely driven by time deposits with maturity of up to two years, with the group's overall Deposit Beta standing at 0 by end 2023. On the other hand, Group A demonstrated a much more responsive approach. Its interest rates on resident deposits almost doubled to 1.0%, although the Deposit Beta remained limited to just 0.11. This increase was driven by time deposits, especially those with a term of up to two years, with interest rates almost reaching the levels seen around 2013-2014.

Chart 10
SPREAD OF RESIDENT OUTSTANDING DEPOSIT INTEREST RATES VS ECB MRO RATES
(percentage points)



Sources: Central Bank of Malta; ECB.

In addition to Deposit Betas, the monetary policy passthrough was also assessed by seeing how the banks' deposit rates moved in relation to the ECB's MRO rate. Chart 10 offers a visual representation of this by measuring the spread between the two rates, specifically by subtracting the banks' deposit rates from the ECB's MRO. A positive spread means that the MRO is higher than the bank's average deposit rate, and vice versa. In the latter stages of the monetary policy tightening during 2007-2008, despite the increase in the banks' deposit interest rates, these still fell short of the MRO rates, resulting in a positive spread. However, as the ECB proceeded to soften its policy stance, the rates granted by domestic banks remained above the MRO rate, particularly evident in the case of Group A, with negative spreads reported as a result. The spread did however narrow, as banks continued to decrease their deposit rates. As the monetary policy tightening from July 2022 was not matched by banks, given the limited pass-through, the spread turned positive again, significantly exceeding the previous positive spread. This trend is evident in both groups, but more predominantly so for Group B.

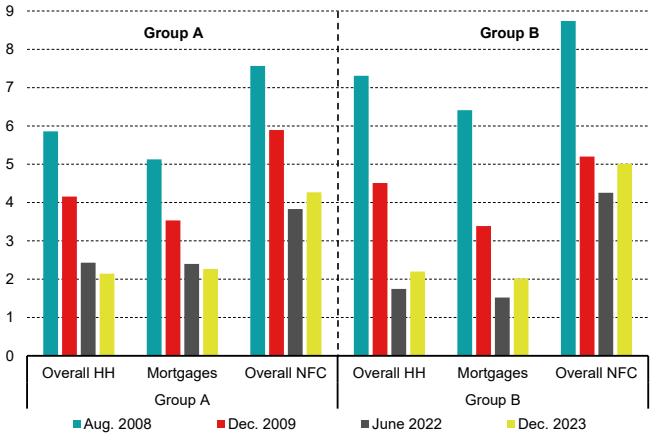
Interest rates on loans

To achieve a better understanding of the underlying trends in the transmission of monetary policy rates through the credit channel, new loans were considered. The 12-month moving average rate was used to reduce excessive volatility. The series of consistent data available starts from August 2008, just before the onset of monetary policy easing.

The initial easing, which occurred in 2008-2009, elicited a robust response by domestic banks as indicated in Chart 11. Indeed, by end 2009, domestic banks reported significant cuts in lending rates for new resident loans across both households and NFCs. Group B experienced particularly pronounced reductions, with Loan Betas for households and NFCs standing at 0.86 and 1.09, respectively. Meanwhile, Group A's Loan Betas were somewhat lower, at 0.52 for households and 0.51 for NFCs. However, this primarily reflected Group A's lower initial lending rates, as rates for both

groups, especially households, converged over time. This downward trend continued largely unabated in subsequent years. By June 2022, before the most recent monetary policy tightening, both groups had largely transmitted the overall drops in the MRO rate. For Group A, the Betas rose to 0.81 for households and 0.88 for NFCs, while for Group B, these figures increased to 1.31 and 1.05, respectively.[10]

Chart 11
RESIDENT OUTSTANDING LENDING INTEREST RATES
(per cent)

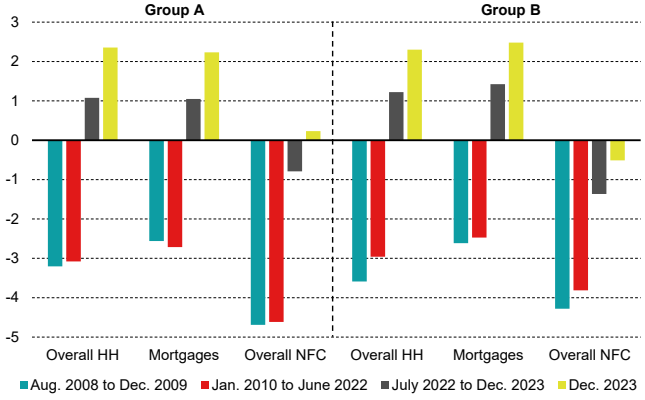


Source: Central Bank of Malta.

By the end of 2023, the ECB tightened its monetary policy, but this adjustment was only marginally transmitted on to the bank's customers. For Group B, lending rates for overall resident households increased by approximately a 0.5 percentage point to a still moderate 2.2%, resulting in a Loan Beta of just 0.10. This increase largely reflected the reversal of the temporary reductions previously observed in the fixed interest rates portion of new mortgage lending. NFCs' average interest rate rose by around 0.8 percentage point to 5.0%, with a Loan Beta of 0.17. The pass-through was even more limited for Group A, where the NFC lending rate rose by around 0.4 percentage point to 4.3%, resulting in a Loan Beta of just 0.10, while household lending rates dropped further by a 0.3 percentage point to 2.1%, resulting in a Beta of -0.06. Despite the increase in NFC lending rates among both groups, evidence indicates that this was driven by loans linked to market rates, with the overall lending rates by no means close to those charged in 2008. Meanwhile, lending rates for households remained close to the historically-low levels.

Like deposits, Chart 12 offers a visual representation of how banks' lending rates moved alongside the ECB's MRO rate by measuring the spread between the two. Here too, the spread is estimated by subtracting the banks' lending rates from the ECB MRO, with a positive spread meaning that the MRO is higher and vice versa. Throughout most of the period assessed, the

Chart 12
SPREAD OF RESIDENT LENDING INTEREST RATES VS ECB MRO RATES
(percentage points)



Source: Central Bank of Malta.
Note: The spread refers to the average for the period assessed or the position as at December 2023.

[10] The high household loan Beta for Group B reflects the temporary reductions observed in the fixed interest rate portion of new mortgage lending during the initial phase of the loan. These rates subsequently rose again, which would result in a lower Beta.

average lending rates charged by banks were higher than the ECB's MRO rate. This trend was consistent for both groups of banks, as far back as 2008, when similarly high MRO rates were reported just before the interest rate cuts took place. However, the situation changed dramatically with the latest monetary policy tightening. By the end of 2022, the spread for household lending rates turned positive for both groups, while that for NFCs also turned positive for Group A as of August 2023. The spread remained negative for Group B, but it was at a much narrower corridor compared to 2008.

Key observations

The very limited pass-through of the latest ECB's monetary policy tightening on banks' deposit rates was evident, with small Deposit Betas observed. This indicates the presence of ample liquidity, primarily fuelled by customer deposits, as amply documented in the Bank's *Financial Stability Reports* throughout the years. Consequently, banks did not feel compelled to raise their deposit rates. Despite this generic observation, discernible difference between different groups of banks could be observed, with Group A displaying a higher Beta, reflecting this Group's incentive to gain more funding and in so doing increasing its market share. Furthermore, this Section finds that this response from Group A is not a recent phenomenon. Historically, Group A tended to be more conservative in deposit rate cuts and more aggressive in rate hikes, while the larger share of resident deposits held by Group B allowed them to reduce their deposit rates further.

A second important observation is that banks largely chose not to pass on the most recent monetary policy tightening on their borrowers, with lending rates largely converging in both groups. Such levels are much lower than those reported during similar MRO levels that prevailed during 2007 and 2008. Indeed, the only noticeable increase was observed in NFC lending, which evidence suggests this is driven by loans linked to international benchmark rates. Household lending rates, primarily reflecting loans for house purchases, did not experience significant increases during the latest monetary policy tightening. This was so to the extent that the rate at which banks charge for new household loans, and for Group A also new NFC loans, is lower than the ECB's MRO rate.

To sum up, taking the two groups as determined on the basis of the preset criteria, a sustained relative difference, largely in the pricing of deposits, can be observed. This can be attributable to higher market shares and higher liquidity buffers in Group B, with Group A offering higher rates as a result. In the most recent monetary policy tightening, the limited pass-through observed for both deposits and loans, resulted in households and NFCs benefiting from more stable lending rates. This stability contributed to maintaining strong repayment capabilities, as evidenced by the continued improvement in the overall resident NPL ratio, which fell further in 2023 to 2.1%. While this limited pass-through on deposits may have resulted in limited earnings for banks' clients, alternative investment opportunities, both outside and within Group A, were available at higher remuneration rates.

2.3 International banks

International banks, comprising of five subsidiaries and stand-alone banks, together with four branches, reported a 1.7% reduction in their balance sheet, equivalent to 51.1% of GDP. Such contraction was driven by the branches of foreign banks which recorded a drop of 8.0%, as otherwise the balance sheet of the subsidiaries of foreign banks and stand-alone banks expanded by 18.1%. The international banks' business model remained oriented towards activities with non-residents, with very limited links with the domestic economy. Indeed, although the share of resident assets in the international banks' balance sheets rose to 9.7%, these were mostly placements with the Central Bank of Malta.

2.3.1 Profitability

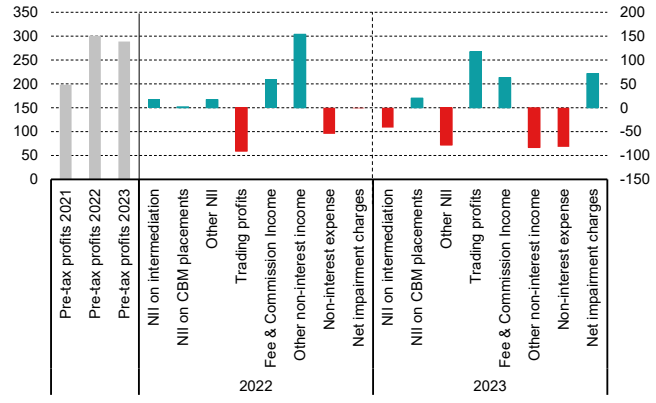
Following the notable increase reported in 2022, pre-tax profits of international banks dropped by 4.0% in 2023, driven exclusively by the branches of foreign banks, which saw their pre-tax profits decreasing by more than a fifth (see Chart 2.27). As a result, their post-tax ROA dropped by 0.4 percentage point to 2.3%. On the contrary, pre-tax profits earned by the subsidiaries and stand-alone banks more than doubled, leading to their post-tax ROA and ROE to improve from 1.9% and 6.2% in 2022 to 3.0% and 11.6%, respectively, a year later.

The overall deterioration in profits emanated primarily from lower NII, which fell by over a quarter. This reflected a decline of around 16% in NII from intermediation activities largely by the branches, owing to higher interest expenses from repurchase agreements and interbank placements. These developments were partly mitigated by the higher interest earned on placements with the Central Bank of Malta, especially by the non-branches. Concurrently, non-interest income expanded by just over a quarter, driven predominantly by the subsidiaries of foreign banks and stand-alone banks, and to a lower extent by the branches of foreign banks. This was mainly fuelled by higher fees and income from commissions, reflecting their distinct business models which focus on fees and commissions-based activities. In addition, trading income also grew, as these banks have turned the trading losses recorded in 2022 into profits in 2023. Consequently, the share of non-interest income on overall operating income rose from 50.8% to 64.0%.

Non-interest expenses grew by almost a quarter, mainly due to general operating expenses, with higher staff costs also contributing to such increase albeit to a lower extent. Both of these were mainly attributable to subsidiaries and stand-alone banks. The cost-efficiency of international banks deteriorated, with the cost-to-income ratio increasing by 11.1 percentage points to 55.7%. This largely reflected the adverse developments within the branches of foreign banks, as otherwise the operational cost-to-income ratio of subsidiaries and standalone banks improved marginally from 71.9% to 69.2%.

Net impairment charges dropped by 63.9% over a year ago, driven exclusively by the branches of foreign banks. These banks reported reversals of impairment charges during 2023, as otherwise the non-branches reported a 14.3% increase in such charges.

Chart 2.27
MAIN CONTRIBUTORS TO PROFITS – INTERNATIONAL BANKS
(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 the change in profits.

2.3.2 Credit dynamics

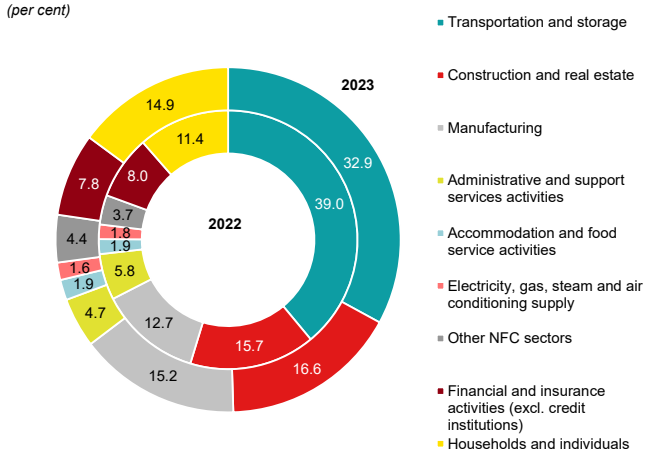
The customer loan portfolio of international banks, mainly composed of non-resident exposures, shrank by 9.4%, pushing down its share in total assets by 3.3 percentage points to 38.4%.

The drop in the customer loan portfolio was also driven by the branches, which reported a decline of 18.6%, largely reflecting lower NFC loans, while customer loans by subsidiaries and stand-alone banks rose by 11.3%, reflecting higher lending towards both households and NFCs.

Loans to NFCs declined by 13.0%, with their share in overall customer lending dropping by 3.3 percentage points to 77.3%. This drop was largely driven by declines in the transportation and storage sector, which more than offset the increase in loans to manufacturing (see Chart 2.28). Loans to OFIs also contracted, down by 11.6%, driven by both the non-branches and branches of foreign banks. Consequently, the share of these loans dropped by 0.2 percentage point to 7.8% of overall customer loans. Loans to households rose by 18%, reflecting higher consumer credit granted by the subsidiaries and stand-alone banks.

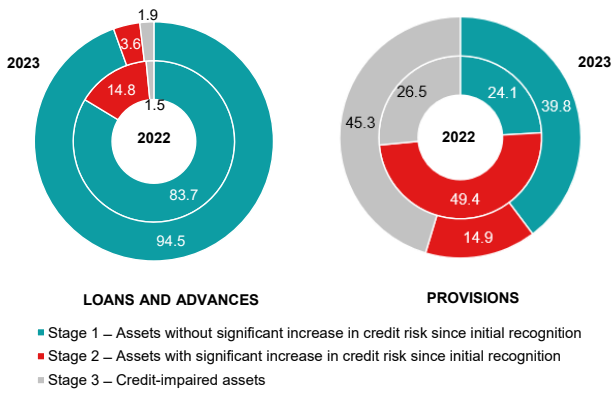
Similarly, interbank placements fell by 24.9% compared to 2022, with their share in overall assets dropping from 10.0% in 2022 to 7.6% in 2023. This was almost exclusively driven by the branches' placements with related and unrelated non-resident institutions. In contrast, interbank placements by the subsidiaries and stand-alone banks, which are entirely held with unrelated credit institutions, increased by 44.6%. Balances with unrelated resident credit institutions fell by 18.1%, accounting for a mere 1.2% of outstanding interbank placements in 2023. Meanwhile, placements with the Bank rose by more than a third, driven exclusively by the subsidiaries of foreign banks, accounting for almost a tenth of total assets in 2023.

Chart 2.28
CUSTOMER LOANS BY SECTOR – INTERNATIONAL BANKS
(per cent)



Source: Central Bank of Malta.

Chart 2.29
STAGE ALLOCATION OF LOANS AND ADVANCES AND PROVISIONS – INTERNATIONAL BANKS
(per cent)



Source: Central Bank of Malta.

2.3.3 Asset quality

Loan portfolio

During 2023, the credit quality of the international banks' loan book deteriorated slightly, as the outstanding stock of NPLs expanded by 7.7%. This was exclusively driven by foreign households, as otherwise NPLs of NFCs contracted by 68.0%. Alongside a contraction in loans and advances, the NPL ratio rose by 0.2 percentage point to 1.5%, yet still hovering at historically low levels. Should placements be excluded, the NPL ratio would increase from 1.6% in end 2022 to 1.9% in December 2023. Such increase in NPLs brought with it an increase in Stage 3 loans which rose by 11.9% during 2023, accounting for 1.9% of total loans and advances (see Chart 2.29). In

contrast, Stage 2 loans fell by more than three quarters, driven by the branches of foreign banks, accounting for 3.6%. Meanwhile, the core of the loan portfolio continued to be mainly composed of Stage 1 loans, which grew by 3.2%, representing the remaining 94.5% of total loans and advances.

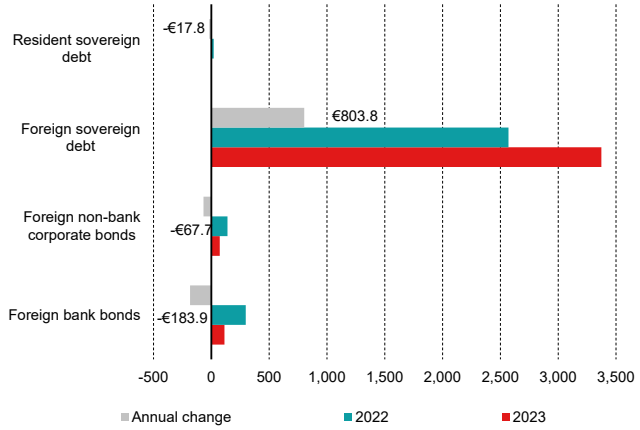
In line with the higher Stage 3 loans, the international banks raised their Stage 3 provisions by 21.3%, to account for 45.2% of total provisions in 2023, up from 26.5% a year earlier. Stage 1 provisions also rose, up by 17.0%, to account for almost two-fifths of overall provisions. However, the drop in Stage 2 provisions, which fell by more than three quarters to represent 14.9% of total provisions, was enough to result in the overall provisions of international banks to drop 29.1%. As a result, the coverage ratio fell by 64.6 percentage points, but at 125.0%, outstanding NPLs remained fully covered. Meanwhile, the overall forbearance ratio shrunk significantly from 7.4% in 2022 to 1.3% in 2023. Such drop reflected lower performing forborne loans, which dropped by 84.2%, as otherwise non-performing forborne loans rose by 6.1%, but accounting for only 5.0% of the overall forborne loans.

Securities portfolio

The securities portfolio of the international banks expanded by 16.6%, to represent 36.7% of their overall assets in 2023. This surge was driven exclusively by higher bond holdings, which rose by 17.7%, and was reported by branches of foreign banks as well as subsidiaries and stand-alone banks. This reflected both higher purchases and to a lower extent, favourable market valuations, which were partly offset by unfavourable exchange rate movements. Meanwhile, equity holdings, which were exclusively held by the subsidiaries and stand-alone banks, contracted by 14.4% in 2023.

The reported increase in bond holdings continued to stem largely from investments in Turkish sovereign debt holdings by the branches, which represented the largest share of securities holdings. Foreign sovereign bond holdings made up nearly 95% of the overall bond portfolio (see Chart 2.30). The increase was more pronounced in securities available for sale, with maturities of over ten years, and to a lower extent those over ten years, indicating a possible strategic adjustment by the international banks to extend the duration of their portfolios in anticipation of potential interest rate cuts. Meanwhile, holdings of bank bonds and corporate bonds declined by 61.8% and 48.3%, respectively, reducing their shares to 3.2% and 2.0% of the total bond portfolio. Similarly, investments in local medium-rated MGS fell by 87.7%, to account for a mere 0.1% of the total bond portfolio in 2023. Consequently, the overall rating of the bond portfolio remained predominantly invested in speculative or unrated bonds due to the holdings of Turkish sovereign bonds.

Chart 2.30
BOND PORTFOLIO – INTERNATIONAL BANKS
(EUR millions)



Source: Central Bank of Malta.

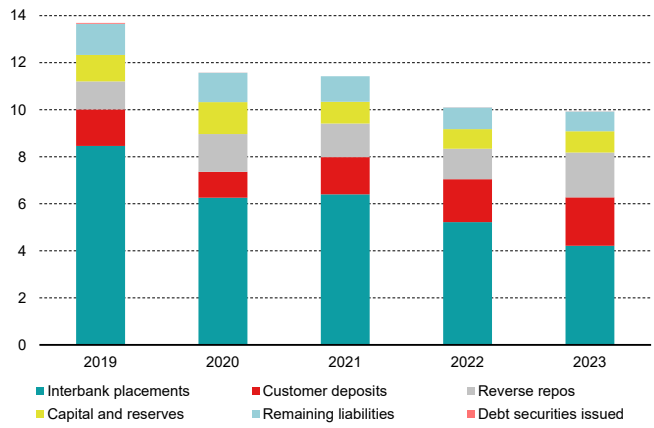
2.3.4 Funding and liquidity

During the year under review, interbank placements, excluding repurchase agreements held by the international banks, fell by 19.3%, to fund about 43% of these banks' assets (see Chart 2.31). This contraction was exclusively due to lower intra-group placements received by the branches of foreign banks, as otherwise placements from unrelated banks rose by 146.8%. Despite declining, interbank placements continued to be the main source of funding for the branches of foreign banks, financing 59.8% of their total assets. Meanwhile, the branches of foreign banks increased their reliance on repurchase agreements, with such type of funding growing by 47.9%, pushing up the share on the overall assets by 10.2 percentage points to 27.0%.

For the second consecutive year, subsidiaries and stand-alone banks did not tap into the wholesale market, as they continued to focus on a funding strategy which centred around customer deposits.

Overall, customer deposits held by the international banks rose by 12.8%, financing 20.7% of their total assets. Despite an increase of 7.7% in resident customer deposits, their share in funding remained limited to just 1.1% of these banks' assets.

Chart 2.31
DISTRIBUTION OF LIABILITIES – INTERNATIONAL BANKS
(EUR billions)



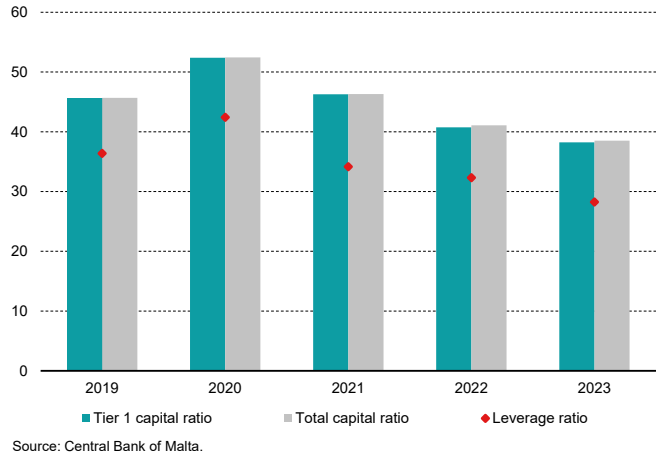
Source: Central Bank of Malta.

The increase in the overall customer deposits was driven solely by the subsidiaries of foreign banks and stand-alone banks, as those for branches fell by 12.4%. From a sectoral perspective, the largest increase stemmed predominantly from foreign households, which increased by 51.8% to account for 38.9% of the overall customer deposits. Meanwhile, deposits from foreign NFCs fell by 15.4%, driven by higher outflows by both categories of banks, while customer deposits from insurance companies fell by 47.0%, exclusively from the non-branches. Deposits by OFIs remained largely unchanged. The increase in resident customer deposits was limited, driven by OFIs, and to a lower extent, by NFCs operating in the other services sectors.

The international banks' clients' preference remained oriented towards term deposits, which rose by 16.7%, and accounting for 82.2% in 2023. This was largely the case for deposits with maturity of over 1 year and up to two years, which more than quadrupled to account for 27.2% of term deposits. This in part reflects the higher interest rates being offered on such deposits. Meanwhile, withdrawable on demand deposits continued to shrink, with such deposits falling by more than a quarter.

Subsidiaries and stand-alone banks operated on the back of abundant liquidity, with the LCR rising from 383.7% in 2022 to 569.2% a year later. Such improvement reflected higher liquid assets, which expanded by almost a third, owing to higher withdrawable central bank reserves and to a lower extent central bank assets. This was complemented by lower net liquidity outflows, which fell by 10.3%. Similarly, the NSFR, which looks at liquidity from a longer-term perspective, also rose by 18.1 percentage points to 136.4% in 2023.

Chart 2.32
CAPITAL AND LEVERAGE RATIOS – INTERNATIONAL BANKS
(per cent)



Source: Central Bank of Malta.

2.3.5 Capital and leverage

The capital position of the subsidiaries and stand-alone banks continued to follow a downward trajectory yet remained robust with a total capital ratio and a Tier 1 capital ratio of 38.5% and 38.2%, respectively (see Chart 2.32). This

decline was attributed to a 9.6% increase in RWA during the year, surpassing the more modest 2.7% growth observed in total own funds over the same period. The surge in RWA was predominantly driven by a 10.7% increase in credit risk to account for almost two-thirds of the overall risk exposures. Additionally, risk exposures from operational risk and foreign exchange risks also increased, yet by a much lower extent, representing 30.2% and 3.7% of total RWA in 2023. Nonetheless, the risk profile of subsidiaries and stand-alone banks improved, driven by the more sustained increase in assets, with the RWA on overall assets ratio declining from 70.8% in 2022 to 66.1% a year later.

The leverage ratio fell by 4.1 percentage points to 28.2%, yet still comfortably above the minimum regulatory requirement.

2.3.6 Risk outlook

Looking ahead, international banks may remain confronted by challenges due to their sensitivity to global macroeconomic conditions and geopolitical risks. The balance sheet contraction reported by the branches has affected their profitability, while profits of subsidiaries of foreign banks improved, positively impacted by the increase in interest rates. However, as anticipated by the market, the ECB did cut the interest rates, with the risk being that the NII of these banks could be adversely affected, going forward. These banks reported increases in their operational expenditures and if this trend continues, such costs could exert additional pressures on these banks' profits. On the funding side, banks which are heavily reliant on the wholesale market may experience increased costs, especially should collateral values deteriorate due to a reassessment of risk premia or a potential further deterioration in macroeconomic conditions. The degree of any impact on profitability, may vary according to individual business models, which are, however, backed by relatively high capital and ample liquidity levels.

3. STRESS TESTS

Stress tests play a pivotal role in banks' risk management practices in assessing and quantifying the resilience of banks to severe yet plausible shocks. These exercises serve as a line of defence to detect any idiosyncratic or systemic risks that could propagate through the financial system and cause distress especially if vulnerabilities are left unchecked and unaddressed.

Within the context of recovering profitability and buoyant liquidity buffers, the stress testing frameworks have been re-oriented with the aim of assessing the resilience of the main contributors to profitability and emerging trends in business activities. This year's MST framework contemplates an adverse scenario characterised by stagflation and the narrowing of interest rate margins to focus on an alternative state of play where banks are modelled to operate with a higher interest rate pass-through on deposits. The Bank's toolkit has been enhanced further, with a new link to solvency from one of the liquidity frameworks. This is done to look at scenarios where banks are assumed to dip into their investment portfolios for liquidity and hence increase the dose of stress in the tests reported herein. The chapter is complemented by dedicated subsections with details on emerging trends.

In particular, the chapter features the results from a sensitivity analysis which sheds light on the importance of overnight deposits with the Central Bank of Malta and the DFR paid on these deposits for banks' profitability levels. Another feature of this edition is the enhancement of the PDW framework. This introduces a liquidity-to-solvency module that quantifies the impact of a bank-run on both the liquidity buffer and its effects on banks' solvency position. The solvency impact depends on how deep into the assumed hierarchy for liquid assets each bank is pushed, to meet the scenario-based withdrawals. This boxed article looks deeper into the hierarchy and composition of liquid assets to build the counterbalancing capacity (CBC) for the respective three categories of banks. It also provides a deeper assessment of bonds held by banks and assesses the composition of deposits, including the extent of deposits sourced from online deposit platforms (ODPs), to ensure relevance of the scenario and the assumed withdrawal rates. Although the Bank's stress testing frameworks are macro in nature and are not intended to apply differing scenarios tailored to banks' diverse business models, these deep-dive assessments have the benefit of identifying any idiosyncratic weaknesses that would otherwise remain undetected under a top-down consistent scenario.[1]

The chapter also includes the results from the liquidity frameworks based on the LCR and NSFR, as well as the interest rate risk in the banking book (IRRBB) framework which features scenarios assuming both increases and decreases in short-term rates.

3.1 Scenario-based solvency stress test

Outlook and scenario design

While the persistent rise in inflation has subsided and the restrictive monetary policy stance is starting to moderate, it remains essential to continue to detect any lingering or emerging vulnerabilities. The MST framework is one such tool that forms part of the Bank's toolkit to detect any weaknesses under a baseline scenario and a severe but plausible hypothetical adverse scenario. The baseline scenario draws from the Banks' economic projections of February 2024. The adverse scenario aims to identify and quantify any systemic weaknesses within the domestic banking sector, designed to highlight vulnerabilities that are both idiosyncratic and systemic under "what if" analyses.

The scenario narrative applied in the adverse scenario draws from the 2023 IMF Global Financial Stability Report and the 2023 EBA EU-wide Stress Test and considers an environment characterized by stagflation, i.e. high inflation in low economic growth and high unemployment.

[1] The Bank does not comment on stress test results for individual banks as the aim is to assess the overall resilience of the system. Individual bank findings are discussed with the relevant authorities. Moreover, the number of banks considered for each category may vary as some banks may fall out of scope of specific stress tests. In particular, this is the case for branches of foreign banks, given that they do not hold capital locally, and other banks that would not hold the specific classes of instruments being assessed in any given framework.

Inflationary pressures are assumed to continue to weigh in on the macro-economic environment in the initial years of the stress test horizon; however, the rate at which inflation grows is assumed to subside but remain high. Although economic theory suggests that an outlook for inflation in the medium term that is in line with the Central Bank's target would call for reversal of restrictive monetary policy and therefore drops in interest rates, adverse shocks may delay this reversion in the monetary policy stance, thus maintaining high interest rates for longer. Indeed, if a soft landing fails to materialize amid high inflation, interest rates may remain high for longer. While inflation remains well above the medium term-target of 2%, further adverse supply shocks may result in inflation remaining elevated for longer, which in turn adversely affects financial stability through several channels. First, increased supply shocks, arising from geopolitical tensions, can rekindle inflationary pressures, which in turn increases the risk related to debt-servicing for both households and corporates. These effects put further pressure on banks' financial position via higher loan defaults. Thus, although wider interest rate margins can improve banks' profitability, extended periods of high rates can also be associated with more loan losses as corporate and household borrowers face heavier debt-servicing burdens. This less favourable economic backdrop is further conducive to a volume effect emanating from lower credit demand including for investment purposes as well as a higher level of unemployment. This may impact banks' asset quality negatively as well as their profitability position. Furthermore, geopolitical risks could destabilise financial markets. Such scenario has the potential to trigger an abrupt sell-off in financial markets, especially risky and overvalued asset classes.

Also, heightened uncertainty may lead to banks holding on to relatively more secure sources of funding, such as through customer deposits. Thus, in order to attract or maintain current levels of deposits, bank pass through higher rates on deposits when compared to loans, also because, in an environment of high for longer interest rates, market funding can be even more costly. In addition, alternative investment opportunities may reduce placements with the banks. The narrower loan to deposit margin rates, and weaker loan demand, paired with higher non-interest expenses (linked to inflation) continue to put pressure on banks' future profitability.

Under such a scenario, a reduction in deposits would also be registered from dissaving clients seeking to smoothen their consumption. The overall deterioration in credit quality amidst rising interest rates would result in a sharp downward repricing of marketable instruments given the inverse relationship between prices and yields, as well as increased impairments for heightened risk of default by their issuers.

The magnitudes of the shocks are sourced from the 2023 EBA EU-wide stress test, by applying the EBA adverse scenario's deviations from the EBA baseline projections for 2023 to 2025 to the updated baseline as estimated by the Bank for 2024 to 2026. These are in general consistent between the two baseline scenarios except for short-term interest rates which are now projected to dip after peaking in 2023. In this regard, under the adverse scenario, MT inflation in 2024 is assumed to remain at the level recorded in 2023, and gradually converge to the baseline projections in 2026, while an alternative path for short-term rates was applied to delay the dip towards the end of the stress-test horizon to reflect inflation expectations, as shown in Table 3.1.

Table 3.1
SCENARIO-BASED MACROECONOMIC PROJECTIONS FOR 2024 TO 2026

	Baseline scenario			Adverse scenario		
	2024	2025	2026	2024	2025	2026
MT GDP	4.4	3.6	3.3	0.2	-5.3	0.2
MT Inflation Rate	2.9	2.2	1.9	5.6	3.9	2.6
€STR	3.0	2.2	2.2	4.5	3.9	3.4
Sovereign spread	1.1	1.1	1.0	2.1	1.5	1.4

Source: Central Bank of Malta.

Under the baseline scenario, GDP is expected to grow by 11.7% cumulatively over the test horizon while inflation is expected to continue to increase by 7% as the markets expect short-term rates to ease to reach 2.2%. Under the adverse scenario, GDP is expected to contract by 4.9%, with inflation soaring to 12.1% over the test horizon. At the same time adjustments to short-term rates take longer to materialise, increasing to 4.5% in 2024, returning to the rate observed at the end of 2023 of 3.9% in 2025 and decrease further to 3.4% in 2026.

Methodology

The MST framework adopts the same methodology of the previous exercise, applied on two scenarios, a three-year horizon and a static balance sheet assumption to assess the impact of macro-economic shocks onto the balance sheets of core and non-core domestic banks.[2] Losses by risk type are projected via dedicated satellite models or modules.

Credit risk in the household and NFC loan portfolios is projected in reaction to the paths for short-term interest rates, inflation, and spreads under the respective scenario using the expected credit loss model presented in Box 3 of the 2022 FSR. In addition, projected NPLs and the existing stock of NPLs are assessed in line with the supervisory minimum coverage expectations, which, depending on the extent of collateralisation, require higher provisions the longer a loan has been classified as NPL.[3] The projected impact from additional provisions is reported under credit risk in Charts 3.1 to 3.4. Moreover, in addition to the impact arising from increasing loan loss provisions, the income stream is reduced due to missed monthly repayments from newly classified NPLs and is reflected in the contribution of NII. Similarly, the increase in RWAs from the additional risk-weight on newly classified NPLs is shown separately in the charts with results.

Securities held by banks (both bonds and equities) are assessed for market risk in the dedicated module. The module mainly assesses the impact arising from changes in interest rates, which have an inverse relationship with the valuation of marketable instruments. Specifically, bonds held at fair value are repriced at the scenario-based market prices, with unrealised gains or losses charged to the Statement for Profit and Loss for bonds accounted for at fair value through profit and loss (FVTPL) or directly to capital for bonds accounted for at fair value through other comprehensive income (FVOCI). For the remaining bonds there is no repricing since these are valued at amortised cost (AMC).[4] The risk module also quantifies the impact on banks' income stream after adjusting interest earned on floating rate notes, as well as adjusting coupons at the prevailing market rates for the roll-over of maturing instruments, while it applies an exogenous shock of 24% for equities issued by non-affiliated companies. These impacts are reported under the market risk component in Charts 3.1 to 3.4.

Furthermore, the market risk module feeds back into the credit risk module by revising the Loss Given Default (LGD) parameter that features in the estimation of expected credit losses for AMC bonds. This is to reflect the discrepancy between the book value (AMC) of these bonds and the scenario-based market value. Thus, although the valuation of bonds at AMC is unaffected from changes in market prices, upward or downward revaluations are considered for the assessment of expected credit losses. Indeed, such discrepancy in valuation would result in realised gains or losses that banks would incur only upon sale or default of AMC bonds. The impact of these additional impairments and any forgone coupons from defaulted bonds held at AMC are reported in the charts under credit risk and NII, respectively.

The NII and net non-interest income (NNII) module incorporates the changes in income stream arising from floating rate notes, forgone income from NPLs and defaulted bonds from the credit and market risk mod-

[2] The static balance sheet assumption ensures ease of comparison across banks results by requiring banks to retain the same composition of assets and liabilities over the test horizon. In practice, this is achieved by replacing instruments which mature between 2024 and 2026 with similar instruments in terms of type, credit quality and residual maturity as observed in December 2023, adapted to the prevailing market conditions assumed in each scenario.

[3] These are set out by the respective supervisor, with a communication issued by ECB banking supervision, applicable to the three domestic Significant Institutions (SIs), and Banking Rule 09 applicable to the Less Significant Institutions (LSIs) supervised by the MFSA.

[4] For more details on the accounting treatment and valuation of bonds, refer to Box 4 of the 2022 FSR.

ules, and adjusts the income earned and expenses incurred from the remaining stock of assets and liabilities. Interest-bearing instruments are adjusted to reflect the scenario-based changes in interest rates in line with the recently re-estimated pass-through rates.[5] Under this adverse scenario, interest rates increase for both interest-bearing assets, which are loans in the main, and interest-bearing liabilities which are mainly retail and wholesale deposits. However, the rate on interest expense is assumed to increase at a higher rate than on loans, resulting in a narrower loan-to-deposit interest margin. In other words, the interest rate charged on deposits is higher both due to a higher rate applied and also because a higher pass-through rate is assumed when compared to that applied on loans. Non-interest-bearing instruments are instead adjusted in line with the scenario-based paths for inflation. The shocks applied draw from the 7.2% and 12.1% cumulative increase in inflation under the baseline and adverse scenario respectively and include further adjustment to reflect indirect pressures from rising interest rates. This is assumed to result in higher costs including demand for higher wages, leading to an increase in administrative expenses of 7.5% and 15% relative to the costs incurred in December 2023, for the respective scenario. Similarly, a 7.5% and 15% decline in both dividend income earned, and net fee and commission income is assumed to emanate from slower economic activity.

The net trading income (NTI) module quantifies market risk on derivatives and economic hedges and is based on the simplified approach of the market risk methodology adopted in the 2016 EBA EU-Wide Stress Test (described in Section 3.6 of the 2016 methodological note).

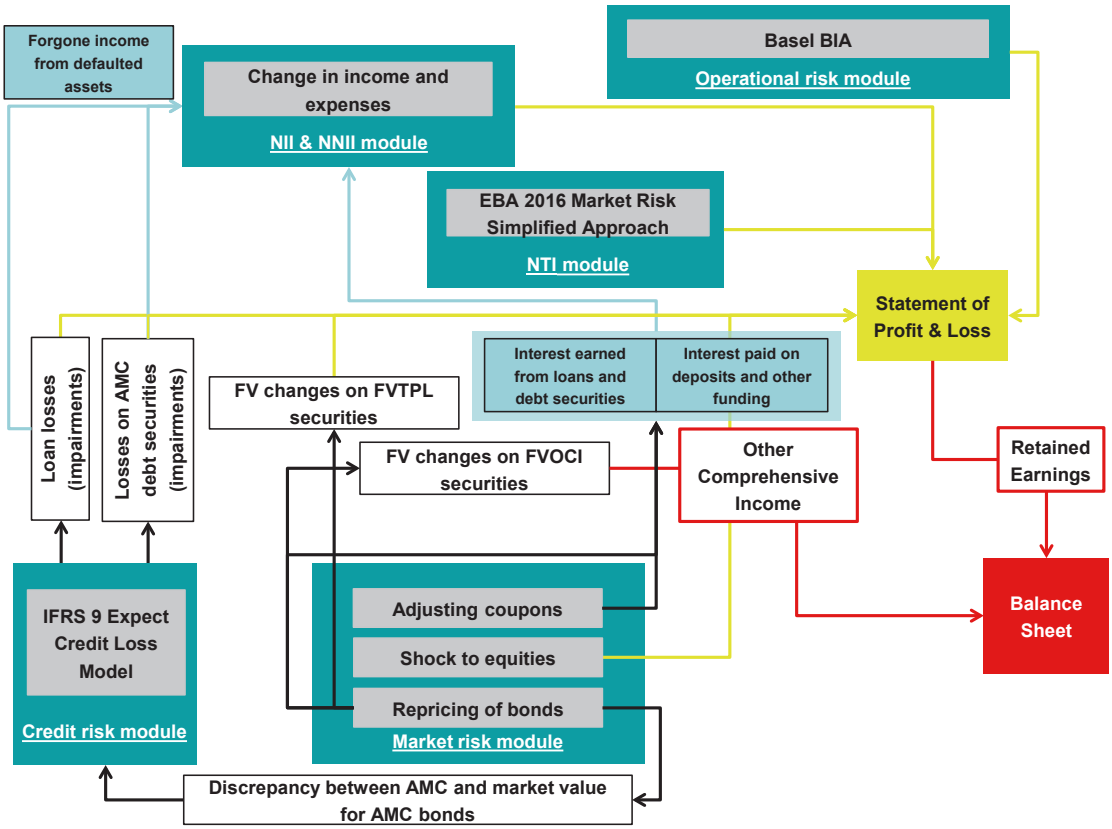
Finally, the operational risk module assumes a materialisation of risk equal to a share of the capital requirements set aside for operational risk. These capital requirements are calculated according to the Capital Requirements Directive (CRD)'s Basic Indicator Approach (BIA) and the loss events are assumed at 40% of the requirement under the baseline and 100% under the adverse scenario. The impact of these events is equally distributed over the three years of the test horizon.

The impact arising from the NII & NNII, NTI and operational risk modules are all charged to the P&L and shown in the respective items on Charts 3.1 to 3.4.

Figure 3.1 provides a schematic overview of the contribution of each risk module in translating the scenario-based macro-economic environment onto the relevant instrument classes of banks, and thus, the interactions among the various risk modules and the ultimate impact on profit and loss and capital. The market risk module provides input to the credit risk module and in turn both provide input to the NII&NNII module. Apart from unrealised revaluations on FVOCI bonds which are charged directly to capital via other comprehensive income, each module's outcome affects the composition of the statement of Profit & Loss. The combined gains or losses ultimately determine if the bank generates profits, which are transferred to capital via retained earnings after deducting taxes and any dividend payouts, or losses which would need to be compensated by the release of retained earnings, accumulated from profits set aside in previous years.

[5] The pass-through rates estimated by Nathaniel Debono are available in the Policy Note entitled "The Transmission of Monetary Policy in Malta: A focus on retail bank interest rates" of April 2024. The empirical analyses shows that the transmission of monetary policy onto lending rates in Malta has been weaker than other countries in the euro area while the transmission onto deposit rates other than those to non-financial corporates has generally been in line with other euro area countries. For the adverse scenario, the pass-through rates for all segments have been aligned to the empirical estimates for Malta, except for the pass-through rate for NFC deposits which instead has been aligned to other euro area countries.

Figure 3.1
SCHEMATIC OVERVIEW OF THE MST FRAMEWORK



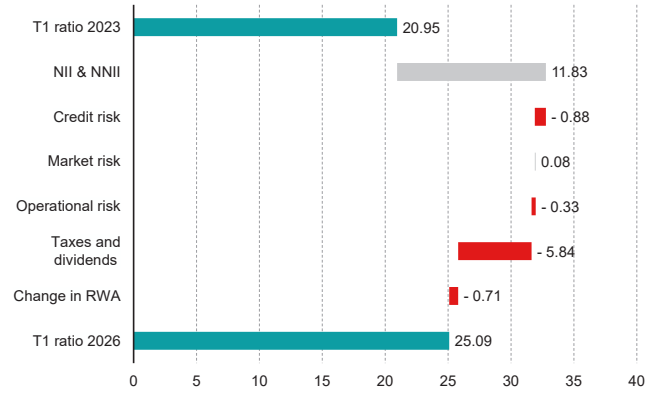
Source: Central Bank of Malta.

Results

Charts 3.1 and 3.2 present the three-year cumulative contributions of the various risk modules on the Tier 1 capital ratio for core and non-core domestic banks under the baseline scenario.

Although it is customary for NII & NNII to have a positive contribution to the Tier 1 capital ratio, the results for this run are even more positive than usual. This is largely due to the improved profitability observed in 2023, which is estimated to broadly continue over the test horizon given the static balance sheet assumption. This contribution is estimated on banks' potential to generate income (for example non-defaulted loans and market instruments continue to generate income) and incur expenses based

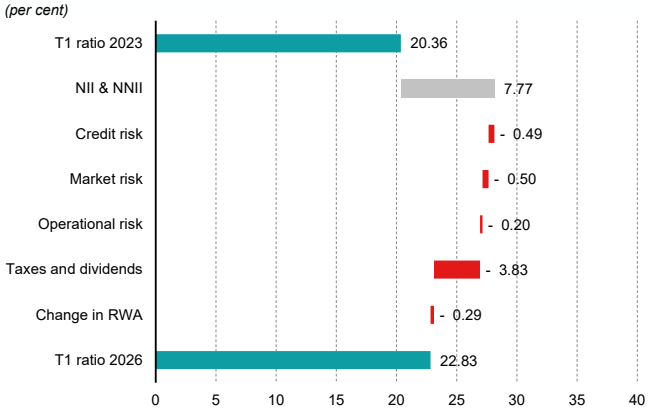
Chart 3.1
STRESS TEST RESULTS – MACRO STRESS TEST BASELINE SCENARIO – RELATIVE CONTRIBUTION OF THE IMPACT ON CORE DOMESTIC BANKS' TIER 1 CAPITAL RATIO
(per cent)



Source: Central Bank of Malta calculations.

on the composition of assets and liabilities as at the reference date, with specific hinderances from achieving the potential depending on the scenario based macroeconomic parameters. In particular, remuneration from placements in the overnight deposit facility, which was banks' major source of income as at the reference date, is expected to continue to contribute positively to the income stream under the baseline scenario, while only a slight reduction is experienced from the missed repayments on newly classified NPLs and the 7.5% shock to NNII components. The following subsection sheds light on the sensitivity of NII to placements in the overnight deposit facility.

Chart 3.2
STRESS TEST RESULTS – MACRO STRESS TEST BASELINE SCENARIO – RELATIVE CONTRIBUTION OF THE IMPACT ON NON-CORE DOMESTIC BANKS' TIER 1 CAPITAL RATIO
(per cent)



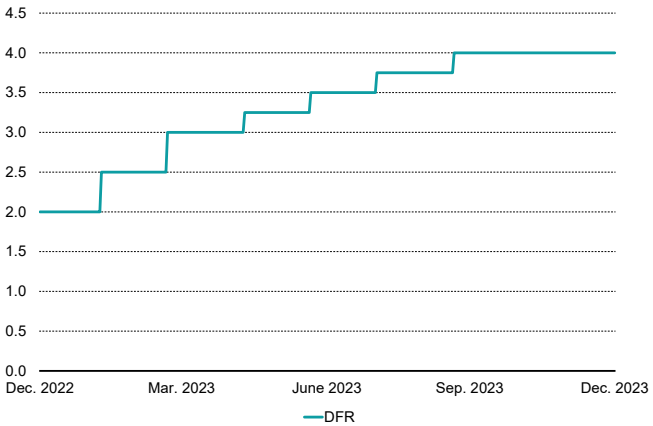
Source: Central Bank of Malta calculations.

Sensitivity analysis for placements in the overnight deposit facility

Following a prolonged period of low and negative interest rates, in July 2022, the Governing Council of the ECB announced the decision to restore the key interest rates into positive rates starting at 0.5% for the MRO, 0.75% on the Marginal Lending Facility (MLF) and 0% for the DFR, with gradual increments thereafter. To date, these rates have increased to 4.5%, 4.75% and 4.0%, respectively, in line with Governing Council Decision of September 2023.

Within the local context, banks found an opportunity to place their excess liquidity in overnight placements with the Central Bank to earn interest at the DFR. Chart 3.3 shows the evolution of the DFR during 2023 starting at 2.0% and increasing in six steps to reach 4.0% by September of the same year. Over this period, banks have adjusted their placements with the Central Bank from excesses on the Minimum Reserve Requirement (MRR) to holdings in the overnight deposit facility, locking in an annualised WAIRS of 2.95%, 2.98% and 3.24% respectively. The earnings on these placements create a sensitivity of 9.3, 31.7 and 9.7 percentage points of the pre-tax profits registered in December 2023 by the three bank categories respectively for every percentage point change in the DFR. As the most recent announcement, the ECB Governing Council decision of 6 June 2024 adjusted the DFR downwards to 3.75% applicable from 12 June 2024. This reduction of 0.25pp in the DFR for the second half of the year would correspond to a drop in each bank category's pre-tax profits registered in December 2023 of 1.2%, 4.0% and 1.2%, respectively.

Chart 3.3
EVOLUTION OF THE DFR OVER 2023
(per cent)



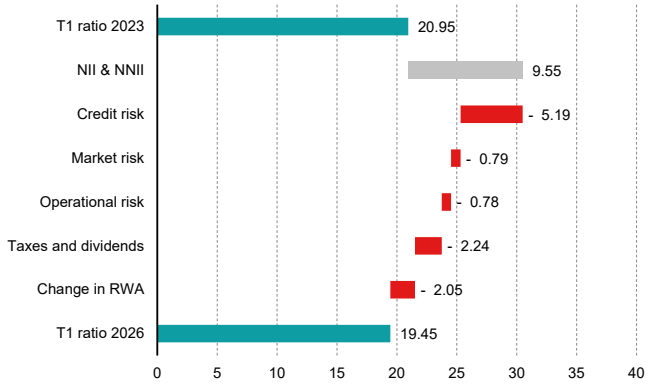
Source: Central Bank of Malta calculations.

In contrast to the positive impact from the NII and NNII module, the other modules generate some losses under the baseline, but these are rather contained. This is primarily the case for credit risk whereby the share of Stage 2 and Stage 3 loans, that is those loans requiring provisions calculated under the lifetime expected credit loss approach, increase by 2.7 percentage points, from 9.0% in December 2023 to 11.7% at the end of the test horizon. Nevertheless, the International Financial Reporting Standard 9 (IFRS 9) loan provisions corresponding with this increase in downward transitions of loans to Stages 2 and 3, and incremental coverage requirements under BR09, are small, in part due to the improved quality of the loan portfolio compared to the previous year. This was mainly achieved via a write-off exercise which has lowered the stock of NPLs and consequently the volume of legacy NPLs – i.e. those that have been classified as NPLs for a long period of time.

Moreover, the contribution of market risk is low in the baseline scenario given that banks have increased their share of instruments accounted at AMC. Moreover, the scenario features a drop in short-term interest rates which would result in an appreciation of bonds at fair value having a short remaining term to maturity, as is the case for core domestic banks with an average maturity of three years. For non-core domestic banks, the average term to maturity on fair value bonds is 16 years and thus are valued according to the adjustment of the longer end of the yield-curve.

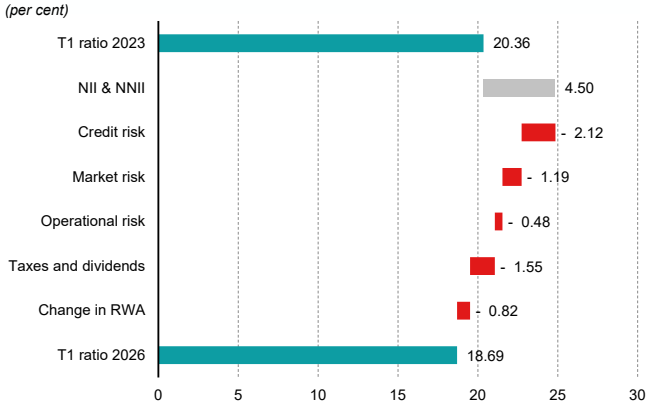
Despite the losses arising from market, credit and operational risk, the contribution of NII and NNII remains strongly more positive leading to an increase in capital from the transfer of retained earnings, after being subject to the corporate tax rate of 35% and the assumed dividend pay-out ratio of 30%. The Tier 1 capital ratio of core domestic banks increases by 4.14 percentage points from 20.95% to 25.09%, while that of non-core domestic banks increases by 2.47 percentage points from 20.36% to 22.83%.

Chart 3.4
STRESS TEST RESULTS – MACRO STRESS TEST ADVERSE SCENARIO – RELATIVE CONTRIBUTION OF THE IMPACT ON CORE DOMESTIC BANKS' TIER 1 CAPITAL RATIO
(per cent)



Source: Central Bank of Malta calculations.

Chart 3.5
STRESS TEST RESULTS – MACRO STRESS TEST ADVERSE SCENARIO – RELATIVE CONTRIBUTION OF THE IMPACT ON NON-CORE DOMESTIC BANKS' TIER 1 CAPITAL RATIO
(per cent)



Source: Central Bank of Malta calculations.

Conversely, Charts 3.4 and 3.5 show the resulting relative contributions to banks' Tier 1 capital ratio under the adverse scenario. Elevated inflation and market expectations for a delay in lowering of short-term interest rates give rise to elevated costs and higher insolvencies across households and NFCs. Both of these elements are visible in the less positive contribution of NII and NNII, as well as the larger provisioning needs captured under credit risk and the increase in RWAs, when compared to the baseline results. Indeed, provisions for credit risk offset almost half of the positive impact of NII and NNII, given that, under the prolonged inflationary pressures and high

interest rate environment, the share of Stage 2 and Stage 3 loans increase by 8.7 percentage points to reach 17.7%, 6.0 percentage points higher than the baseline. Interest expense is assumed to increase at a faster rate than interest income due to higher rates and pass through rates charged on deposits leading to a higher cost of funding. This higher cost also arises from the rolling over of maturing bond instruments issued by the banks at a higher rate. Moreover, the parts of the test horizon that include increase in interest rates, affect profits negatively in case of the unrealised revaluation losses on fair value instruments, and positively from higher coupon earnings on floating rate bonds or maturing bonds that are rolled over. Under this scenario, higher operational risk costs, as well as non-interest income expenses are assumed. The Tier 1 capital ratio for core domestic banks falls by 1.50 percentage points to reach 19.45%, while that of non-core domestic banks falls by 1.67 percentage points to reach 18.69%.

The results that are quantified via the MST framework, are benchmarked against banks' supervisory and regulatory capital requirements, so as to determine the extent of erosion in banks' management buffers. In cases where the management buffer is insufficient, banks will be constrained to dip into their combined buffer requirements (CBR) which trigger dividend restrictions. The test assumes that banks do not enjoy any deferred tax assets, and dividend payouts can only take place for banks having positive profits.

Under the baseline, the Tier 1 capital ratio is benchmarked against the overall capital requirement (OCR) which consists of a common 6% Pillar 1 requirement, an institution-specific Pillar 2 requirement and the combined buffers, including the fully phased-in sSyRB, but excludes the Pillar 2 Guidance. Under the adverse scenario, the results are also benchmarked against the total SREP capital requirement (TSCR) with a similar composition as the OCR except for the exclusion of the combined buffers. At the individual bank level, all the core domestic banks surpass the respective capital requirement thresholds under both the baseline and the adverse scenarios. All the non-core domestic banks surpass the respective capital requirement thresholds under both scenarios, with the exception of one which initiated the test with a loss.

3.2 Liquidity stress tests

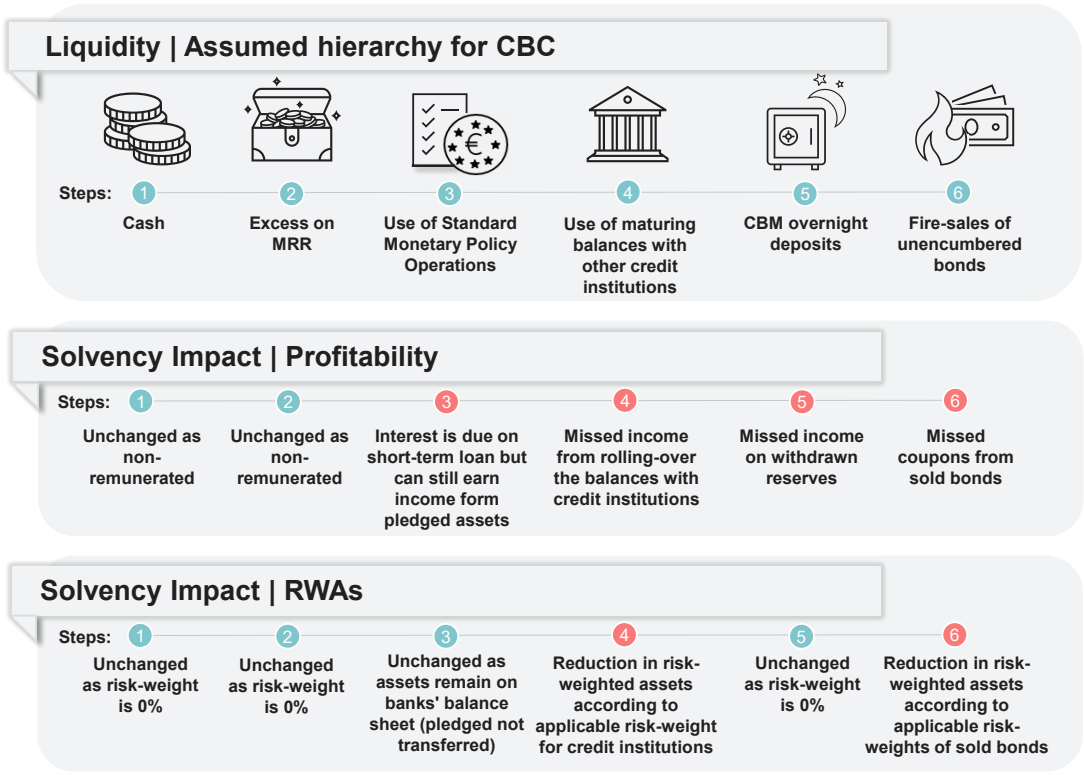
This section presents the findings of three complementary frameworks stress testing the liquidity position of banks. The first is the PDW framework which shocks the liquidity position of banks against a bank-run type scenario over a survival period of four weeks. This framework has been enhanced to include a liquidity-to-solvency dimension whereby the impact of the bank-run translates also into an impact on capital. The second framework is based on the LCR and entails a baseline and three adverse scenarios simulating high outflows during its 30-day horizon while the third framework is based on the NSFR framework and assesses four adverse scenarios affecting longer-term liquidity.

3.2.1 PDW framework

Interaction between liquidity and solvency

The PDW framework has been revised to incorporate a solvency impact arising from the assumed deposit withdrawals. Should the assumed outflows exceed the banks' CBC, not only does a bank become illiquid but also experiences a shortfall that would need to be met directly through capital. Moreover, depending on the banks' strategy for liquidating assets, banks could incur reduced profitability from forgoing any income generated from liquidated assets, and a change in RWAs from off-loading certain asset classes. Under such a scenario, the balance sheet composition would be severely affected, starting with a run-off of liabilities commensurate with the deposit outflows and a potentially larger offloading of assets to generate the necessary CBC. Based on these considerations, Figure 3.2 presents an assumed hierarchy for the composition of CBC giving preference to the least costly options to generate CBC before liquidating the next class of assets. The figure also highlights in red the asset classes which have a solvency impact from either profitability or RWAs.

Figure 3.2
INTERACTION BETWEEN LIQUIDITY AND SOLVENCY



Source: Central Bank of Malta.

At the top of the hierarchy is cash, followed closely by any excess on the MRR, as these are both non-remunerated and have a 0% risk-weight for calculating capital requirements, thereby allowing banks to seamlessly meet outflows without repercussions in terms of profitability and capital.

Ranking third is the option for banks to pledge any eligible and unencumbered assets as collateral to obtain short-term liquidity from Eurosystem of Central Banks (ESCB) standard monetary policy operations.[6] Banks can opt for one-week loans under the MRO, three-month loans under the longer-term refinancing operations known as LTROs or specialised liquidity assistance under targeted long term refinancing operations known as TLTROs. Given the four-week test horizon, it is assumed that banks opt for the MRO and that the underlying collateral retains its value and eligibility thereby allowing banks to request MRO at the beginning of each week for as long as necessary. Banks would incur a cost for availing themselves of these short-term loans at the applicable rate for MRO but would otherwise be able to earn any income generated by pledged assets and would not incur any change in capital requirements as the collateral itself is not transferred but pledged, thereby remaining "on-balance sheet".

Fourth on the hierarchy is the use of any balances with other credit institutions that are due to mature within the month. Such balances would be returned to banks and could be used to offset the outflow of deposits. In such cases, banks would forgo any interest that could be earned should such funds be placed back with other credit institutions. Moreover, since balances with credit institutions have a non-zero risk weight, overall RWAs would decrease resulting in an off-setting impact in terms of capital requirements.

[6] Securities pledged are subject to liquidity haircuts which are regularly updated in line with revisions to the ECB framework. Only banks that are a signatory to the Central Bank of Malta Directive No. 8 can make use of these operations. Eligible debt securities refer to any marketable assets held by banks which, as at the reference date, are included in the database of eligible assets for Eurosystem monetary operations.

However, such off-setting impact is only positive in isolation, given that in the broader context of the bank-run, the balance sheet structure is being severely impacted and banks need to rebuild and tackle any mis-matches arising between the remaining longer-term liabilities and residual assets.

Next on the hierarchy is the remaining Central Bank placements that are held in the overnight deposit facility. These placements are treated separately from the MRR in point 2 as these instruments are remunerated at the DFR. Utilising these placements would be rather costly for banks as they would be depleting the major contributor to the increased profitability observed for 2023. Similar to cash, these placements have a 0% risk weight and would not affect the capital requirements. However, their use would strongly affect their NII.

Finally, should banks run out of the considered assets, they may sell any remaining ineligible and unencumbered bonds on the market at fire-sale prices to generate additional CBC from the proceeds.[7] Upon resorting to this option, sold bonds no longer generate income and RWAs would decrease. As outlined in Box 4 of the 2022 FSR, IFRS 9 defines the business models as *hold to collect, hold to collect and sell* and, *other* in line with the intention for acquiring bonds. On the basis of these definitions, it is assumed that banks first off-load their fair value bonds before selling bonds accounted for at AMC as sales for the latter asset class is subject to prescribed restrictions.

The following subsection investigates the composition of CBC for the three bank categories on the basis of the assumed hierarchy and liquid assets available in December 2023.

Composition of CBC – An assessment of available liquid assets

As of December 2023, all three bank categories continued to maintain high liquidity buffers. As a share of total assets, liquid assets as considered in the CBC hierarchy amount to 42% for core domestic banks and international banks and 33% for non-core domestic banks. Table 3.2 lists the assets identified in the hierarchy for the composition of CBC, expressed as a share of total CBC.

Table 3.2
COMPOSITION OF CBC FOR EACH BANK CATEGORY

Hierarchy	Description	Core domestic banks	Non-core domestic banks	International banks
Step 1	Cash	2%	0%	0%
Step 2	Excess on MRR	0%	2%	14%
Step 3	Maximum MRO loan size	44%	14%	0%
Step 4	Maturing balances with credit institutions	17%	12%	23%
Step 5	Overnight deposits	30%	63%	63%
Step 6	Maximum proceeds from fire-sales	7%	9%	0%
	Total CBC as share of Total Assets	42%	33%	42%

Source: Central Bank of Malta.

Placements in the overnight deposit facility are a major share of banks' liquid assets, especially for non-core domestic and international banks. For core domestic banks, the major contributor to shore up CBC in times of need would be to pledge bonds for MRO short-term financing under standard monetary policy operations, given their high share of unencumbered and eligible bonds. The other liquid assets contribute to further strengthen the CBC, particularly maturing balances with credit institutions in the case of international banks and to a lesser extent for non-core domestic banks that can also resort to MRO financing.

[7] Fire sale prices have been calibrated on the basis of the market prices observed during the 2008 financial crisis and assessed for severity against those applied by the Single Supervisory Mechanism in the 2019 Liquidity Stress Test (LiST).

Bank's holdings of bonds play a crucial role in the composition of CBC. With respect to the assumed hierarchy for establishing the CBC as shown in Figure 3.2, bonds can contribute either via step 3 as pledged collateral in standard monetary policy operations or via step 6 via proceeds from sale. However, restrictions apply with a requirement in either option for the bonds to be free from any encumbrance, i.e. without any legal claims from third parties. Moreover, bonds need to satisfy the ECB requirements in order to be eligible for standard monetary policy operations under step 3.[8] If these requirements are not satisfied, then CBC is raised via the proceeds of sales of unencumbered and ineligible bonds under step 6. The following subsection presents the main characteristics of the bank categories' bond portfolio for December 2023.

Overview of bond portfolio

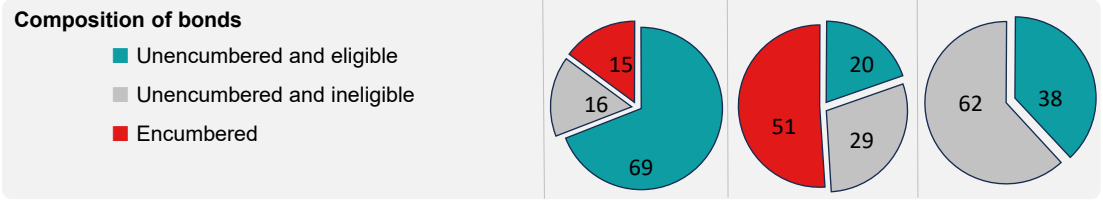
Figure 3.3 summarises the main characteristics of each bank category's bond portfolio which amounts to 28%, 23% and 0.2% of the respective total assets.

In line with recent trends, the share of bonds held at AMC continued to increase to 84% up from 70% for core domestic banks, 93% from 92% for non-core domestic banks and 100% from 54% for international banks. This preference reflects the alignment of banks' to IFRS 9 *hold to collect contractual cashflows* business model, under which bonds are acquired with the intention to be held until maturity and to earn any cashflows generated during the lifetime of the bond. These bonds are valued at amortised cost and are insulated from revaluation risk.

Banks continue to prefer to hold highly rated bonds with the share of bonds at investment grade from total investment portfolio being 95% for non-core domestic banks and 100% for both core domestic banks and international banks.

Figure 3.3
ASSESSMENT OF THE BOND PORTFOLIO

	Core domestic banks	Non-core domestic banks	International banks
Bonds as a share of total assets	28%	23%	0.2%
Bond held at AMC	84%	93%	100%
Bonds at investment grade (BBB- or better)	100%	95%	100%
Composition of bonds			



Source: Central Bank of Malta.

[8] The ECB publishes on its website an updated list with all eligible marketable assets.

In order to be used for CBC, bonds must be free from any active encumbrance, such as already being pledged for standard monetary policy operations or engaged in repurchase agreements. In December 2023, encumbered bonds represent 15% and 51% of bonds held by core and non-core domestic banks. Thus, core and non-core domestic banks may actively use 85% and 49% of bonds which are unencumbered. At the individual bank level, one core and three non-core domestic banks have a share of encumbered bonds exceeding 70%, with an additional 2 banks (one from each category) having a share of encumbered bonds exceeding 25%. A high share of encumbered bonds prevents banks from obtaining MRO and forces banks to go down further into the hierarchy of liquid assets and resort to scarcer and more costly options for raising liquidity in a timely manner.

As per the hierarchy, banks are assumed to first use their unencumbered bonds to obtain funding from the ESCB. As a share of total bonds, 69% of core and 20% of non-core domestic bonds are unencumbered and eligible for ESCB standard monetary policy operations. As at December 2023, the haircuts applied by the ECB on each instrument on the list of all eligible bonds ranged between -0.5% up to -47.1%, but due to the high rating of bonds held by core and non-core domestic banks, the weighted average haircut applicable to their eligible bonds is low at -3.5% and -4.1%, respectively.

The remaining bonds represent those which are unencumbered but ineligible and amount to 16% and 29% of total bond holdings. Under the assumptions of the test, these are assumed to be sold at fire-sale prices by applying haircuts that can range between 1% and 100%, depending on the rating of the bond and the sector of economic activity of the issuer.[9] The weighted average fire-sale haircut applicable to unencumbered but ineligible bonds held by core and non-core domestic banks amounts to -26% and -41%, respectively while only a few banks having instruments that attract a 100% haircut.

Combined, the CBC raised from bonds amounts to 23%, 8% and 0.1% of each bank category's total assets.

Bank-run scenario

The bank-run scenario adopted in the PDW framework targets each bank individually and requires them to withstand the assumed outflows on their own. Thus, it features an instantaneous 100% withdrawal of all credit lines and deposits with parent/subsidiaries as well as other credit institutions. It then assumes a steady and regular outflow from sight deposits and fixed term deposits maturing within the test horizon. In general, the PDW framework assumes a run-off of 10% of sight deposits and 25% of fixed term deposits maturing within the test horizon. The framework has now been enhanced with data that distinguishes the volume of deposits held on ODPs from retail deposits allowing for specific shocks targeting these deposits. Drawing from the financial turmoil observed in early 2023, it is assumed that clients using ODPs would have more direct access to their funds and thus a higher run-off rate of 30% is applied over the four-week period.

The following subsection assesses the composition of deposits and possible outflows that banks could experience in a bank-run scenario.

[9] The fire-sale rates have been calibrated on the basis of the market prices observed during the 2008 financial crisis adopted in the IMF's 2014 Financial Sector Assessment Programme for Austria. For more details refer to Box 2 of the FSR 2015.

Assessment of deposits

Table 3.3 shows to composition of deposits by sector as a share of total funding.

In the case of core domestic banks, household deposits represent the major share of total funding, at 65%. Adding deposits from NFCs and Financial Institutions to those of Households would comprise 87% of total funding. In the case of non-core domestic and international banks, household deposits represent a smaller share of funding at 38% and 37%, respectively. The majority of these deposits are however sourced via ODPs which, although originating from within the eurozone, are assumed to be relatively more volatile. Moreover, at 40% of the respective funding, these two bank categories have a higher share of deposits from financial institutions. Thus, the PDW scenario merits broadening its scope to assess any weaknesses of banks attributed to these factors by including higher withdrawal rates from deposits placed via ODPs, as these are deemed to be more easily accessible, and deposits placed by financials.

Table 3.3
SECTORAL DEPOSITS AS A SHARE OF TOTAL FUNDING FOR EACH BANK CATEGORY

Description	Core domestic banks	Non-core domestic banks	International banks
Total deposits	91%	88%	82%
Household deposits (total)	65%	38%	37%
Household deposits via ODPs	1%	36%	37%
NFCs	13%	10%	5%
Financial institutions	8%	40%	40%
Households and NFCs	79%	48%	43%
Households, NFCs and Financial Institutions	87%	88%	82%

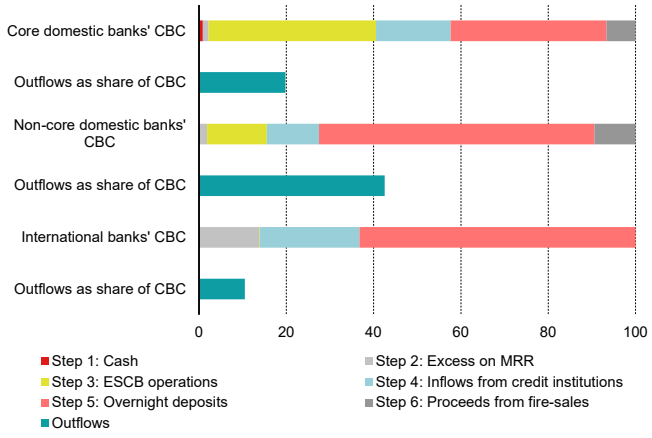
Source: Central Bank of Malta.

Results

Chart 3.6 shows the share of total outflows to CBC available for each bank category. The combined outflows of the bank-run scenario for December 2023 amount to 20%, 41% and 5% of CBC available to the respective category of banks.

Based on this scenario, core domestic banks would need to use cash, excess on the MRR and MRO financing (up to step 3 from the hierarchy), non-core domestic banks would dip further into overnight deposits (step 5) while international banks would draw on excess on MRR (step 2). Towards the end of the four-week

Chart 3.6
COMPOSITION OF CBC AND OUTFLOWS AS SHARE OF CBC
(per cent)



Source: Central Bank of Malta calculations.

test horizon, the respective bank categories would have depleted 20%, 43% and 11% of their CBC. This means that at the aggregate, bank categories have a further 80%, 57% and 89% of their CBC available at the end of the test allowing them to potentially withstand further withdrawals beyond the envisaged horizon.

At the individual bank level, two non-core domestic banks would run out of liquidity as the assumed scenario depletes completely their CBC. This would result in a shortfall that would translate into a direct impact on capital. Moreover, as explained above, this could result in a further impact from reduced profits and adjustment of RWAs. For these two affected non-core domestic banks, their aggregate Tier 1 capital ratio would drop by 5.38 percentage points due to this shortfall. The capital would deplete further by 0.92 percentage point when accounting for the impact of profits, and would adjust upwards by 0.30 percentage point when considering the impact of RWAs to reach an overall impact of 6.01 percentage points in total. The remaining banks would have between 30% and 93% of their original CBC still available at the end of the bank-run scenario, allowing them to withstand further withdrawals beyond the four-week horizon.

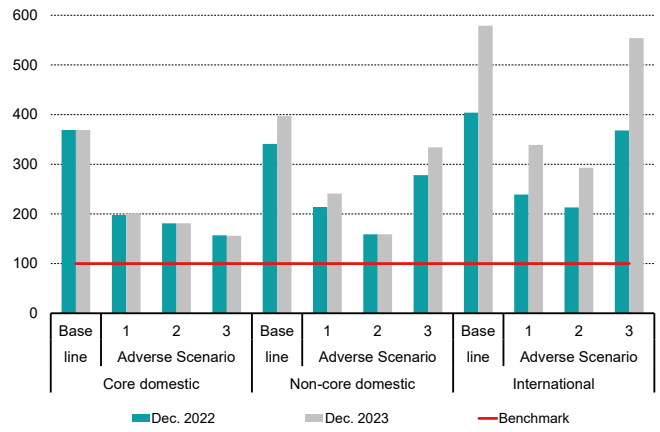
3.2.2 LCR framework

This framework evaluates banks' capacity to withstand periods of increased liquidity pressures assessed against the 100% minimum requirement for the LCR. The LCR is defined as the ratio of the buffer of HQLA to net liquidity outflows occurring over a 30-day horizon. The baseline scenario considers the haircuts for HQLA and inflow/outflow rates set out in the European Commission (EC) Delegated Regulation (EU) 2015/61. Adverse Scenario 1 targets higher outflows from those prescribed in the Regulation, while Adverse Scenario 2 builds upon it by pairing the higher outflows with withdrawals from term deposits fixed for a term exceeding the LCR's 30-day horizon. Adverse Scenario 3 reverts to the baseline and additionally assumes the full withdrawal of committed facilities. Under all scenarios, the HQLA buffer and inflows remain constant.

Table 3.4 provides a summary of all the scenarios considered in the LCR framework.

As at December 2023, the LCR for core domestic banks stood at 369% down from 380% compared to a year earlier, while non-core domestic and international banks report an increase from 340% to 397% and 403% to 579%, respectively. The increase in LCR for the latter two categories stems primarily from a higher volume of HQLA. Chart 3.7 presents the results of

Chart 3.7
STRESS TEST RESULTS – LCR RESULTS FOR ALL BANKS
(per cent)



Source: Central Bank of Malta calculations.

Table 3.4
DESCRIPTION OF LCR FRAMEWORK'S BASELINE AND ADVERSE SCENARIOS

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	Scenario 1 with additional withdrawals from both resident and non-resident time deposits
Scenario 3	Baseline scenario with full withdrawal of committed facilities to NFCs and households

Source: Central Bank of Malta.

the LCR framework for the three bank categories under the assumed scenarios for December 2023 and December 2022.

Under Adverse Scenario 1, the LCR declines by 168, 156, and 240 percentage points, to reach 200%, 241% and 338% for core domestic banks, non-core domestic banks and international banks, respectively. All three bank categories show a reliance on short-term funding due to the dip in the ratio under Adverse Scenario 1 which targets higher outflow rates for instruments within the 30-day time horizon. These outflows represent higher withdrawals which are driven mainly by retail deposits for core domestic banks, operational deposits for non-core domestic banks and non-operational deposits for international banks, representing 63%, 42% and 66% of the total volume of outflows, respectively.

Under Adverse Scenario 2, which combines withdrawals from resident and non-resident time deposits fixed for a term exceeding 30 days, the LCR dips further by a total of 188, 238, and 287 percentage points, to reach 181%, 159% and 292% for the respective bank categories.

Under Adverse Scenario 3, the LCR reaches 156%, 334% and 553% for core domestic banks, non-core domestic banks and international banks, dropping by 213, 63 and 26 percentage points, respectively. The results reflect the biggest impact on core domestic banks given their higher share of committed facilities, which represent 14.5% of total outflows in this scenario, while for non-core banks and international banks the withdrawal of all commitments represent only 5.7% and 1.4% of the respective outflows. Similar results are obtained under the NSFR's Adverse Scenario 4.

At an individual level, some banks would not be able to surpass the 100% requirement under at least one of the adverse scenarios, but this is mainly due the severity to the shocks applied to assess systemic risk. Should such a scenario materialise, the Regulation allows banks to temporarily operate below this requirement.

3.2.3 NSFR framework

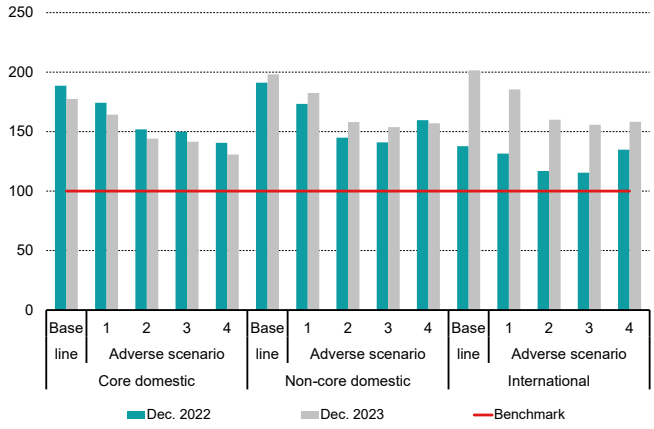
This framework aims to ensure that banks have a sustainable liquidity position over a longer time-horizon. It is based on the NSFR which is defined as the ratio of the Available Stable Funding to Required Stable Funding and must exceed the regulatory minimum of 100%. Regulation (EU) 2019/876 prescribes the factors to be applied to capital and liabilities to compose the ASF that will remain with the institutions for more than one year, as well as the factors to be applied to assets and off-balance sheet exposures to compose the RSF. The framework, which was introduced in the FSR 2021 is based on a baseline and four adverse scenarios.

The baseline scenario adopts the ASF and RSF factors as set in the regulation and serves also to monitor the NSFR as reported by banks. The four adverse scenarios are composed of different assumptions and components of the banks' ASF and RSF.

Table 3.5 contains a summary of all the scenarios considered in the NSFR framework.

Chart 3.8 shows the results of the NSFR framework for the three bank categories under the baseline and four adverse scenarios as at December 2022 and 2023. Core

Chart 3.8
STRESS TEST RESULTS – NSFR RESULTS FOR ALL BANKS
(per cent)



Source: Central Bank of Malta calculations.

Table 3.5
DESCRIPTION OF NSFR FRAMEWORK'S BASELINE AND ADVERSE SCENARIOS

Scenario	Description
Baseline	ASF and RSF factors as prescribed by Regulation (EU) 2019/876
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 becoming 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
Scenario 4	Baseline with full withdrawal of committed facilities to NFCs and households (similar to LCR adverse scenario 3)

Source: Central Bank of Malta.

domestic banks reported a decrease in their NSFR from 187% a year earlier, to 177% in December 2023, while that of non-core domestic banks and international banks increased from 191% to 198%, and from 137% to 202%, respectively.

The first three adverse scenarios build on each other, with Adverse Scenario 3 yielding the largest impact in December 2023 for all banks across the three categories due to the combination of shocks, particularly due to the increase in NPLs assumed in Adverse Scenario 2. Indeed, the results under Adverse Scenario 3 are only 2 to 4 percentage points lower than those for Adverse Scenario 2, with the NSFR dropping to 142%, 154% and 156% for the respective bank category.

Under Adverse Scenario 4, a full withdrawal of commitments is assumed over and above the baseline scenario. In this case, the NSFR for core domestic banks, non-core domestic banks and international banks would reduce to 131%, 157% and 158%, respectively. The stronger impact from the full withdrawal of commitments can also be noticed for core domestic banks from the results of the LCR framework under Adverse Scenario 3.

Overall, the divergence in results obtained under the NSFR adverse scenarios between December 2022 and 2023 is mainly attributed to the changes in the volume of ASF and RSF affecting the initial NSFR as reported by banks rather than the impact of the scenarios themselves. Indeed, there are only marginal variations between the impact of each scenario at the two reference dates, indicating a rather stable incremental need for RSF under the scenarios. The only exception is for the results of Adverse Scenario 4 for non-core domestic banks due to an increase in the volume of committed facilities which has more than doubled compared to the previous year, thereby adding higher needs for RSF under this scenario.

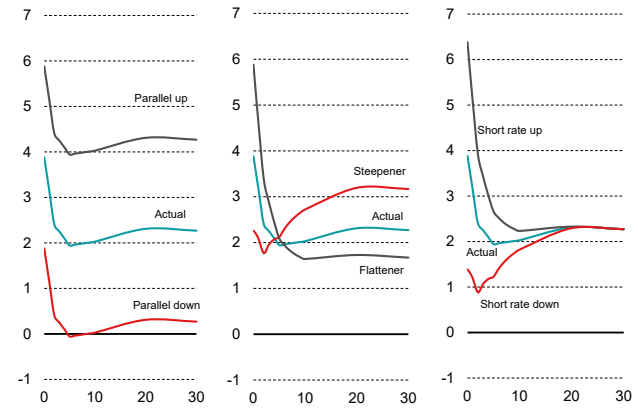
At an individual bank level, all banks are operating with excess liquidity and manage to retain an NSFR with ample margin above the 100% minimum requirement in all adverse scenarios.

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. The framework assesses the immediate impact of increases in interest rates to profitability via the NII and the revaluation of bonds held by banks measured at fair value, from different shocks to the yield curve depending on its shape.

To retain a comprehensive outlook on all possible changes to the yield curve, reference is made to all six scenarios prescribed in Annex 2 of the 2016 Basel Committee on Banking Supervision (BCBS) standards. These scenarios consist of a *parallel shift upwards* and *downwards* of the yield curve as at the reference date, an *increase* and a *decrease in the short rate* end of the curve and two composite shifts in the short and long-term rates referred to as the *steepener* and *flattener* scenarios. All six scenarios affect the term structure of the yield curve and differ in terms of the currency in which the instruments are denominated. The exercise focuses only on EUR, GBP and USD as the material currencies in which the banking book is denominated, the latter two being the most relevant non-EUR currencies for all three banking categories. Indeed, 99%, 98% and 88% of the banking book of core domestic, non-core domestic banks and international banks is denominated in these three currencies, with EUR being the most relevant currency representing 95%, 78% and 79% of the banking book of these three bank categories, respectively. Chart 3.9 shows the shift in the EUR term structure under the six different tested scenarios as at December 2023. The GBP and USD yield curves would experience similar shifts under the respective scenarios.

Chart 3.9
STRESS TEST SCENARIOS – CHANGE IN THE EUR TERM STRUCTURE OF INTEREST RATES UNDER THE 6 BCBS SCENARIOS
(per cent)



Sources: Central Bank of Malta calculations; BCBS.

By design, the test assesses the impact of interest rate risk over a one-year horizon. A static balance sheet approach is considered whereby maturing instruments are rolled over with similar instruments having similar characteristics but at the prevailing yield, while no impact is assumed on demand for credit or deterioration in asset quality from higher debt servicing costs via additional NPLs, thus maintaining consistency in the loan portfolio composition. To note that the IRRBB framework applies the interest rate changes directly to the interest-bearing loans and deposits' reference rate. For most banks, the reference rate on loans is determined internally, i.e. a base rate as a margin over the deposit rates, while some rates, especially for NFC loans, are linked with the market rates. Nonetheless, pass through of policy rates in MT is quite limited, thus despite the increases in the ECB's key interest rates since July 2022, interest rates charged and earned on deposits and loans respectively remained rather consistent.

Table 3.6 presents the impact on the three bank categories' Tier 1 capital ratios from changes in NII and bond revaluations under the three scenarios, after applying the corporate tax rate of 35% on banks' profits.[1]

Based on the balance sheet composition in December 2023, the respective bank categories are reducing their holdings of bonds at fair value to 17%, 8% and 0% from 30%, 8% and 46% in December 2022. Indeed, international banks do not register any revaluation changes as they do not hold any bonds at fair value.

The scenarios featuring short-term increases in interest rates, namely: parallel up, flattener and short rate up, yield positive results for all three bank categories. The most positive impact is experienced under the short rate up scenario under which the Tier 1 capital ratio increases by +2.81 and +1.67 percentage points for core and non-core domestic banks under the short rate up, respectively and by +2.56 percentage points for international banks under the parallel up scenario. Conversely, the scenarios featuring drops in

[1] 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. Revaluations for FVOCI are not subject to taxes but charged directly to capital.

Table 3.6
STRESS TEST RESULTS – IRRBB FRAMEWORK – RELATIVE IMPACT OF CHANGES IN INTEREST RATES ON THE TIER 1 CAPITAL RATIO
(per cent)

		Core domestic	Non-core domestic	International banks
Initial Tier 1 capital ratio		20.95	20.36	38.23
Parallel up	*NII*	*2.49*	*1.59*	*1.92*
	Revaluations	*-0.50*	*-0.44*	*0.00*
	Post-shock Tier 1 capital ratio	22.93	21.50	40.14
Parallel down	*NII*	*-1.99*	*-1.58*	*-1.76*
	Revaluations	*0.59*	*0.73*	*0.00*
	Post-shock Tier 1 capital ratio	19.55	19.50	36.46
Flattener	*NII*	*2.35*	*1.39*	*1.82*
	Revaluations	*-0.09*	*0.09*	*0.00*
	Post-shock Tier 1 capital ratio	23.21	21.83	40.04
Steepener	*NII*	*-1.51*	*-1.13*	*-1.36*
	Revaluations	*0.02*	*-0.15*	*0.00*
	Post-shock Tier 1 capital ratio	19.46	19.08	36.87
Short rate up	*NII*	*2.95*	*1.74*	*2.28*
	Revaluations	*-0.24*	*-0.08*	*0.00*
	Post-shock Tier 1 capital ratio	23.65	22.01	40.50
Short rate down	*NII*	*-2.34*	*-1.76*	*-2.10*
	Revaluations	*0.27*	*0.09*	*0.00*
	Post-shock Tier 1 capital ratio	18.88	18.69	36.13

Source: Central Bank of Malta calculations.

short-term interest rates yield a negative impact on NII. The least positive impact is experienced under the short rate down scenario, where the Tier 1 capital ratio drops by -2.15, -1.68 and -2.36 percentage points for the respective category of banks.

4. INSURANCE COMPANIES AND INVESTMENT FUNDS

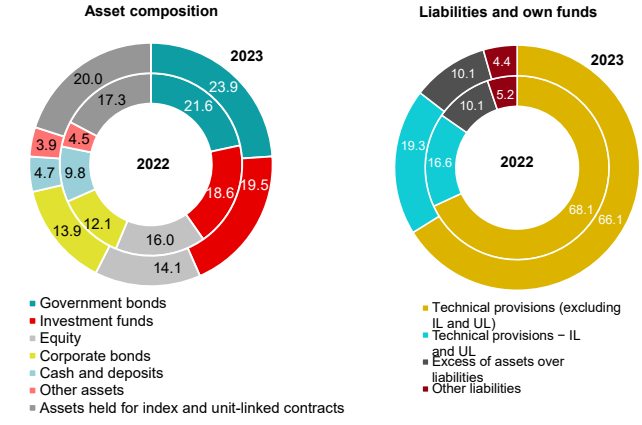
4.1 Domestic insurance companies

In 2023, the assets of domestically-relevant insurers increased by 1.5% to €3.7 billion, equivalent to 19.1% of GDP. This growth primarily stemmed from the improved performance of the four life insurance companies, whereas the remaining six, specialising in non-life insurance, observed a slight decrease in their total assets.[1] The total number of licensed insurance companies in Malta stood at 67, as one insurer surrendered its license while two others merged.

4.1.1 Domestically-relevant life insurance companies

Throughout 2023, the life insurance sector demonstrated a modest recovery, with the overall balance sheet increasing by 1.8% to €3.1 billion, which is equivalent to 16.2% of GDP (see Chart 4.1). This growth was driven by both IL and UL contracts, where assets held on behalf of such contracts increased by 17.5% to almost €630 million. The performance of these linked contracts is subject to fluctuations, depending on the underlying investment, with policyholders bearing all investment risks. This differs from other life insurance products, where insurers provide guarantees of some return or coverage, therefore absorbing part of the risk related to financial market developments. Consequently, the risks inherent in these two contract types differ, highlighting the importance of analysing these instruments separately. Meanwhile, other assets, thus excluding index and unit-linked holdings, amounted to €2.6 billion, reflecting a 2.1% decrease compared to the previous year.

Chart 4.1
LIFE INSURANCE SECTOR BALANCE SHEET
(per cent)

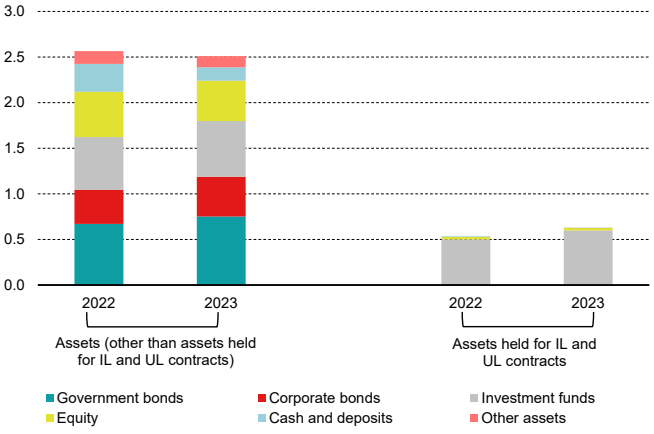


Source: Central Bank of Malta.

Assets held for index and unit-linked contracts

The majority of assets allocated for IL and UL contracts are mainly invested in investment funds, making up approximately 95% of these investments. The rest are distributed among equities and, to a lesser extent, government and corporate bonds (see Chart 4.2). The value of investment funds for these contracts rose by 20.3%, primarily driven by euro area and domestic debt funds. However, most of the investments within these funds were concentrated in euro area equity funds.

Chart 4.2
LIFE INSURANCE SECTOR ASSET COMPOSITION
(EUR billions)



Source: Central Bank of Malta.

[1] Two of these companies hold composite licenses, enabling them to offer life insurance products, although their life insurance operations represent less than 5% of their total gross written premia.

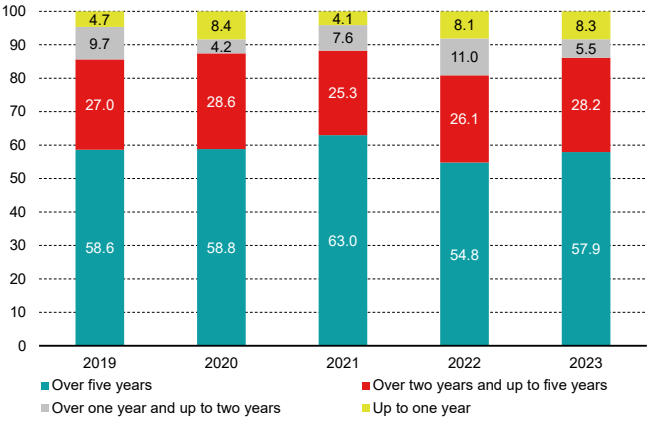
Other assets (excluding index and unit-linked holdings)

Other assets, excluding those held for index and unit-linked contracts, comprised of holdings for other classes of life insurance or assets directly held on their own behalf. Roughly 47% of these assets are invested in fixed-income securities (see Chart 4.2). As interest rates continued to rise through most of 2023, life insurers increased further their allocations to government and corporate bonds to secure higher yields. They took into consideration the potential of future interest rate cuts, which occurred in the first half of 2024. Investments in sovereign bonds surged by 12.1%, primarily due to additional investments in MGS, which comprised around one-third of the sovereign bond portfolio, while exposure to corporate bonds also grew by 16.6% over the previous year.

Due to the long-term nature of life insurance contracts, insurers tend to favour long-term bonds to match their liabilities (see Chart 4.3). In 2023, there was a 3.1 percentage-point increase in bond holdings maturing over five years, and a 2.1 percentage-point increase in bonds maturing between two and five years. Conversely, shorter-dated bond holdings decreased, comprising only 14% of total bond holdings. These changes led to an increase in the estimates of modified duration to 5.7% by December 2023, partly reversing the decline observed in 2022 (see Chart 4.4).

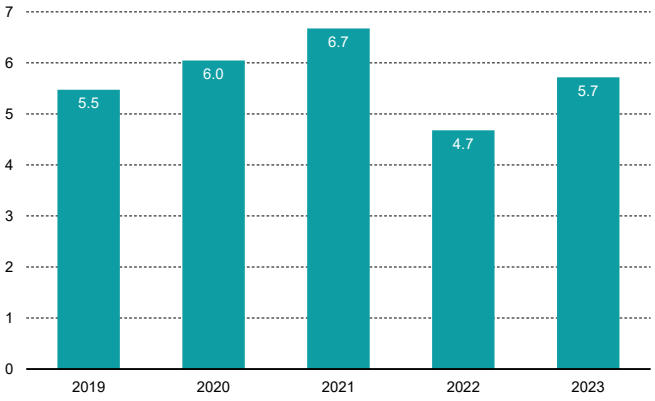
The quality of the bond portfolio of life insurers continued to strengthen, characterised by significant increases in medium-rated holdings. As a result, medium and high-rated bonds made up more than two-thirds of the entire portfolio (see Chart 4.5). This improvement was evident in both corporate and sovereign bond portfolios.

Chart 4.3
LIFE INSURANCE SECTOR – OUTSTANDING MATURITY STRUCTURE
(per cent of total bond holdings)



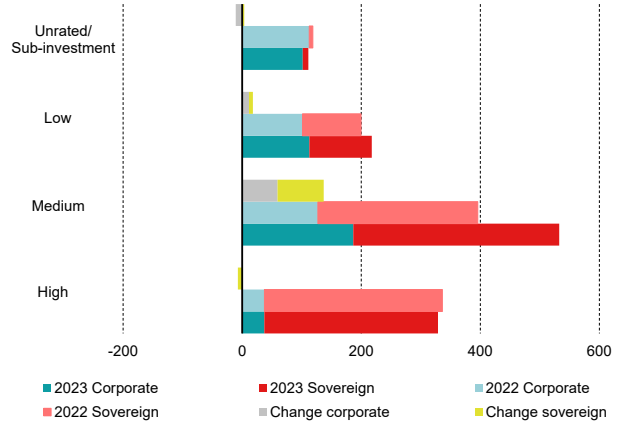
Source: Central Bank of Malta.

Chart 4.4
MODIFIED DURATION: BOND PORTFOLIOS IN THE LIFE INSURANCE SECTOR
(per cent)



Source: Central Bank of Malta.

Chart 4.5
BOND PORTFOLIO – INVESTMENT RATINGS - LIFE INSURANCE SECTOR
(EUR millions)



Source: Central Bank of Malta.

Approximately half of the corporate bond portfolio consisted of high and medium-rated bonds, with exposure to sub-investment grade bonds also decreasing. The sovereign bond portfolio also witnessed improved credit ratings, with higher allocations to high and medium-rated bonds, making up most of this portfolio.

Moreover, investments in fund holdings increased by 5.8%, accounting for approximately 24% of overall assets when excluding those pertaining to UL and IL contracts. This increase primarily resulted from higher investments in euro area debt funds, further indicating a preference for fixed-income investments amidst changing market dynamics. Despite the recovery in the equity market in 2023, equity investments decreased by 10.9%, mainly in US and euro area NFCs, which however continued to represent the bulk of equity holdings. Domestic equities rose to approximately one-fifth of their equity portfolios, primarily consisting of NFCs and banks shares.

The outlined investment strategies led to a significant decrease in cash holdings, which halved by the end of the year, to stand at 5.8% of these assets. Additionally, life insurers continued to maintain a nominal allocation in alternative assets such as collateralised securities, real estate, mortgages, and loans, which collectively represented just around 4.9% of their overall asset composition.

Liabilities and own funds

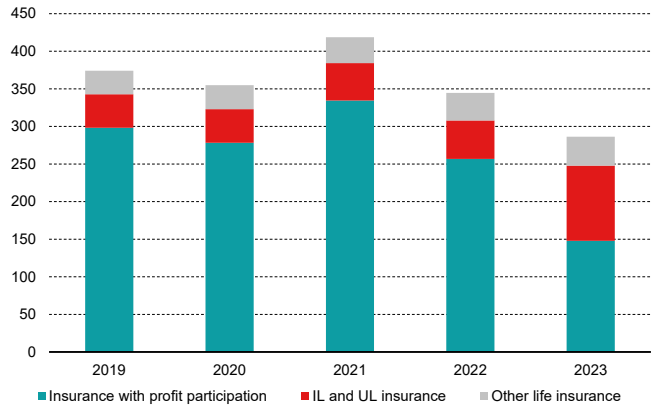
By December 2023, technical provisions reserved for IL and UL contracts rose to slightly over €600 million, constituting roughly one-fifth of total liabilities (see Chart 4.1). Although the bulk of technical provisions continued to be allocated for other life insurance activities, these decreased to €2.1 billion, dropping below two-thirds of the overall liabilities. The excess of assets over liabilities remained relatively stable slightly above €300 million, representing approximately one-tenth of the liabilities, and forming the regulatory own funds as defined in the Solvency II Directive.[2]

Gross written premia and claims

In 2023, there was a further decline in gross written premia, down by 16.9%, primarily attributed to a sharp decrease of 42.4% in 'insurance with profit participation' products (see Chart 4.6). Although these products still accounted for most life insurance premia, their share in overall premia fell from 79.9% to 51.6% in just two years. This decline directly resulted from prevailing adverse economic conditions affecting insurance consumers, particularly the impact of high inflation on their real investment returns and disposable income. Higher yielding bonds and other financial products also diverted demand from traditional life insurance products. However, such decline in 2023 was partially offset by a substantial increase in 'IL and UL' products, which nearly doubled from the previous year. These products, potentially offering higher returns as interest rates rise, might appeal more to consumers. Additionally, 'other life insurance products,' such as mortgage life insurance, rose by 4.9%, reflecting the sustained growth in mortgages.

In 2023, there was an 8.5% decrease in gross claims incurred, amounting to almost €340 million. While the majority of claims originated from 'insurance with profit participation' products, the primary factor behind this decrease was the lower claims incurred related to 'other life insurance products'.

Chart 4.6
GROSS WRITTEN PREMIUM OF THE DOMESTIC LIFE INSURANCE SECTOR BY LINE OF BUSINESS
(EUR millions)



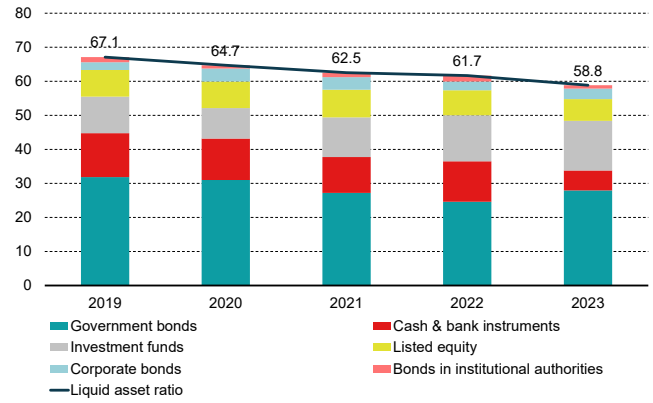
Source: Central Bank of Malta.

[2] Total eligible own funds under the Solvency II comprise the excess of assets over liabilities, in addition to other eligible forms of funds that adhere to Tier 2 and Tier 3 capital definitions.

Liquidity and capital

This edition of the *Financial Stability Report* introduces a revised methodology for measuring the liquid asset ratio, improving liquidity risk monitoring for the domestically-relevant insurance sector (see Box 4).[3] Based on the updated methodology, the liquid assets ratio of the life sector decreased by 2.8 percentage points to 58.8%, primarily due to the previously mentioned reduction in cash holdings (see Chart 4.7). The liquid asset ratio exhibits significant variability among individual companies, reflecting inherent heterogeneity.

Chart 4.7
LIQUID ASSET RATIO OF THE LIFE INSURANCE SECTOR
(per cent)



Source: Central Bank of Malta.
Note: Chart shows life insurance sector's asset holdings post-liquid asset ratio methodology.

Life insurers consistently maintained strong capital buffers, boasting an overall Solvency Capital Requirement (SCR) coverage ratio of about 220%, marking a significant improvement of almost 40 percentage points from December 2022. Although the degree of improvement varied, all insurers remained well-capitalised, surpassing regulatory requirements. Furthermore, the quality of own funds remained robust, primarily comprising of Tier 1 capital, the highest-quality category. This underscores the sector's substantial capital reserves, enabling it to absorb losses in the event of adverse shocks.

Profitability

While performance varied among companies, the life insurance sector maintained its overall profitability, registering 0.7% in terms of ROA.[4,5] Life insurers remained profitable from an underwriting perspective, as evidenced by the positive insurance service result reported. This includes revenue generated from underwriting activities, net of insurance services expenses, including claims. Additionally, companies reported significant investment returns. However, these gains were overshadowed by other financial expenses, particularly net finance expenses from insurance contracts, highlighting the sector's sensitivity to interest rate fluctuations. As significant holders of fixed-income instruments, life insurers incurred substantial mark-to-market losses due to higher interest rates. Nevertheless, going forward, higher yields offer the prospect of improved returns on future investments, potentially benefiting the sector in the long term.

4.1.2 Domestically-relevant non-life insurance companies

The aggregate balance sheet of non-life insurance companies contracted by 0.4% to reach €562 million, equivalent to 2.9% of GDP.

Asset composition

The balance sheet contracted primarily due to a 40.2% decrease in recoverables and receivables, resulting in their share of overall assets to drop by more than 9 percentage points to 13.7% (see Chart 4.8). Otherwise, non-life insurers saw substantial investment growth, notably driven by a nearly 30% surge in bonds, to account for 16.8% of total assets. The latter stemmed from increased investments in government bonds, notably within the euro area and MGS, as well as a rise in corporate bond holdings, particularly those issued

[3] This change has resulted in a break in series from the previous methodology, making the figures reported in previous reports not comparable.
[4] The profitability figures for 2023 are not comparable to those of 2022 due to a change in accounting treatment, primarily stemming from the adoption of IFRS 17 for most of the insurances covered.
[5] This profitability analysis excludes one life insurance company that did not submit its December 2023 IFRS17 returns in time for inclusion in this *Report*.

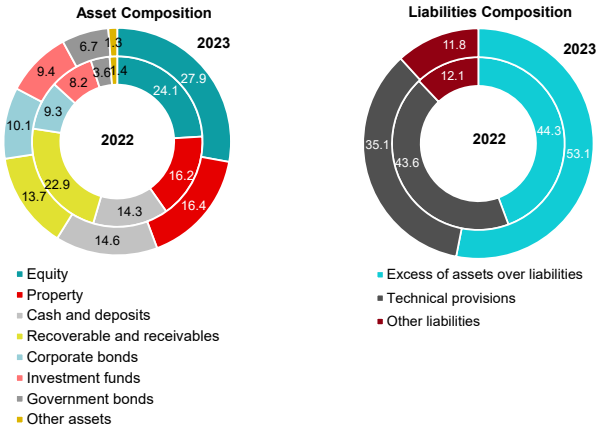
by financial institutions situated outside the euro area. Additionally, equity portfolios also grew by 15.3%, primarily due to positive valuation effects. Furthermore, non-life insurers increased their allocation in investment funds by 13.4%, now making up 9.4% of total assets.

Non-life insurers are increasingly favouring shorter-maturity bonds due to their higher liquidity and resilience against interest rate fluctuations, which aligns with the shorter-term nature of their liabilities and cash flow requirements. In 2023, bond holdings with maturities of over five years decreased by 9 percentage points, while those maturing between two and five years dropped by 10 percentage points. Conversely, shorter-term bonds grew by 19 percentage points, with the majority maturing within one year (see Chart 4.9). This shift led to a decline in modified duration estimates for the third consecutive year to 3.1% by end 2023 (see Chart 4.10).

Non-life insurers continued to enhance the credit quality of their bond portfolios. Notably, corporate bond portfolios have improved with a higher allocation of high-rated bonds, leading to high and medium-rated bonds to account for approximately 40% of the corporate bond portfolio. Moreover, sovereign bond portfolios have experienced even more significant improvements, witnessing a doubling in holdings of high and medium-rated bonds thus becoming the predominant share of sovereign bond portfolios.

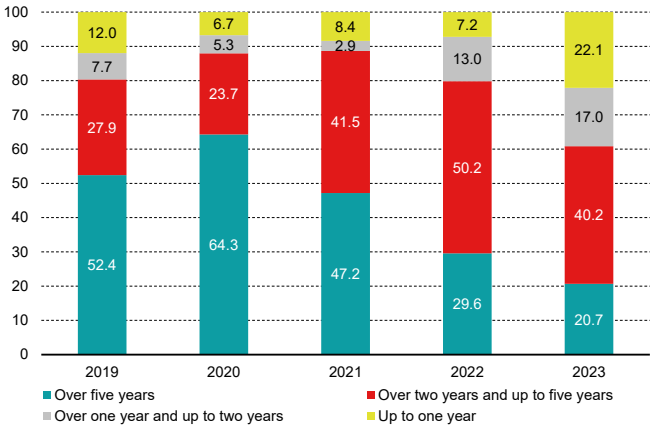
Cash and deposits rose to 14.6% of total assets, while exposure to property rose slightly to 16.4%. Other assets decreased to just 1.3% of total assets.

Chart 4.8
NON-LIFE INSURANCE SECTOR BALANCE SHEET ANALYSIS
(per cent)



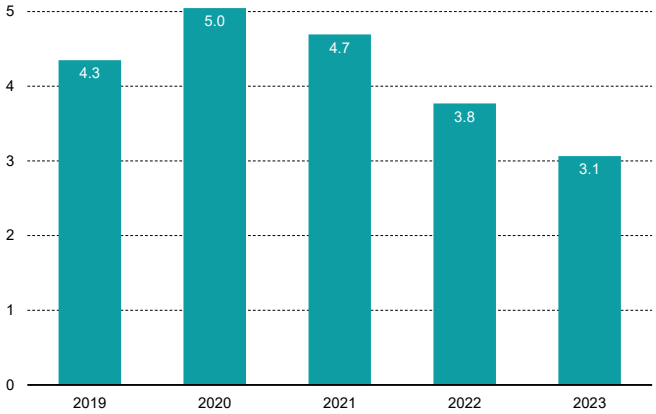
Source: Central Bank of Malta.

Chart 4.9
NON-LIFE SECTOR – OUTSTANDING MATURITY STRUCTURE
(per cent of total bond holdings)



Source: Central Bank of Malta.

Chart 4.10
MODIFIED DURATION: BOND PORTFOLIOS IN THE NON-LIFE INSURANCE SECTOR
(per cent)



Source: Central Bank of Malta.

Liabilities and own funds

By the end of 2023, technical reserves stood at €197.5 million, representing 43.6% of the balance sheet, with other liabilities accounting for almost another 12% (see Chart 4.8). The excess of assets over liabilities approached €300 million, reflecting the regulatory own funds delineated in the Solvency II Directive, which represented more than half of the balance sheet.

Gross written premia and claims

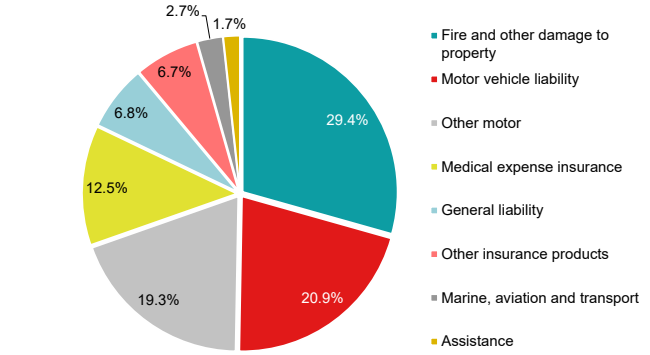
In 2023, the non-life insurance sector recorded a substantial 16.6% surge in gross written premia, reaching €351 million. This growth was reported across all business lines, with property damage insurance notably leading the way, increasing by 17.6% to represent 29.4% of total sector premia. This largely reflected the interest in the property market (see Chart 4.11). Motor-related categories also grew significantly by 12.8%, remaining the largest business line at 40.3% of gross written premia.[6] Additionally, notable growth was observed in medical expense insurance and miscellaneous financial loss lines of business. Overall, the composition of gross written premia remained largely unchanged, due to the consistent growth across all lines of business.

Additionally, the non-life business improved its underwriting performance with reduced gross claims, resulting in a decline in the payout ratio from 48.0% in December 2022 to 30.4% in December 2023. The most significant reduction occurred in fire and other property damage insurance, mainly due to lower provisions, leading to a 44 percentage-point decrease in its payout ratio (refer to Chart 4.12). The highest payout ratio was observed in medical expense insurance, increasing by 3.6 percentage points, with nearly 54% of premia disbursed as claims. Meanwhile, the payout ratio for motor vehicle liability stood at 43.5%, marking a 10 percentage-point improvement from the previous year.

Liquidity and capital

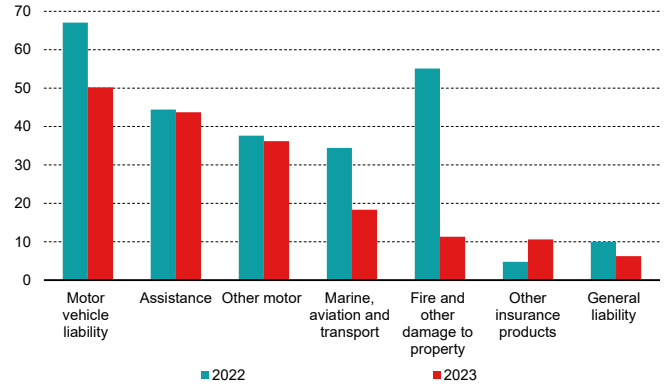
In view of these developments, the non-life sector's liquid asset ratio improved by 3.3 percentage points, reaching 29.6% with the updated methodology. This improvement was primarily driven by the higher holdings of sovereign bonds, units

Chart 4.11
GROSS WRITTEN PREMIUM OF THE DOMESTIC NON-LIFE INSURANCE SECTOR BY LINE OF BUSINESS
(per cent)



Source: Central Bank of Malta.
Note: Solvency II Reporting. Other insurance products include workers' compensation, income protection, miscellanous financial loss, other life insurance and profit participation, IL and UL insurance.

Chart 4.12
NON-LIFE INSURANCE SECTOR: GROSS PAYOUT RATIO BY LINE OF BUSINESS
(per cent)



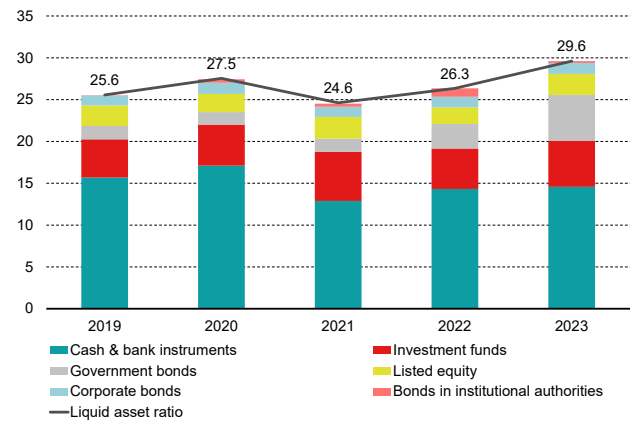
Source: Central Bank of Malta.
Note: Solvency II reporting. Other insurance products include income protection, miscellaneous financial loss and workers' compensation insurance.

[6] The difference between motor vehicle liability insurance and other motor insurance lies in their coverage. "Motor vehicle liability insurance" covers liabilities arising from motor vehicle accidents, encompassing bodily injury and property damage to third parties. In contrast, "Other motor insurance" focuses on protecting the vehicle itself, covering damages or loss incurred, but does not cover liability for accidents caused to others.

in investment funds, and listed equity (see Chart 4.13). Nonetheless, cash and deposits continued to account for the bulk of liquid assets. In the non-life sector as well, significant variability in the liquid asset ratio is observed among individual companies.

Non-life insurers maintained a robust capital position, with a SCR coverage ratio of almost 243%, marking a 3.8 percentage-point increase from December 2022. This ratio significantly exceeded regulatory standards, underscoring the high quality of eligible own funds, primarily held in Tier 1 capital.

Chart 4.13
LIQUID ASSET RATIO OF THE NON-LIFE INSURANCE SECTOR
(per cent)



Source: Central Bank of Malta.
Note: Chart shows non-life insurance sector's asset holdings post-liquid asset ratio methodology.

Profitability

In 2023, the non-life insurance sector remained profitable, with a robust ROA of 9.9%, despite some variations among the entities considered.[7] The main contributor to this profitability was the core underwriting activities, where insurance revenue exceeded both related insurance expenses and reinsurance costs. Moreover, the sector registered positive investment returns, which were partly offset by other financial expenses, further bolstering its performance.

4.1.3 Risk outlook

Throughout 2023, the insurance sector was confronted with a complex risk landscape. Domestically-relevant life insurance companies saw growth in their balance sheet due to improved performance. However, the sustained decline in gross written premia revealed shifting customer behaviour amidst rising interest rates. Despite a marginal decline in balance sheets, non-life insurers witnessed growth in investment portfolios and strong growth in written premia.

In 2024, the domestic economy is expected to remain resilient. However, global capital markets present a mixed outlook, with expectations of moderate growth alongside continued volatility. Inflationary pressures and geopolitical uncertainties remain significant challenges, prompting insurers to stay vigilant in managing risks while actively seeking growth opportunities. Adequate pricing is essential for effectively stimulating demand for general business products and achieving satisfactory returns. In the life sector, ongoing competition for liquidity is expected to persist from other financial institutions, as well as from other sectors and government debt issuances. Meanwhile, adapting product offerings to meet evolving customer needs and seizing growth opportunities across various areas, such as closing the climate protection gap, are essential steps in effectively tackling the climate challenge while at the same time foster growth in written premia. This entails developing insurance contracts that provide coverage for climate-related risks and losses, while promoting adaptation and reducing vulnerability to climate-related catastrophes. Ultimately, strategic alignment with such societal needs and proactive measures to address the industry's trust deficit are crucial for ensuring long-term sustainability and relevance in an ever-evolving landscape.

4.2 Domestically-relevant investment funds

During 2023 the overall assets for domestically-relevant sub-funds rose by 3.2%, registering the first positive year-on-year growth in two years. Standing at €1.6 billion, the assets under management (AUM) of these funds were equivalent to 8.1% of GDP. The composition remained the same where one of the domestically-relevant

[7] This profitability analysis excludes one non-life insurance company that did not submit its December 2023 IFSR 17 returns in time for inclusion in this *Report*.

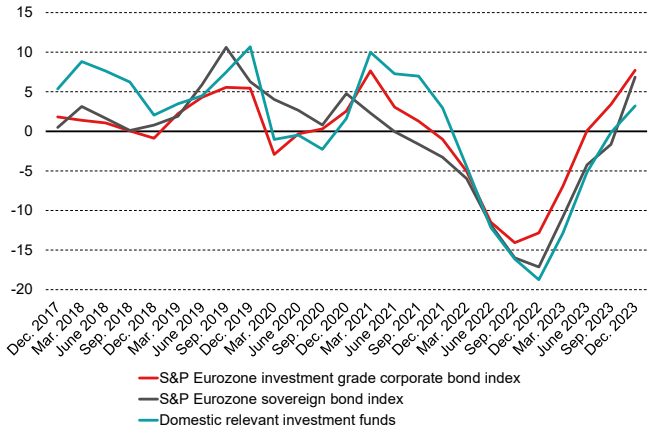
funds was licensed as a Professional Investor Fund (PIF) with the rest as retail Undertakings for the Collective Investment in Transferable Securities (UCITS).

The robust recovery was driven mainly by the substantial gains registered across financial markets. Both the Euro Stoxx 600 and the S&P 500 saw historical increases during the period, showing significant resilience to the confluence of events, including the banking turmoil in the US and Switzerland in March 2023. The positive results in the bond market also contributed significantly to the recovery of the domestically-relevant investment funds. Notably, both euro area corporate and sovereign bond indices experienced substantial increases during the period (see Chart 4.14). Growth was driven by the slowdown in inflation, which brought with it an anticipation of monetary policy easing in the near term.

Developments by fund strategy

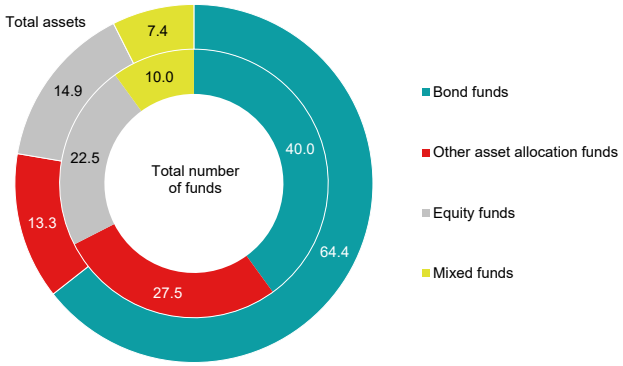
Due to positive trends in the market, the assets of equity funds experienced a substantial surge of 18.7%, marking the most significant increase among the various sub-fund strategies. However, their share in the domestically-relevant investment funds' assets remained contained at approximately 15%. Concurrently, mixed funds also demonstrated significant growth, rising by 15.0%, while other asset allocated funds rose by 8.7%. Such strategies accounted for 7.4% and 13.3% of the overall portfolio, respectively (see Charts 4.15 and 4.16). Meanwhile, bond funds which accounted for almost two-thirds of the overall assets, contracted by 1.9%. This was largely due to higher-than-average redemptions experienced by one large bond fund, as otherwise the remaining bond funds reported an increase in their overall assets.

Chart 4.14
PERFORMANCE SELECTED INDICES
(year-over-year; per cent)



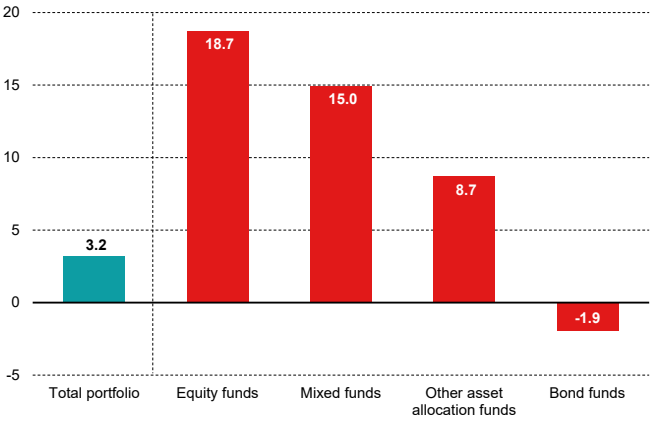
Sources: S&P; Central Bank of Malta.

Chart 4.15
DOMESTIC INVESTMENT FUNDS BY MAIN STRATEGY AS AT DECEMBER 2023
(per cent)



Source: Central Bank of Malta.

Chart 4.16
CHANGES IN OVERALL ASSETS BY MAIN STRATEGY
(per cent)

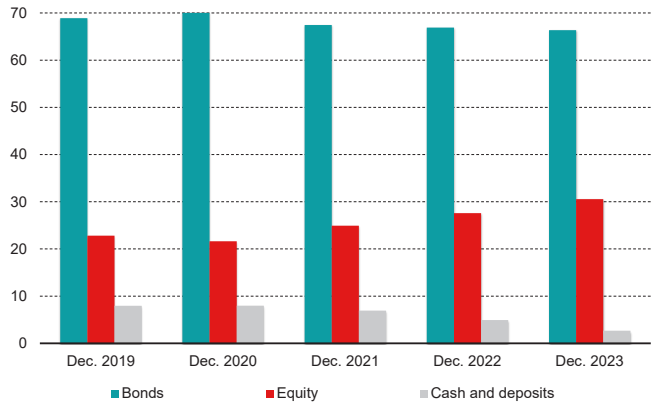


Source: Central Bank of Malta.

4.2.1 Asset composition and investment strategies

By December 2023, the share of bonds in the overall portfolio decreased by half a percentage point, reaching 66.3% of assets (see Chart 4.17). While this marked the lowest share for fixed income securities in the last five years, the decline was less pronounced compared to previous years, as holdings rose by 2.4%, mainly reflecting the recovery in bond prices in the last quarter of the year. Such growth largely reflected increased holdings by mixed and other asset allocation funds. Concurrently, exposure towards equities continued to increase at a sustained rate to represent just above 30% of the overall share in the securities portfolio. Meanwhile, cash and deposits dropped by 2.2 percentage points, standing at 2.7% of overall assets (see Section 4.2.3).

Chart 4.17
ASSETS COMPOSITION OF THE DOMESTICALLY-RELEVANT INVESTMENT FUNDS
(per cent)



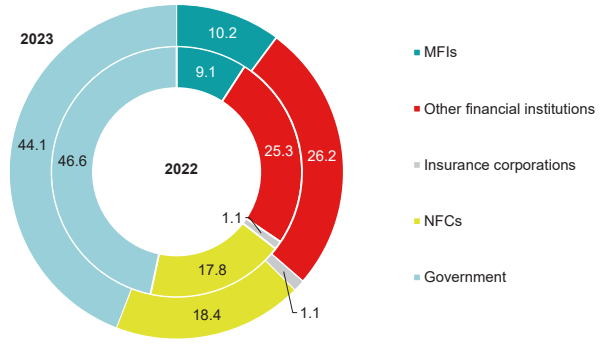
Source: Central Bank of Malta.

Bond holdings

While the bond portfolios expanded, there were mixed developments across the different types of fixed-income securities. Indeed, sovereign bond holdings decreased by 3.0%, shaving 2.5 percentage points of their share in the bond portfolio to 44.1% (see Chart 4.18). Such drop was driven by lower holdings of domestic sovereign bonds, which fell by 6.7%. However, the bond portfolio remained largely skewed towards MGS, accounting for more than four-fifths of sovereign bond holdings.

Meanwhile, foreign sovereign bond holdings increased, with those issued by euro area countries up by 22.1%, while those outside the euro area rising by 19.2%, to account for 6.2% and 11.2% of the overall sovereign bonds, respectively. Bonds of financial corporations, which comprises assets from OFIs, monetary financial institutions (MFIs), and insurance companies, increased by over 8% to 37.2% of the overall bond portfolio. The largest increase was observed in the holdings of bank bonds, which rose by 14.1%, with Maltese banks representing around half of such holdings by December 2023. Otherwise, the increase in OFIs was more contained at 6.2%, while bonds issued by insurance companies remained limited to around 1% of the bond portfolio, largely relating to insurance companies situated in other euro area countries. Holdings of NFC bonds increased by 5.3%, to reach about 18% of the overall bond portfolio. The exposure remained largely towards assets issued in other euro area countries and the US, while domestic bonds accounted for 26.0% of the NFC fixed-income securities.

Chart 4.18
BOND HOLDINGS COMPOSITION OF DOMESTICALLY-RELEVANT INVESTMENT FUNDS
(per cent)



Source: Central Bank of Malta.
Note: Other financial institutions includes OFIs, financial auxiliaries and CFIML.

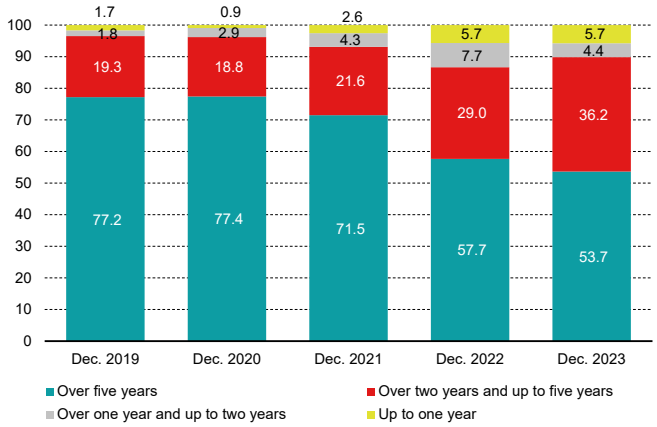
Overall, the bond portfolio continued to exhibit a strong connection to the domestic economy, which represented approximately 60% of debt securities, primarily driven by investments in MGS. Additionally, about 18% of the bonds reflected exposure to other euro area countries. The remaining portion consisted of bonds issued by entities located outside the euro area, with a significant dominance of US bonds.

Throughout 2023, investment managers continued to shed bonds with long term maturities, with the share of such bonds decreasing to 53.7% (see Chart 4.19). Meanwhile, the new allocations were mostly concentrated in medium-dated bonds, with the share of bonds maturing between two and five years rising by 7.2 percentage points to 36.2%. This movement was probably influenced by market sentiment, which perceived that the worst of the market correction for fixed-income bond securities had already been surpassed. In contrast, the combined share for shorter-dated bonds, defined as those with maturity of 2 years and below, declined by 3.2 percentage points to 10.1%. The estimates for the modified duration decreased consistently until June 2023 before rebounding to a level like the previous end-year, standing at 5.4% by December 2023 (see Chart 4.20).

Equity holdings

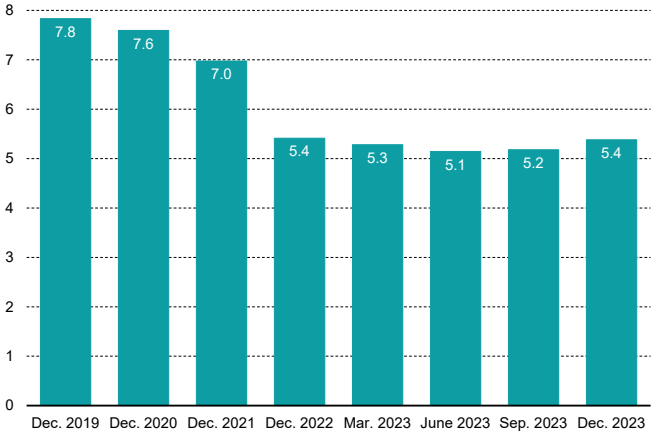
The rally in the equity market throughout 2023 was reflected in a sharp increase in values of almost 15%. This growth was primarily driven by a significant rise in bank stocks, reflecting both price gains and increased holdings, which surged by a 49.3%, reaching 17.5% of the overall equity portfolio (see Chart 4.21). Meanwhile, NFC equities also registered positive results as they increased by

Chart 4.19
OUTSTANDING MATURITY STRUCTURE
(per cent of NAV)



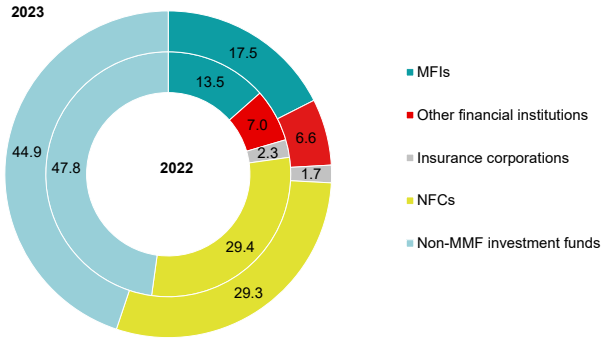
Source: Central Bank of Malta.

Chart 4.20
MODIFIED DURATION OF THE PORTFOLIO
(per cent)



Source: Central Bank of Malta.

Chart 4.21
EQUITY HOLDINGS COMPOSITION OF DOMESTICALLY-RELEVANT INVESTMENT FUNDS
(per cent)



Source: Central Bank of Malta.
Note: Other financial institutions include OFIs, financial auxiliaries and captive financial institutions and money lenders.

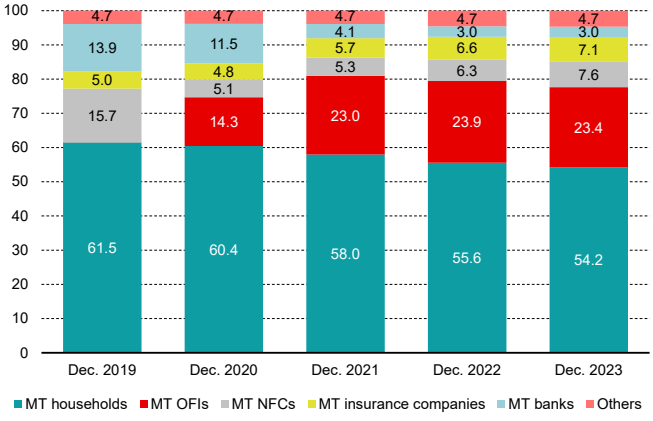
14.5%, to maintain their share steady at around 29%. Holdings of securities of other financial institutions rose at a slower pace of 8.1%, with their share decreasing by 0.4 percentage point to 6.6%. At the same time, insurance corporations' stocks' share decreased by 0.6 percentage point, remaining limited to just 1.7% of the portfolio. Although holdings in other non-MMF investment funds rose by 7.7%, their share in the overall equity holdings declined by almost 3 percentage points to a substantial 44.9%. More than one third of the exposures towards non-MMFs were in bond funds, mostly euro area-based funds, hence reinforcing the strong correlation between the fixed-income security markets and the overall domestically relevant investment funds portfolio.

In terms of geographic exposure, holdings of domestic equities increased by 13.7%, driven mainly by the higher exposure to Maltese banks. Nonetheless, the overall share remained relatively stable at 40.0% of the equity portfolio. Securities issued by other euro area entities also grew by 10.5%, yet their overall share declined by 1.8 percentage points to 45.7% of the total. This reflected a notable increase of 55.7% in equities, mainly issued by US firms. Therefore, the US share rose to 8.5% of the total equity portfolio. Furthermore, the exposure to other countries remained stable at 5.9% of the overall holdings.

4.2.2 Investors

The types of investors in domestically-relevant Investment Funds remained relatively stable by the end of 2023. With 54.2% of net asset value (NAV) held by Maltese households, these remained the largest investors. Such holding represented a decline of 1.4 percentage points over a year ago, while that of domestic OFIs fell by 0.5 percentage point to 23.4% (see Chart 4.22). Meanwhile, at 23.4%, domestic NFCs registered the biggest increase to account for about 7.6% of the overall NAV. Domestic insurance companies also raised their investments, up by 0.5 percentage point to 7.1%.

Chart 4.22
DOMESTIC INVESTMENT FUND'S NAV BY COUNTERPART
(per cent)



Source: Central Bank of Malta.

Participations by other investors and foreigner investors remained relatively stable, accounting for a small part of the overall NAV.

4.2.3 Liquidity and leverage

Starting from this edition of the *Financial Stability Report*, the liquidity ratio was updated to reflect the proportion of HQLA to the overall assets, with the aim to provide a more precise overview of the developments in liquid assets for domestically-relevant investment funds (see Box 4).

By the end of 2023, the overall liquidity ratio for domestically-relevant investment funds registered a decrease of 2.2 percentage points, to stand at 63.6% of total assets. This drop was mainly explained by the larger exposure towards equities, which are considered to be less liquid than fixed-income securities. However, a significant share of the portfolios consisted of high-rated sovereign debt and equities. Concurrently, the level of cash and deposits continued to decline, to reach an all-time low[8] of 2.7% of the total assets, significantly below the historical average. This fall was also exacerbated by a reduction in deposits from one sub fund. During the year, redemptions decreased by 2.3 percentage points to approximately 5.3% of the NAV by the end of the year, reducing somewhat the cashflow pressures on investment managers. This

[8] The first data available for the times series starts on December 2016.

level is comparable to the rates observed prior to monetary tightening when redemptions had peaked at nearly 12% of the NAV by June 2022.

Meanwhile, leverage of domestically-relevant sub-funds remained limited with the AUM-to-NAV ratio at 100.3%, in line with previous years. This is partly because most of them are licensed and regulated under the UCITS Directive.[9]

4.2.4 Risk outlook

The robust market performance in 2023 played a significant role in recovering losses from the preceding year. This recovery was prompted by declining inflation rates, particularly in the final months of the year, leading to substantial gains for fixed-income securities. Potential risks related to liquidity remained relatively contained, as domestically-relevant investment funds continued to operate with low leverage levels and with a large share of the portfolio categorized as HQLA. Nevertheless, the low levels for cash and deposits, that registered consecutive declines, could be a signal for sub-funds to maintain a balanced approach, possibly aiming to return to levels closer to historical average ratios. However, systemic risks are somewhat mitigated as in the event of significant market distress, liquidity management tools, such as redemption gates and fees, are available for most of the funds.

The strategies implemented in 2022 by most investment managers, which focused on minimizing exposures to interest rate volatility and reducing fixed-income securities with longer-term maturities, contributed to the recovery in NAVs asset values. This was mostly because short and mid-term maturity bonds were the assets that registered the largest gains among this type of asset. Nonetheless, fund managers gradually started to lengthen the modified duration, as evident in the slight increase observed in the second half of 2023, which may be driven by an overall optimistic market sentiment towards the end of the monetary tightening cycle, and prospective rate cuts. Concurrently, sub-funds may continue increasing exposure to foreign equities, driven by positive performance despite the persistent economic uncertainties.

A structural link exists between most sub-funds and core domestic banks, with the latter owning the asset management companies. However, these companies operate as separate legal entities, subject to the regulatory provisions outlined in the Maltese Companies Act and the Investment Services Act. Furthermore, strong interconnectedness with the domestic financial system is also evident since nearly 10% of the overall assets reflected investments in domestic financial companies. These assets predominantly comprised bonds and equities issued by core domestic banks. Domestic banks and insurance companies also held investments in these sub-funds, with an exposure of around 10% of the NAV. Consequently, any potential losses in domestically-relevant sub-funds may impact the banks' profitability.

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

BOX 4: METHODOLOGICAL UPDATE ON THE CALCULATION OF THE LIQUID ASSETS RATIO FOR INSURANCES AND INVESTMENT FUNDS[1]

Recent events, such as the COVID-19 pandemic, the 2022 UK gilt crisis, and the 2023 US regional bank turmoil, have highlighted the importance of accurate monitoring of liquidity risk, not only for banks, but also for non-bank financial institutions. Essentially, the monitoring of liquidity risk requires a comprehensive understanding of the liquidity channels and market dynamics.

This box presents the outcomes of a review conducted on the current liquidity measurement methodologies for domestically-relevant insurance companies and investment funds. It introduces new methodologies tailored for each sector, with the aim of providing a more reliable assessment of the overall liquidity ratios for these institutions. Collectively, these institutions represented approximately a third of Malta's GDP in 2023.

1. Insurance sector

The traditional insurance business relies primarily on premia and income from investment portfolios as the major sources of liquidity. The reverse cash flow cycle where incoming premia precede outgoing claims, typically establishes a stable funding source for insurance operations, thereby mitigating somewhat liquidity risk. However, unforeseen circumstances, such as shifts in policyholder behaviour by either surrendering their policies due to decreased disposable income or redirecting their investments elsewhere, can pose challenges for insurers. Additionally, sudden increases in claims, possibly due to natural disasters which need to be settled in a short period of time, can lead to unexpected cash outflows for insurers.

From an investments standpoint, rising interest rates may prompt significant margin calls, compelling insurers to pursue alternative liquidity sources, such as fire sale of assets, which could in turn, exacerbate pressures across financial markets, through the asset liquidation channel.

Such events highlight the importance of monitoring liquidity ratios in the insurance sector to protect policyholders while at the same time, preserve financial stability.

1.1 Creating a liquidity indicator

The Solvency II framework does not provide specific quantitative requirements or standardised metrics for assessing insurers' liquidity positions akin to the LCR and NSFR for the banking sector. As a result, various approaches were developed across different prudential regimes and by international institutions which primarily involves the classification of assets through methods such as bucketing and the assignment of different factors. Notably, the Basel Framework, as well as the European Systemic Risk Board (ESRB) and the International Association of Insurance Supervisors, exemplify this practice.

Previous methodology

The Bank adopted a similar method where assets were assigned factors according to the perceived ease of converting the asset into cash. Liquid assets were determined by aggregating the weighted products of each asset group, as follows:

$$Liquid\ Assets = \sum_{i=1}^{n} Asset\ (category)_i * Weight_i$$

[1] Prepared by Ms Luana Camilleri, Senior Analyst, and Mr Renan Dos Santos Carinha, Analyst, both from the Financial Stability Surveillance and Research Department. The authors would like to express their gratitude to Mr Andrew Spiteri, Manager of the Financial Stability Surveillance Office, and Ms Wendy Zammit, Head of the Financial Stability Surveillance and Research Department, for their invaluable suggestions.

where, "i" denotes each specific asset class, ranging from the first category ($i = 1$) to the $n\text{^}th$ category.

Subsequently, the liquid assets ratio was calculated by dividing the total liquid assets by the total assets, excluding assets held in UL and IL contracts:

$$Liquid\ Asset\ Ratio = \frac{Liquid\ Assets}{Total\ assets\ (excluding\ UL/IL)}$$

However, this methodology has its shortcomings. Firstly, assets are categorised solely according to their asset type, thereby lacking the depth required for a thorough examination of each asset class's liquidity profile according to their credit quality (see Table 1). Moreover, the methodology is not comparable with approaches used by other authorities and across jurisdictions. This is mainly due to the differences in classifications and factors.

Revised methodology

In response to these recognised limitations of the previous approach, the revised methodology fully adopts the methodology of the European Insurance and Occupational Pensions Authority (EIOPA), ensuring comparability with results for other countries as reported by EIOPA.[2] This methodology maintains the Bank's prior approach of assigning varying factors to different asset classes, then summing these weighted assets to calculate the liquid assets ratio. However, the revised methodology introduces significant improvements in its weighting mechanism, notably by incorporating considerations of asset creditworthiness and geographical factors (see Table 1). For instance, while all government paper was previously rated as highly liquid with a factor of 100%, securities issued from non-EU countries with a credit quality step (CQS) rating of 2 to 3 now receive a lower factor of 85%, implying a haircut of 15%. This reflects that the current market value may not be achieved in times of stress, hence accounting for any price drops that may occur when liquidating the instrument within a tight timeframe. Securities with a rating of CQS 4-6 or unrated are deemed entirely illiquid and assigned a 0% weight.[3] Additionally, equities and bonds issued by financial institutions, or their affiliates are also considered illiquid and are assigned a factor of 0%. As a result, the updated methodology tends to be more conservative.

1.2 Impact on liquid assets ratios

This section compares the results of the two methodologies when applied to December 2023 data. Under the previous methodology, the liquid assets ratio for the life sector would have stood at 74.1%, while the revised methodology yielded a lower ratio of 58.8% (see Chart 1). This decrease was primarily attributed to the changes in the weighting criteria, notably for equities, which accounted for the most significant drop in liquid assets. The lower weight reflects the notion that during stressed periods, it is highly unlikely that the current market value of equities would be realised, and as such, the new methodology is more conservative and adopts a factor of 50% if listed and a 0% if unlisted, with the latter considered as illiquid. Additionally, corporate bonds were impacted due to the exclusion of securities issued by financial institutions and affiliates, as well as considerations of credit ratings. Changes in the weights of government bonds and property had a relatively lower impact.

[2] Further insights into the EIOPA methodology can be found in the following report: Report on the Impact of Inflation on the Insurance Sector - European Union (europa.eu).

[3] The CQS is a standardised measure of credit risk, graded from 1 to 6. Grades 1 to 3 indicate investment-grade status, while grades 4 to 6 signify non-investment grade.

Table 1
CLASSIFICATION OF LIQUID ASSETS

Assets (excluding assets held for UL/IL):	Factor	
	Previous Methodology	EIOPA Methodology
Cash and cash equivalents	100%	100%
Deposits other than cash equivalents	80%	
Collateralised securities:		
- Extremely high-quality collateralised securities (CQS0/1)	30%	65%
- Other collateralised securities		0%
Collective investments undertakings	30%	60%
Corporate bonds:[1]		
- Extremely high-quality corporate debt securities (CQS0/1)		85%
- High-quality corporate debt securities (CQS2/3)	80%	50%
- Other corporate debt securities		0%
Covered bonds:[2]		
- Extremely high-quality covered bonds (CQS0/1)		93%
- High-quality covered bonds (CQS2)	85%/ 100%	85%
- Other covered bonds		0%
Derivatives	30%	0%
Equities:		
- Listed equities[3]	100%	50%
- Unlisted equities	30%	0%
Government bonds:		
- Issued/guaranteed by EU member states (all CQSs) and issued by highly-rated non-EU countries (CQS0/1)	100%	100%
- Issued/guaranteed by high-rated non-EU countries (CQS2/3)		85%
- Other government bonds		0%
Exposures to ECB, Central banks, multilateral development banks & international organisations:[4]		
- Issued or guaranteed by ECB, EU central banks, supranational institutions (BIS, IMF, EC,…) or multilateral development banks	100%	100%
- Issued or guaranteed by central banks of non-EU countries (CQS 0/1)		85%
- Issued by other supranational institutions		0%
Other investments	30%	0%
Own shares (held directly)	30%	0%
Pension benefit surplus	30%	0%
Property (other than for own use)	30%	0%
Property, plant & equipment held for own use	40%	0%
Structured notes	30%	0%

[1] In the EIOPA methodology, corporate bonds issued by a financial institution or its affiliate are excluded.

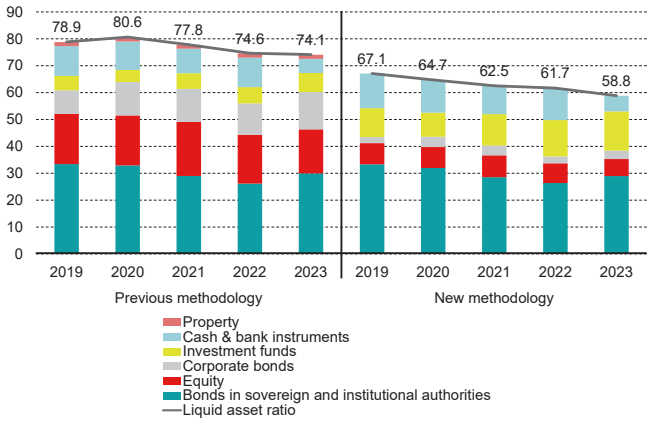
[2] In the previous methodology, covered bonds were categorised with government or corporate bonds, depending on the issuer. This led to weightings of either 100% (for government bonds) or 85% (for corporate bonds).

[3] In the EIOPA methodology, listed equities issued by a financial institution or its affiliate are excluded.

[4] In the previous methodology, bonds issued by supranational institutions were categorised as part of government bonds.

Similarly, in the non-life sector, the liquid assets ratio decreased from 44.1% to 29.6% (see Chart 2). In this case, the decline was primarily driven by the holdings of corporate bonds. The zero-factor attributed to property in the liquid assets' calculation, also played a significant role in this decrease, closely followed by the impact of equities. Meanwhile, the effect on government bonds remained minimal, given that most holdings are euro area sovereign bonds which continued to carry a factor of 100%.

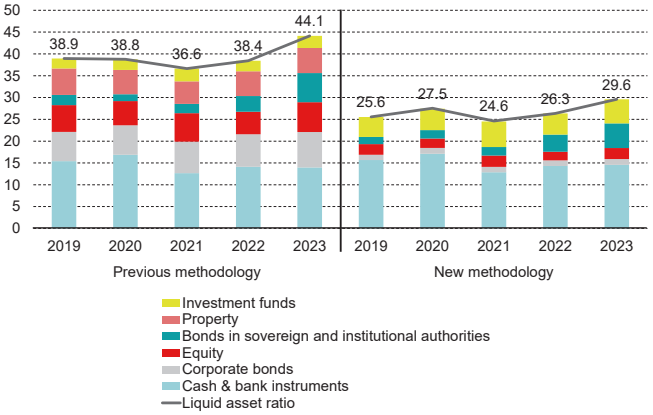
Chart 1
PREVIOUS AND NEW LIQUID ASSET RATIO – LIFE INSURANCE COMPANIES
(per cent)



Source: Central Bank of Malta.

Incorporating data from both the life and non-life sectors, the median ratio stood at 40.9%, slightly below the 46.0% median ratio observed for the European Economic Area (EEA) countries as reported by EIOPA.[4] However, the domestic weighted average ratio surpassed both figures, reaching 53.5%.

Chart 2
PREVIOUS AND NEW LIQUID ASSET RATIOS – NON-LIFE INSURANCE COMPANIES
(per cent)



Source: Central Bank of Malta.

The optimal ratio of liquid assets for an insurance company depends on a number of factors such as the types of insurance policies underwritten, the duration of their liabilities, and the stability of cash flows. Such aspects are also influenced by regulatory requirements, business model, the company's own risk tolerance, and prevailing market conditions.

2. Investment funds

The active management and monitoring of liquidity in a fund is of utmost importance. Funds invest in a range of assets with different degrees of liquidity, and typically offer liquidity premia as compensation for holding long-term illiquid assets. Such a strategy disincentivises a pernicious situation where many investors wish to redeem their holdings, forcing the fund manager to sell illiquid assets at a significant discount. Under a scenario of severe market distress, liquidity mismatches experienced by the investment fund sector can create significant vulnerabilities in financial markets. As an attempt to meet redemptions, sub-funds are sometimes forced to sell assets at fire-sale prices, which in turn, can generate procyclical and spillover effects. This is also more relevant for domestically-relevant

[4] Refer to the EIOPA Financial Stability Report June 2023: Financial Stability Report (europa.eu).

investment funds, given their strong domestic interconnectedness. These factors, underscore the importance of addressing and mitigating potential liquidity challenges.

Since 2019, the Maltese investment funds sector recorded a substantial growth of over 30% in terms of assets. By end 2023, the sector's total assets surpassed €23.5 billion, with domestic assets accounting approximately for 12%. On the liability side, Maltese residents are investing nearly €2.2 billion with such funds. In the event of significant market distress, funds may be met with challenges in meeting a spike in redemptions should they have inadequate liquid assets, albeit such risks are mitigated through the implementation of redemption gates, limits, and fees.

2.1 Previous methodology

In the previous methodology, estimates of liquidity ratios grouped various assets together regardless of their liquidity profile. Sovereign bonds, bank bonds and equities were considered to be highly liquid attributing a factor of 100%. The only cut-off was for sovereign and bank securities rated as non-investment grade.[5] The previous methodology of liquidity estimation also failed to capture the impact of non-financial and non-bank financial corporate bonds on the ratio due to the fact that such securities were not taken into account, regardless of their ratings. The overall amount of liquid assets was therefore obtained by summing the weighted assets, as per below:

$$Liquid\ Assets = \sum_{i=1}^{n} (Type\ of\ Asset)_i * Weight_i$$

where, i refers to the type of asset, ranging from *n* categories while, *Weight*, refers to the attributed factors used as explained in Table 2.

Therefore, the liquid assets ratio is calculated by dividing the total liquid assets by the total assets.

$$Liquid\ Asset\ Ratio = \frac{Liquid\ Assets}{Total\ assets}$$

Although such methodology provided a good estimate of the proportion of assets commonly considered as liquid, it failed to provide a more accurate perspective that can only be attained through a more granular approach, considering security-by-security exposures.

2.2 Revised methodology

The updated methodology aligns the liquidity assessments with the concept of HQLA as defined by BASEL III, in accordance with the guidelines set forth by the European Securities and Markets Authority (ESMA).[6] Liquidity is assessed by looking at the proportion of HQLA to total assets. Therefore, the same concept of the previous methodology is adopted where each asset class is attributed a factor depending on the ease with which the asset is turned into cash, and the sum of such weighted assets assessed as a share of overall assets. However, under this approach, securities undergo individual scrutiny, taking into consideration the issuer and its credit rating to ensure a more thorough and nuanced analysis on creditworthiness and hence assess more accurately the liquidity profile of the asset. A comparison between both methodologies and further details on how different types of securities are treated can be found in Table 2.

[5] Non-investment grade securities are securities rates BB+ (or equivalent) and less.

[6] Refer to Section 4.4.1. Corporate debt funds: HQLA approach and RCR within the Recommendation of the ESRB on liquidity risk in investment funds. Available on https://www.esma.europa.eu/sites/default/files/library/esma34-39-1119-report_on_the_esrb_recommendation_on_liquidity_risks_in_funds.pdf.

Table 2
COMPARISON BETWEEN METHODOLOGIES

Type of Asset	Issuer	Previous methodology		Revised methodology	
		External rating	Factor	External rating	Factor
Cash & deposits	-	-	100%	-	100%
Bonds	Government	(BBB- to AAA)	100%	(BBB- to AAA)	100%
	Banks	(BBB- to AAA)	100%	(AA-to AAA) (BBB- to A+)	85% 50%
	NFCs & NBFIs	-	0%	(AA- to AAA) (BBB- to A+)	85% 50%
Equities	All Issuers	(BBB- to AAA)	100%	(BBB- to AAA)	50%
Other financial assets (including loans, derivatives & fixed assets)	All Issuers	-	0%	-	0%

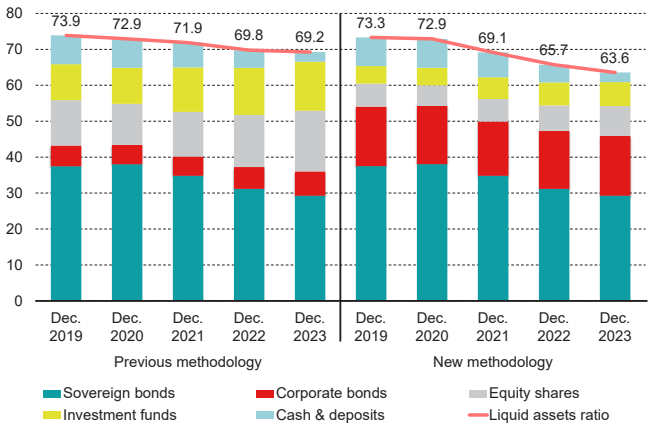
Sources: BIS; ESMA; Central Bank of Malta.

In this context, notable changes have been observed, namely the positive weight attributed to bonds issued by NFCs and non-bank financial institutions. Meanwhile, equities and bank bonds experienced a reduction in their weighting, mainly because these assets could be exposed to the lack of market demand. When estimating the revised liquidity metric, some data gaps were however evident, with some credit ratings for private securities not available. In such instances, the sovereign rating[7] of the issuer's country was considered, but with a two-notch downgrade to ensure a conservative approach. For example, if for private securities with missing credit ratings, the sovereign rating of the issuer country stood at BBB, post the two-notch downgrade this would be considered as BB+ and therefore assigned a factor of 0%. This adjustment aligns with the approaches found in academic literature and applied fields such as portfolio analysis and stress testing, hence ensuring a more cautious and comprehensive evaluation of results.

2.3 Impact on liquid assets ratios

The change in methodology had no material impact on the liquidity levels of domestically-relevant investment funds until March 2020, as changes in factors offset each other (see Chart 3). However, due to the bearish market during the pandemic and the subsequent shift in strategies by portfolio managers, a divergence thereafter between the two estimations were observed.

Chart 3
LIQUIDITY METHODOLOGY COMPARISON
(per cent)



Source: Central Bank of Malta.

[7] For Sovereign ratings, our methodology involves utilizing the publicly accessible Long-Term Foreign Currency Rating (LT FC) provided by S&P Global.

This gap widened further on account of the geopolitical events since March 2022, which triggered inflationary shocks and the beginning of a monetary tightening phase. In response to these market dynamics, these sub-funds pursued higher exposures towards equities which have a larger discount factor in the new methodology. Of note, however, the overall decline in liquidity was captured under both methodologies, though there seems to be a slight uptick due to a recent increase in holdings of debt securities, reflecting the market recovery observed in the last quarters of 2023.

Under the previous methodology, the higher weights attributed to equities contributed to around 30 percentage points of the previously estimated 69.2% liquid assets ratio as at December 2023. Meanwhile, under the new methodology, given the larger discount factor, the same equities contribute to only about 15 percentage points to the revised 63.6% liquid asset ratio.[8] Parallel to that, bank bonds rated between BBB- to A+ also had larger discount factors, albeit to a much lower extent. Such adverse developments were partly offset by debt issued by NFCs, OFIs and insurance companies, which were assigned a 0% weight in the previous methodology and hence considered illiquid, whereas now such instruments carry a factor in the range of 50% to 85%. This resulted in the share of debt securities to increase by almost 11 percentage points to contribute to 45.9 percentage points of the new ratio. The rest is attributable to cash and deposits which remain at face value under both methodologies.

The optimal liquidity ratio for investment funds can vary widely depending on the fund's investment strategy, asset class focus, investors' redemption terms, and market conditions. Some funds, such as money market funds, are required to maintain high levels of liquidity to meet daily redemptions, while others, such as private equity funds, may have longer investment horizons and less frequent liquidity needs. Balancing liquidity with the pursuit of investment returns is a key consideration for fund managers.

The new liquidity methodology represents a significant enhancement, contributing to a more comprehensive evaluation of liquidity risks within the Maltese Investment Funds sector. This particularly in the context of the domestically-relevant investment funds which are interconnected with the domestic financial system, mainly with core domestic banks due to ownership (see Chapter 4.2). However, these companies operate as separate legal entities, subject to the regulatory provisions outlined in the Maltese Companies Act and the Investment Services Act. Furthermore, in the event of significant market distress, several liquidity management tools such as redemption gates and fees remain available for most of the funds to mitigate fire sales and redemptions.

In summary, while there is no one-size-fits-all answer to the optimal level of liquid assets for insurance companies, and investment funds, these institutions typically aim to strike a balance between liquidity needs that suit their business model, profitability, and risk management in line with regulatory requirements and business objectives.

[8] According to the results published in Box 6 of the November 2023 ECB FSR, the HQLA as a share of net assets for euro area open-ended bond funds ranged between just above 90% for those which invest mainly in advanced economy sovereign bonds, to about 6% for those who invest mainly in high-yield corporate bonds.

BOX 5: REVISITING NON-BANK FINANCIAL INTERMEDIATION (NBFI) IN MALTA: A CURRENT FINANCIAL STABILITY OVERVIEW[1]

Introduction

The NBFI ecosystem is diverse encompassing distinct business models subject to different regulatory regimes within and across jurisdictions. Such institutions offer an alternative avenue for funding the economy and can also pose systemic risk, as evidenced by the classical case of Archegos Capital Management in 2021 and the liability-driven funds in the UK Gilts market in 2022. In a bid to assess this sector, the Central Bank of Malta had published a study focusing on "*Non-bank Financial Intermediation (NBFI) in Malta from a Financial Stability Perspective*" in its *Financial Stability Report 2020.*[2] This article sought to delineate for the first time, the footprint of the NBFI sector in Malta. Since then, global macroeconomic conditions were affected by several geopolitical developments and other events including the persistence of the pandemic and the ongoing wars in Ukraine and the Middle East. Such events impacted money and capital markets as well as financial entities on various fronts. In addition, significant progress has been achieved in data collection and analysis. In June 2023, the National Statistics Office (NSO) announced a revision to Malta's Balance of Payments and International Investment Position statistics, incorporating new data sources. This resulted in an improved compilation of Captive Financial Institutions and Money Lenders (CFIMLs) data, significantly changing the reported assets of this sector as from 2019 onwards.[3] At the same time, pension funds data also became available to the Central Bank of Malta.

Motivated by these developments, this box aims to provide an update on the domestic NBFI sector and the risk profile stemming from their bank-like activities, focusing on the analysis from end 2019 onwards. Section 1 presents an overview of the methodology and provides an update on the NBFI perimeter. Section 2 follows with an assessment of the narrow measure to identify the extent of bank-like activities by this sector, while Section 3 concludes.

The NBFI perimeter

1.1 Methodology and data updates

The methodology presented in the Central Bank of Malta's *FSR 2020* assesses institutions against major systemic risk channels. It categorizes the non-bank sector into the broad and narrow measures of NBFI based on the ESRB's and the Financial Stability Board's (FSB) methodologies, respectively.[4] The broad measure excludes entities already subject to strict regulations, such as Insurance Companies and Pension Funds (ICPFs) and Central Counterparties (CCPs) with a banking license, aligning with the ESRB's methodology as highlighted in its NBFI Risk Monitor Report 2023 (ESRB, 2023).[5] These entities are further filtered to derive the narrow measure, based on the FSB's methodology and unchanged from that adapted for the FSR 2020.[6] Figure 1 lays down the perimeter of the non-bank financial sector.

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[1] Prepared by Mr Albert Sniec, Economist within the Financial Stability, Surveillance Office. The author would like to extend his thanks to Mr Andrew Spiteri, Manager within the Financial Stability, Surveillance Office; Ms Wendy Zammit, Head of the Financial Stability, Surveillance and Research Department; and Mr Alan Cassar, Chief Officer of Financial Stability, for their invaluable feedback and suggestions.

[2] https://www.centralbankmalta.org/site//Financial-Stability/WP-Other-Studies/box4-fsr-2020.pdf.

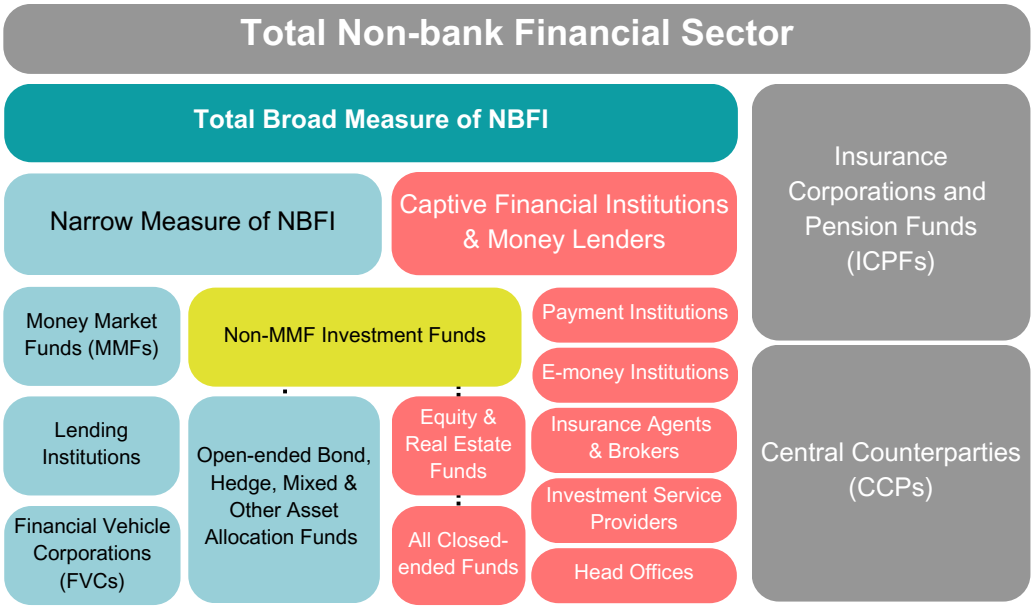
[3] As per the Press Information Notice made on 13 June 2023 by the NSO: https://nso.gov.mt/events/balance-of-payments-and-international-investment-position/.

[4] Refer to footnote 2 for a more detailed institutional breakdown.

[5] With regards to CCPs, no such entities registered in Malta as of December 2023.

[6] Refer to the Global Monitoring Report on Non-Bank Financial Intermediation: Global Monitoring Report on Non-Bank Financial Intermediation 2023 (fsb.org).

Figure 1
PERIMETER OF NON-BANK ENTITIES



Source: Central Bank of Malta.

Note 1: No MMFs have been registered in Malta since the end of 2019.

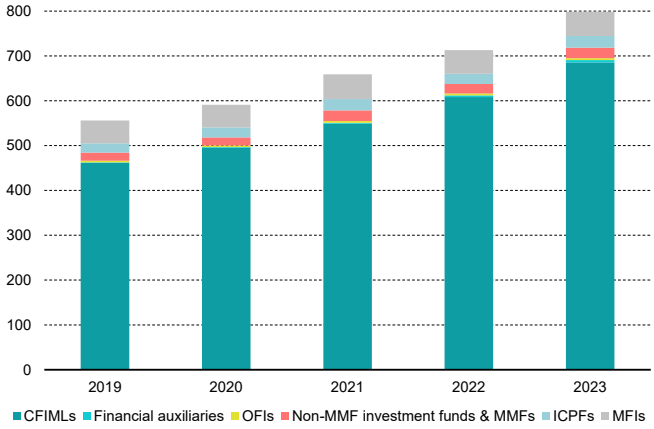
Note 2: An "Other Asset Allocation Fund" is one that cannot be classified under any of the other fund types. One example of this would be an investment fund investing in commodities.

1.2 The NBFI perimeter in Malta

1.2.1 Overall financial system and non-bank sector

The Maltese financial system recorded significant growth, with assets increasing by about 43.6% between 2019 and 2023, reaching almost €800 billion in December 2023 (see Chart 1).[7] The predominant driver of this expansion was the non-bank sector which registered a 47.4% increase in total assets to reach €744.6 billion by end-2023.

Chart 1
MALTA'S FINANCIAL SYSTEM
(total assets in EUR billions)



Source: Central Bank of Malta.

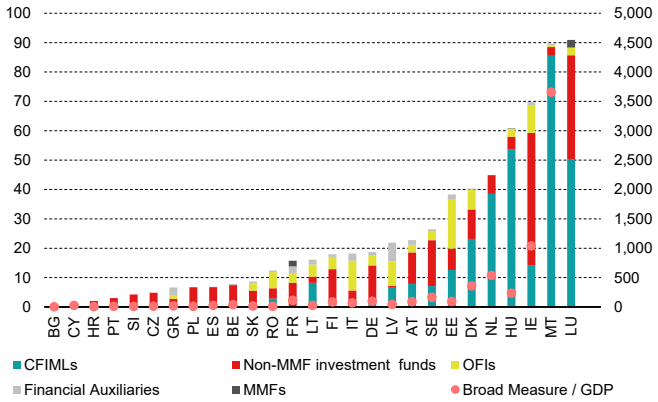
1.2.2 Broad measure – NBFI

From 2019 to 2023, the broad measure grew by 48.4% to €718.5 billion. Accounting for 95.4% of the broad measure, this growth was driven largely by the CFIMLs

[7] Data is always as of year-end December unless stated otherwise.

sector, which expanded by 48.6% to €685.5 billion. Financial auxiliaries also saw substantial growth, with assets increasing to €5.2 billion by December 2023, mainly due to the surge in e-money institutions.[8] Additionally, real estate, equity, and closed-ended funds grew significantly, bolstered by robust activity in the property market and strong stock market performance.

Chart 2
COMPARISON OF THE BROAD MEASURE ACROSS EU COUNTRIES
(percentage of total financial sector assets – LHS; percentage of GDP – RHS)



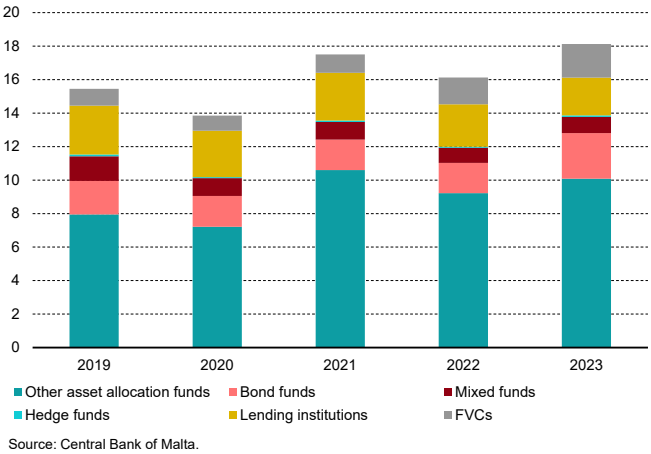
Sources: Central Bank of Malta for Malta and Eurostat for all other jurisdictions.
Note: Data as of December 2022. Results for Luxembourg are excluded from the Broad Measure/GDP (RHS) owing to its high share of about 19,000%.

Comparing Malta with other EU countries underscores its significant position within the EU's financial landscape. Alongside recognized financial centres like Ireland and Luxembourg, Malta stands out with the broad measure comprising 89.6% of the total financial system's assets (see Chart 2).[9] This position stands as well when measuring the broad measure in relation to GDP, with Malta having the second highest share of about 3600%. However, in sharp contrast, while the non-MMF investment funds account for an important share for both Luxembourg (39%) and Ireland (65%), they represent just over 3% of Malta's broad measure. Domestically, CFIMLs take centre stage, accounting for 95% of the broad measure, like in Hungary and the Netherlands. Such institutions account for a little over half of the broad measure for Luxembourg and even less for Ireland. Moreover, Ireland distinguishes itself with over 13% of its broad measure attributed to OFIs.

1.2.3 Narrow measure – NBFI

The narrow measure of NBFI reflects the perimeter of those entities posing bank-like financial stability risks. This is notably small, constituting 2.4% of the overall non-banks' assets in Malta as of December 2023. Although between 2019 and 2023, the measure grew by 17%, some fluctuations were evident, which are closely tied to broader market developments. The onset of the pandemic in 2020 inflicted some stress on these entities, through their investments, resulting in a

Chart 3
THE NARROW MEASURE
(EUR billions)



Source: Central Bank of Malta.

[8] To some extent the growth in e-money institutions reflected one new institution which started operating within the period, with its balance sheet data representing clients' money held. However, even excluding this institution, the remaining e-money institutions still reported exceptional growth, with the number of licensed entities also growing from 16 in 2019 to 27 by December 2023.
[9] Note that the share of the broad measure increased in 2023, but only marginally to 89.97% from the 89.62% reported in the chart.

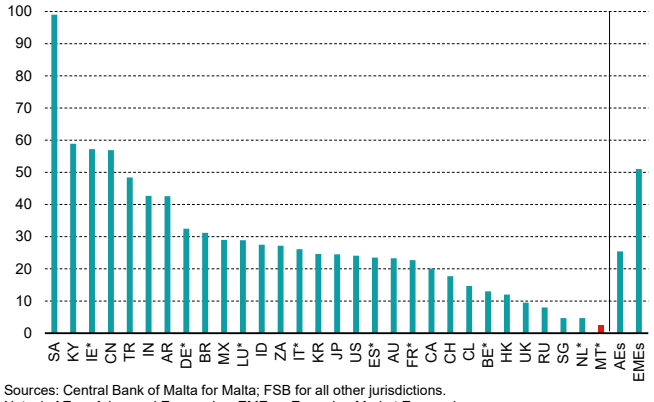
slight decline in the overall sector's assets. Investment funds were particularly vulnerable, leading to outflows and investment losses. Nonetheless, as the initial shock of the pandemic subsided, the subsequent year witnessed a significant rebound as markets adjusted to the new normal, fostering stability in the process. Post-2021, these institutions reported a slight decline in assets as mounting inflationary pressures prompted central banks to tighten their monetary policy stance, which notably impacted yields due to rising interest rates. Once more, there was a significant rebound in 2023, as the narrow measure surpassed its 2021 peak, totalling €18.1 billion by December 2023 (see Chart 3).

In comparison to other selected jurisdictions, both within and outside the EU, Malta reported the lowest ratio of the narrow measure of the non-bank sector, as illustrated in Chart 4. This is attributed to Malta's non-bank financial sector being heavily influenced by CFIMLs, which are excluded from the narrow measure.[10]

The narrow measure is primarily composed of open-ended non-MMF investment funds, excluding equity and real estate funds, which grew by almost 20% from 2019 to 2023. Their share of the narrow measure increased slightly, rising from 74.7% to 76.5% over the same period. Notably, these consisted of other asset allocation funds, which experienced robust growth, particularly in 2021 (see Chart 5). Open-ended bond funds also surged, while mixed funds saw a decline and hedge funds remained marginal. Meanwhile, lending institutions faced a significant decline of nearly 23%, mainly due to reduced loans granted to sectors other than banks, especially noticeable in 2022 and 2023 due to increased borrowing costs. In contrast, FVCs doubled in size, driven by expansions in holdings of debt securities and securitized assets.

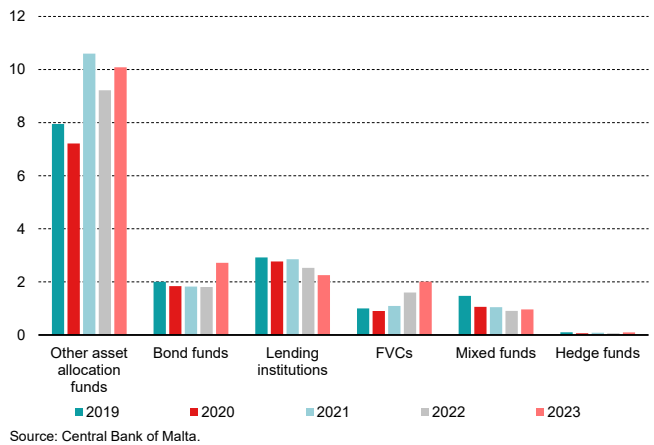
The analysis conducted in this section reveals that

Chart 4
COMPARISON OF NARROW MEASURE ACROSS SELECT JURISDICTIONS
(percentage of total non-bank sector assets)



Sources: Central Bank of Malta for Malta; FSB for all other jurisdictions.
Note 1: AEs = Advanced Economies, EMEs = Emerging Market Economies.
Note 2: All data shown as of end of year 2021, with EU jurisdictions marked by *.

Chart 5
DEVELOPMENTS IN THE NARROW MEASURE OF NBFI
(total assets in EUR billions)



Source: Central Bank of Malta.

[10] In comparison to other jurisdictions that calculate the narrow measure using an activity-based approach (per the FSB), Malta uses an entity-based approach. This does not change results significantly given that CFIMLs compromise such a large amount of the total non-bank financial sector in Malta.

while prima facie the NBFI sector in Malta appears sizable, it is predominantly comprised of entities that are not extensively involved in credit intermediation, and therefore unlikely to present bank-like risks to financial stability. As a result, the focus shifts to a considerably smaller subset of entities, offering alternative financing avenues beyond those of the traditional banking sector.

2. Financial stability risks of NBFI

2.1 Bank-like metrics

This section updates most of the metrics which were initially proposed and evaluated in the *FSR 2020* article.[11] These metrics, which draw from the FSB's methodology, aim to assess potential financial stability risks within the narrow measure by evaluating entities' involvement in credit intermediation, maturity and liquidity transformation, leverage, and interconnectedness with the banking system. The summarised ratios are presented in Table 1.

Credit intermediation indicators assess the extent to which these institutions provide credit, either through both loans and debt securities (CRE 1), or solely loans (CRE 2). Values range between 0 and 1, with larger values indicating a higher degree of credit intermediation.

Maturity transformation indicators analyse the extent to which short-term funding is used to finance long-term assets which could expose entities to rollover or refinancing risk and require rapid asset selloffs during stressed periods.[12] MAT 1 looks at the proportion of long-term assets less long-term

Table 1
DEFINITIONS OF BANK-LIKE METRICS

Bank-Like Metric	Indicator 1	Indicator 2
Credit Intermediation (CRE)	**CRE 1**	**CRE 2**
	$\frac{Credit\ Assets}{Total\ Financial\ Assets}$	$\frac{Loans}{Total\ Financial\ Assets}$
Maturity Transformation (MAT)	**MAT 1**	**MAT 2**
	$\frac{Long\ term\ assets\ -Equity\ -Long\ term\ liabilities}{Total\ Financial\ Assets}$ $\frac{Long\ term\ assets - Long\ term\ liabilities}{Total\ Financial\ Assets}$ *	$\frac{Short\ term\ liabilities}{Short\ term\ assets}$
Liquidity Transformation (LIQ)	**LIQ 1**	
	$\frac{Total\ Financial\ Assets\ -Liquid\ Assets + Short\ term\ liabilities}{Total\ Financial\ Assets}$	
Leverage (LEV)	**LEV 1**	
	$\frac{Total\ Financial\ Assets}{Equity}$ $\frac{AUM}{NAV}$ *	
Interconnectedness (INT)	**INT 1**	**INT 2**
	$\frac{Assets\ with\ Credit\ Institutions}{Total\ Financial\ Assets}$	$\frac{Liabilities\ with\ Credit\ Institutions}{Total\ Financial\ Assets}$

Notes: All indicators are in line with the FSB's methodology (2023). * indicates indicator applicable to Investment funds. Short-term assets and liabilities are given by deposits, loans and debt securities with maturities of less than one year, whereas long-term assets and liabilities are those with maturities of more than one year. For FVCs, assets (and loans) include securitized assets (and loans). Additionally, equity claims have been considered as short-term assets. Moreover, liquid assets consist of deposits, sovereign bonds, debt securities issued by MFIs and equity & investment fund shares. The metric for liquidity transformation have been adapted to reflect the newly published methodological update on liquidity for both Investment Funds and Insurance Companies. In addition, for the calculation of maturity transformation SBS data has been adjusted to reflect the residual maturity, rather than original maturity.

[11] The removal of the former LIQ 1 indicator was deemed appropriate on the basis that it served more so as a liquidity ratio that assessed the proportion of an entities' illiquid assets, rather than as a metric that evaluated the extent of liquidity transformation.

[12] Refer to the *Analytic Framework for Financial Stability Risk Identification, Assessment and Response* by the Financial Stability Oversight Council (FSOC) of the US Treasury: Analytic-Framework-for-Financial Stability-Risk-Identification-Assessment-and-Response.pdf (treasury.gov).

liabilities, and in the case of OFIs less equity, as a share of total financial assets. This would equate to the long-term assets funded by short-term liabilities. The ratio ranges from -1 to +1, indicating negative and positive maturity transformation, respectively, with a value of 0 suggesting no maturity transformation. Positive maturity transformation refers to when long-term assets are funded by short-term liabilities, while negative maturity transportation indicates that assets are mainly funded through long-term liabilities. MAT 2 measures the short-term liabilities in relation to short-term assets, with values between 0 and 1 indicating negative maturity transformation, values of 1 indicate that short-term liabilities are equal to short-term assets, and values above 1 signal short-term funding dependence.

Liquidity transformation involves the use of liquid short-term funding to finance illiquid, long-term assets. The LIQ 1 ratio assesses this by matching the illiquid assets with short-term liabilities. A value up to 1 indicates negative or no liquidity transformation since liquid assets would be more than or equal to the short-term liabilities. As the value surpasses 1 and approaches the maximum possible level of 2, the indicator shows an increasing degree of positive liquidity transformation, as the entity uses short-term funding to finance illiquid assets.

Leverage looks at the share of assets funded by equity (AUM over NAV for investment funds), whereby the higher the ratio, the higher the leverage, which could limit the entity's ability to meet its obligations and heighten the potential for sudden liquidity shortages.[13]

Interconnectedness with credit institutions looks at both the assets and liabilities side of the balance sheet, with INT 1 and INT 2, respectively. A higher value indicates a greater extent of interconnectedness, which might lead to increased contagion risk, where the destabilization in one segment could spillover into the other.[14]

2.2 Risk assessment

This section analyses the results of these bank-like metrics, presenting those of investment funds on an aggregate basis and by asset allocation type, as well as results for OFIs at an aggregated level and by licence type. Table 2 summarises the results and employs a colour-coding scheme to illustrate the level of engagement in each relevant area of activity, ranging from insignificant to high. In addition, the direction of the associated arrows points to an increase, decrease or unchanged level of risk, based on the value of the change in the relevant z-scores from the baseline period of 2019 to 2023, where a change of -1 or less indicates a decreasing engagement, a change of +1 or more indicates an increasing engagement, while a score in between indicates a stable engagement.[15]

Credit intermediation is primarily driven by lending institutions, and to a lesser extent, by bond funds and FVCs. Lending institutions are heavily involved in credit intermediation through loan issuance, which constitutes nearly 86% of their assets, but have seen a decrease in their level of engagement since 2019. By definition, the bond funds' intermediation takes place through their substantial holdings of debt securities, as evidenced in CRE 1. FVCs play a more subdued role, with 13% of their assets in loans and an additional 26% in debt securities, resulting in a low engagement in CRE 1.

Maturity transformation is most prominent among bond funds, which in line with their investment strategies, show significant allocations to long-term debt securities and a lower proportion of short-term

[13] Refer to the *Analytic Framework* by the FSOC.

[14] From a report published by the Banque de France on *Non-Bank Financial Intermediation: Vulnerabilities and Challenges:* Non-bank financial intermediation: vulnerabilities and challenges | Banque de France (banque-france.fr).

[15] The z-score is estimated based on quarterly data from December 2019. The position as of December 2023 and as of December 2019 of each relevant indicator is compared to the mean, divided by the standard deviation. Such a process helps in determining how many standard deviations the end of 2023 and end of 2019 figure stand away from the mean within the period assessed. The two figures are then compared to determine whether there has been an increase, decrease, or no change in the risk levels for each respective indicator, based on the ranges presented above.

Table 2
SUMMARY OF POTENTIAL FINANCIAL STABILITY RISKS

Bank-Like Metrics	Indicators	Open-ended Investment Funds					OFIs		
		Aggregate IFs	*Bond Funds*	*Mixed Funds*	*Hedge Funds*	*Other Asset Allocation Funds*	**Aggregate OFIs**	*Lending Institutions*	*FVCs*
Credit Intermediation	CRE 1	▶	▶	▲	▶	▶	▼	▼	▲
	CRE 2	▶	▼	▲	▶	▼	▼	▼	▲
Maturity Transformation	MAT 1	▲	▶	▲	▶	▼	▼	▼	▲
	MAT 2	▲	▶	▲	▶	▲	▼	▼	▲
Liquidity Transformation	LIQ 1	▶	▶	▲	▲	▶	▼	▼	▲
Leverage	LEV 1	▲	▲	▼	▲	▲	▼	▼	▲
Interconnectedness	INT 1	▼	▼	▼	▲	▼	▶	▲	▼
	INT 2	▼	▼	▲	▲	▼	▼	▼	▲

Source: Central Bank of Malta.

Note: The colours of the arrows reflect the degree of potential engagement in each relevant area of activity, according to the specified colour coding below. The colour coding is judgment-based and informed by descriptive statistics using a percentile approach that splits the ranges of each indicator into four segments. The direction of the arrows indicates an increase, decrease or unchanged level of risk.

Engagement Level	Risk Direction
Insignificant	△
Low Engagement	▷
Medium Engagement	▽
High Engagement	

assets. These are concurrently highly reliant on short-term funding. However, when aggregated, investment funds exhibit low but increasing risk in maturity transformation. The results for lending institutions are heavily influenced by one large entity which accounts for nearly 80% of the overall aggregate assets, driving the positive maturity transformation that is being observed. When excluding this entity, the remaining lending institutions show negative maturity transformation, with minimal short-term liabilities and a greater reliance on equity funding. Overall, aggregate lending institutions saw a decreased risk level in both measures. However, excluding the largest entity, the risk level for MAT 1 remained stable, while the risk level for MAT 2 increased, but engagement was insignificant. FVCs generally exhibit negative maturity transformation due to the prominence of long-term liabilities, particularly the issuance of long-term debt securities and shareholders' funds.

The engagement in liquidity transformation varies across entities. Lending institutions exhibit positive liquidity transformation with medium engagement, again driven by the largest entity that holds a significant amount of short-term liabilities but few liquid assets. Since the remaining institutions hold minimal short-term liabilities and a fair amount of liquid assets, by omitting the largest entity, the rest of the entities exhibit insignificant engagement in liquidity transformation. FVCs also exhibited insignificant liquidity engagement holding a limited amount of short-term liabilities. Meanwhile, investment funds' liquidity transformation stood at a medium level, but remained stable as the developments in mixed funds, which experienced a decrease in their liquid assets, were offset by the acquisition of liquid assets by other asset funds. However, the accumulation of illiquid assets could pose significant vulnerability for open-ended funds as it can lead to liquidity mismatches during periods of substantial outflows.[16]

Leverage within OFIs stood high, indicative of high engagement. FVCs recorded increased leverage, with more than half of their funding coming from issuing debt securities and loans. Lending institutions' high leverage is again driven by the largest entity which reported substantial bank funding. Excluding such entity, leverage was far more contained and of low engagement. Meanwhile, although

[16] Refer to blog published by F. Natalucci, M.S.Quereshi & F. Suntheim (IMF, 2022) How Illiquid Open-End Funds Can Amplify Shocks and Destabilize Asset Prices (imf.org).

investment funds observed a slight increase in leverage, this remained limited, also due to the stringent regulatory frameworks such as the UCITS Directive, which imposes restrictions on borrowing for investment purposes, limiting it to 10% of their assets on a temporary basis.[17] Additionally, Alternative Investment Funds (AIFs) asset managers are required to set reasonable leverage limits whilst national authorities are empowered to impose limits if financial stability is threatened.[18]

Engagement through interconnectedness with the banking system remained insignificant for investment funds on both the asset and liability sides. Hedge funds have a higher, albeit still low degree of interconnectedness, due to a larger proportion of bank deposits and share issuances to banks on their balance sheets. Among OFIs, interconnectedness has remained stable on the asset side and decreased on the liability side, with overall low engagement. Lending institutions remain significantly influenced by the largest entity, which reported funding from a credit institution resulting in an overall medium engagement, as otherwise the remaining institutions exhibit medium and insignificant engagement on the asset and liability fronts, respectively. Meanwhile, FVCs observe insignificant levels of interconnectedness.

3. Conclusions and way forward

The analysis of the non-bank financial sector shows that NBFI activity in Malta as defined by the narrow measure, remains smaller than in other jurisdictions, when expressed as a share of the non-bank sector's assets. This is primarily attributed to the dominant presence of CFIML entities in Malta.[19] Furthermore, the narrow measure is predominantly influenced by investment funds, which make up more than 78% of total asset base and are to some extent subject to stricter supervision and regulation. Over the years, the narrow measure has shown a consistent upward trend, fuelled by increasing demand for financing from alternative non-bank entities. However, this growth trajectory has been interrupted by sustained stress episodes, such as the pandemic-induced economic downturn, as well as the more recent monetary policy tightening cycle.

In terms of bank-like metrics, high engagement in credit intermediation was observed for lending institutions and bond funds. The latter are also strongly engaged in maturity transformation. At the same time, lending institutions exhibit positive liquidity and maturity transformation and have a high level of leverage. However, such developments are influenced by the largest entity which skews the overall outcome, and when excluded, the remaining institutions registered more contained and lower levels of engagement. Similarly, FVCs engage in high leverage. Overall, investment funds reported limited engagement in bank-like activities, with a medium level of liquidity transformation reported.

Looking ahead, the goal is to refine the narrow measure, concentrating on entities with substantial ties to the domestic economy. The box considers all the funds registered domestically. However, the established methodology, which identifies domestically-relevant investment funds, highlights that only 8.6% of the total assets of such investment funds falling within the scope of narrow measure are domestically relevant.[20]

The methodology presented in this article is constantly being refined with the aim of focusing more on the entities' individual activities, including their domestic-relevance. In this regard, the next steps in this field of work include a consistent methodology for specifying systemic relevance for the OFI sector and identifying the entities in scope. The Bank intends to exploit further the indicator approach presented in this article to track through time the engagement of the identified systemically relevant entities in the dimension of bank-like risks.

[17] Referenced in Directive 2009/65/EC of the European Parliament and of the Council: https://rb.gy/xdpz99.
[18] Referenced in Directive 2011/61/EU of the European Parliament and of the Council: https://rb.gy/ymp7p7.
[19] Refer to the FSB's Global Monitoring Report on Non-bank Financial Intermediation (2022).
[20] Refer to 'Revisiting the methodology for selecting domestically relevant investment funds' published in the FSR 2020.

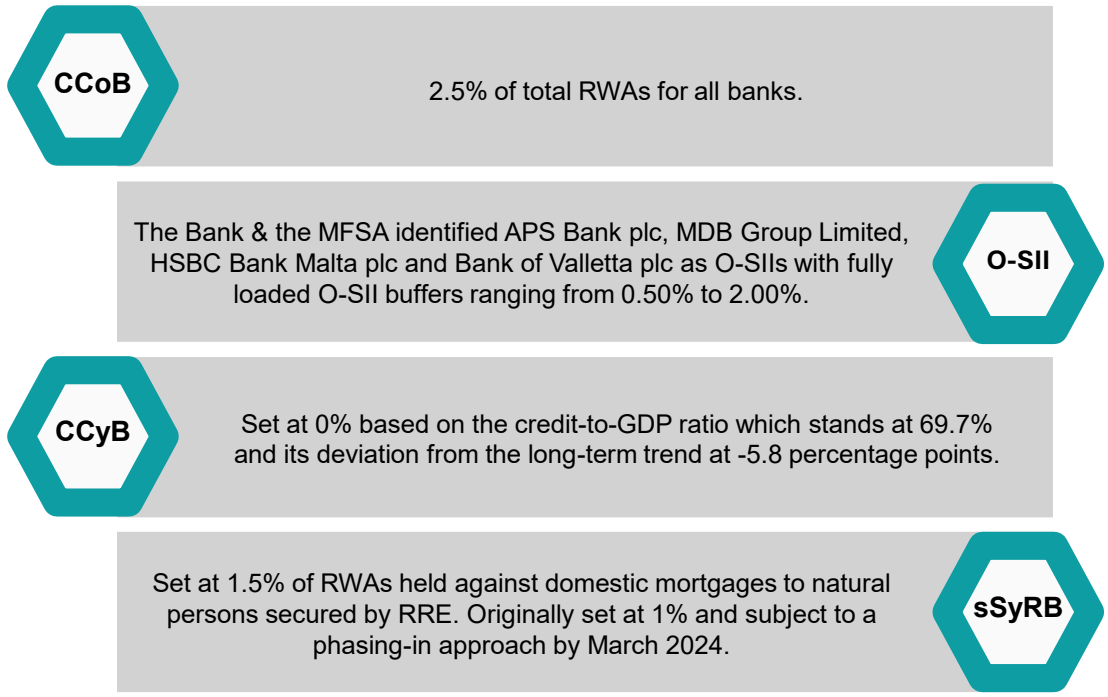
5. MACROPRUDENTIAL POLICY RESPONSE

This chapter highlights the key macroprudential policy initiatives that were in place during 2023, and seeks to identify the major contributions of these measures to the Bank's financial stability objectives. Additionally, this chapter also provides an overview of other main developments of a macroprudential nature both at the domestic and European levels.

5.1 Capital-based macroprudential measures

Capital-based macroprudential measures are integral components of the regulatory framework aimed at safeguarding the stability of the financial system. Through these capital-based measures, the Bank seeks to foster resilience within the financial system, mitigate or prevent the unfolding of systemic risks, and ensure adequate capital buffers against potential losses from economic shocks. Figure 5.1 depicts the capital-based buffers that are applicable to domestic banks. These buffers form the respective bank's CBR, and act as a line of defence against respective sources of risk. The CBR is made up of the Capital Conservation Buffer (CCoB), the Other Systemically Important Institutions (O-SII) Buffer, the CCyB and the sSyRB which are reproduced in Figure 5.1.

Figure 5.1
CAPITAL-BASED MEASURES IN MALTA



Source: Central Bank of Malta.

5.1.1 O-SII Buffers

On a yearly basis, the Central Bank of Malta, together with the Malta Financial Services Authority (MFSA), conducts an assessment to identify and apply a capital buffer to domestic O-SIIs. This assessment is carried out in line with the published CBM-MFSA O-SII policy document and the provisions under CBM

Table 5.1
LIST OF IDENTIFIED O-SIIs FOR 2024 AND CORRESPONDING O-SII SCORES

Institution	Size	Importance	Complexity	Intercon-nectedness	Total
APS Bank plc	163	462	26	46	698
Bank of Valletta plc	678	1675	191	334	2,878
HSBC Bank Malta plc	319	961	74	134	1,488
MDB Group Limited	233	196	527	380	1,335

Source: Central Bank of Malta.

Table 5.2
2024 APPLICABLE O-SII BUFFER RATES AND PHASING-IN ARRANGEMENTS

Institution	2024 Applicable O-SII buffer rate	Fully phased-in buffer rate	End of phasing-in period
APS Bank plc	0.375%	0.50%	2026
Bank of Valletta plc	2.00%	2.00%	N/A
HSBC Bank Malta plc	1.25%	1.25%	N/A
MDB Group Limited	0.875%	1.00%	2025

Source: Central Bank of Malta.

Directive No. 11.[1,2] Table 5.1 presents the O-SII scores of the four credit institutions identified as O-SIIs for 2024. Table 5.2 reports the applicable O-SII buffer rates for the four identified institutions which remained unchanged during the period under review. The rates are set in line with the current O-SII buffer calibration methodology, and an exercise of expert judgement where applicable.

The O-SII buffer requirement for the identified banks and the relevant transitory provisions are applicable from January 2024, as stipulated in the Statement of Decision.[3] An in-depth assessment on the O-SII buffer policy as applied in Malta can be found in Box 6.

5.2 Borrower-based measures

This section focuses on the BBMs enacted by the Bank. By targeting borrower behaviour and credit practices, the bank aims to mitigate the build-up of systemic risks, enhance the resilience of financial institutions, and foster sustainable lending practices.

The year 2023 marked the fifth year since the implementation of CBM Directive 16, which introduced BBMs domestically. Domestic banks submit their yearly internal audit reports which include an assessment of the banks' compliance with this Directive. In this regard, in 2023 the banks were provided with a set of guidelines to ensure homogeneous depth of analysis by internal auditors, including a deep dive into the usage of speed limits where applicable, and the homogenous reporting of audit findings. Compliance with the Directive is also analysed through loan-level data submitted by banks on newly issued loans on a quarterly basis.

In 2023 banks issued a total of 5,369 loans in line with the provisions of Directive 16. The majority of these loans (81%) were issued to Category I borrowers purchasing their primary residence, with

[1] The CBM-MFSA O-SII policy document can be accessed via the following link: https://www.centralbankmalta.org/site/Financial-Stability/O-SII/o-sii-policy-document.pdf?revcount=4986.
[2] The provisions in CBM Directive 11 for O-SIIs can be found in paragraphs 33-50 in the following link: https://www.centralbankmalta.org/site/About-Us/Legislation/Directive-11.pdf?revcount=5684.
[3] The 2024 statement of decision on the identification of O-SIIs and the related capital buffer calibration can be accessed via the following link: https://www.centralbankmalta.org/site/Financial-Stability/O-SII/2024-O-SII-Statement-of-Decision.pdf?revcount=5210.

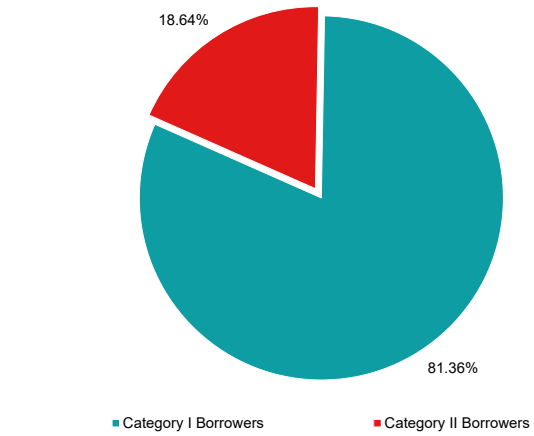
the remaining 19% of loans were issued to Category II borrowers purchasing secondary or buy-to-let residence (see Chart 5.1).

The average loan-to-value at origination (LTV-O) ratio, for loans sanctioned throughout 2023 was below the limits stipulated in the Directive namely of 90% and 75% for Category I and II borrowers respectively. Indeed, for Category I borrowers, the average LTV-O ratio has been rather stable throughout 2023 ranging between 68% and 70%, which is in line with the trend seen since 2021 Q1, and well below the limit stipulated for such borrowers. On the other hand, the LTV-O ratio for Category II borrowers was lower than that of Category I, ranging from 54% to 58%. This indicates a slight decrease compared to the peak levels recorded in the initial two quarters of 2021, where LTV-O had surpassed 62%, notably staying well below the threshold mandated in the Directive for such borrowers (see Chart 5.2).[4]

Regarding the debt service-to-income at origination (DSTI-O) metric which measures a borrower's repayment capacity, it remained consistent throughout 2023, aligning with the trend observed since Q1 2021. Notably for both borrower categories, it fluctuated between 29% and 32%, comfortably below the 40% limit prescribed in the Directive (see Chart 5.3). The DSTI is subject to a shock to the interest rate of 150 basis points (stressed). The aim of such shock is to act as a cushion against a period of rising interest rates over the life of a loan.[5]

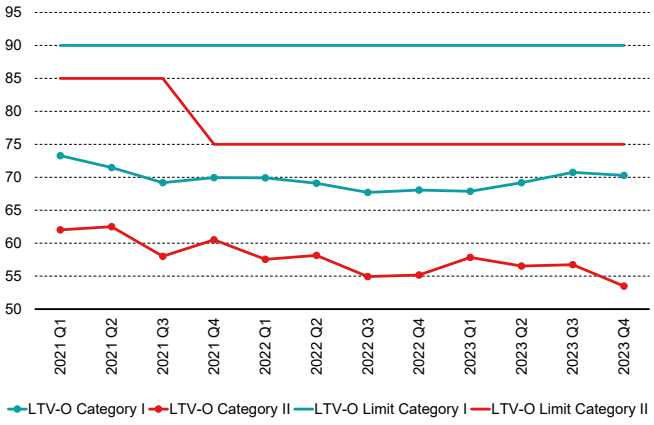
In terms of maturity, throughout 2023, similar observations were seen compared to previous periods whereby on average, loans to Category I borrowers have a term

Chart 5.1
SHARE OF LOANS ISSUED IN 2023 BY BORROWER CATEGORY



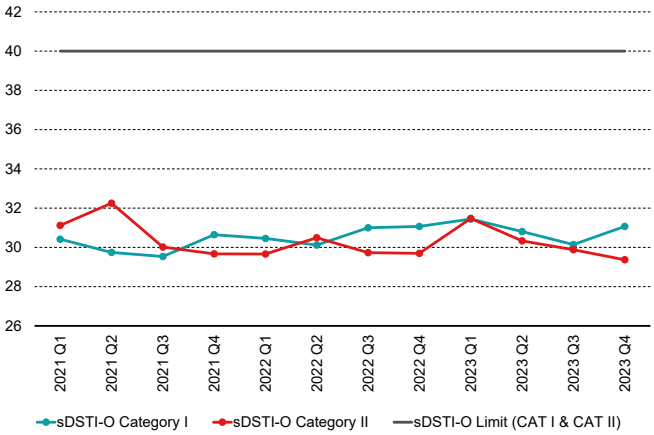
Source: Central Bank of Malta calculations.

Chart 5.2
AVERAGE LTV-O
(per cent)



Source: Central Bank of Malta calculations.

Chart 5.3
AVERAGE STRESSED DSTI-O
(per cent)

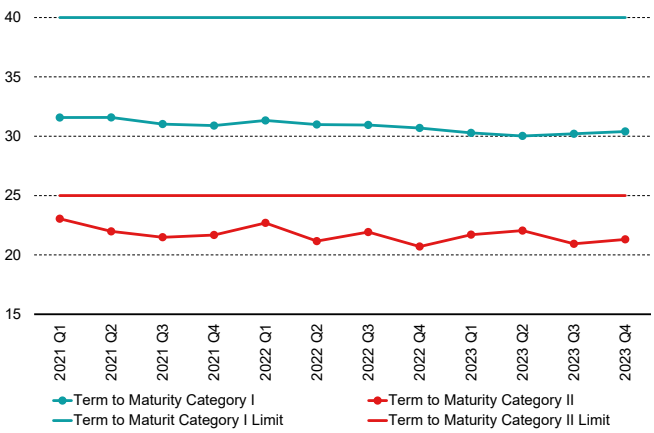


Source: Central Bank of Malta calculations.

[4] The fully phased-in LTV-O limit of 75% for Category II borrowers became applicable as from July 2021. Previously this was set at 85%.
[5] Between July 2022 (when key ECB interest rates turned back into positive territory for the first time since 2011) and December 2023, banks' interest rates for loans to households for house purchase in the euro area (annual percentage rate of charge) increased around 200 basis points (from 2.36% to 4.33%).

to maturity of around 30 years and loans to Category II borrowers have a term to maturity of around 22 years, both being below the 40 years and 25 years upper bound limit allowed by the Directive respectively (see Chart 5.4).[6]

Chart 5.4
AVERAGE TERM TO MATURITY
(years)



Source: Central Bank of Malta calculations.

5.3 Other domestic measures

As per the Recommendation of the ESRB on recognising and setting countercyclical buffer rates for exposures to third countries (ESRB/2015/1), the Bank carries out an annual exercise to identify the list of material third countries towards which the local banking sector is exposed. Similarly, in accordance with the Recommendation of the ESRB on the assessment of cross-border effects of and voluntary reciprocity for macroprudential policy measures (ESRB/2015/2), the Bank continuously reviews requests for reciprocation by other macroprudential authorities.

Voluntary Reciprocation

Reciprocation requests received in 2023:

Sweden – Risk Floor Weights for corporate exposures secured by CRE (35%) and RRE (25%) for institutions using internal ratings-based (IRB) approach.

Belgium – 9% systemic risk buffer (declined to 6% as from 1 April 2024) on retail exposures to natural persons secured by RRE for institutions using the IRB approach.

Non-reciprocation decision taken given inapplicability due to immaterial exposures towards each market and given that MT banks follow standardised approach for capital allocation.

No other changes were affected on the reciprocation stance of the Bank with respect to previously communicated measures recommended for reciprocation by other Member States. These remain currently active.

Material Third Countries

The criteria on which a third country is identified material is based on: (i) Risk-Weighted Exposures, (ii) Original Exposures and (iii) Defaulted Exposures as set in Article 4 of the Decision of the ESRB on the assessment of materiality of third countries (ESRB/2015/3).

For the period Q2 2024 till Q2 2025, the Bank identified the **United Kingdom** and the **United Arab Emirates** as material third countries for Malta and concluded that the CCyB rates set for the afore-mentioned third countries by their respective authorities are appropriate. The ESRB and the banks operating domestically have been notified accordingly.

[6] Directive 16 stipulates a maturity term of 40 years (Category I borrowers) and 25 years (Category II borrowers), or the official retirement age – whichever occurs first.

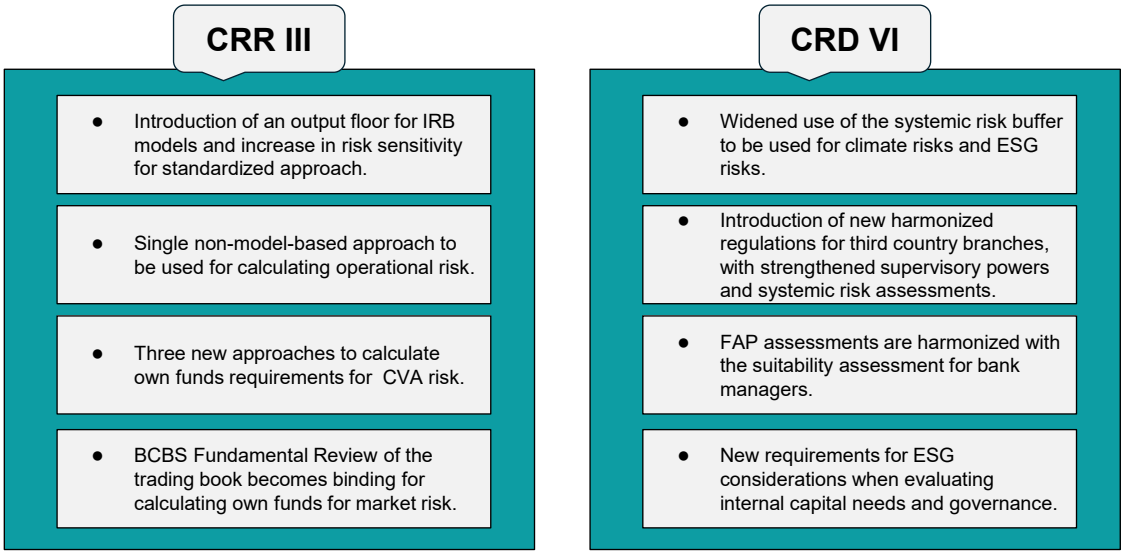
5.4 European regulatory developments

ESRB Recommendation on vulnerabilities in CRE in the EEA	Published on 25 January 2023, this recommendation requires Authorities to submit to the ESRB a first follow-up report on the actions taken to comply with Recommendation A – Improving the monitoring of systemic risks stemming from the CRE market, by 31 March 2024. The Recommendation provides the Authorities with adequate time to take policy decisions in response to identified risks in the CRE sector. Reporting on micro or macroprudential measures (Recommendations B and C) is not foreseen until 31 March 2026.
Single Resolution Board (SRB) MREL Policy	In May 2023, the SRB published the updated approach to setting MREL. The new updated MREL policy includes reference to the introduction of the Daisy Chain Regulation (Regulation (EU) 2022/2036) which improves the resolvability of banks within bank resolution groups. In addition, an update is made to the scope of entities subject to internal MREL whereby the asset size threshold for credit institutions considered as Relevant Legal Entities was reduced from EUR 10bn to EUR 5bn.
Crisis Management and Deposit Insurance (CMDI) framework	In April 2023, the European Commission put forward the CMDI proposal with the aim to enhance the current framework, particularly with regards to small and medium-sized banks. Overall, the proposal leverages on the current framework that is primarily aimed at a small subset of large banks by ensuring that failing banks can have an orderly market exit irrespective of their size and business model. In this regard, the proposal has three primary objectives: i. To preserve financial stability and protect depositors from bearing losses, by internalizing costs thus avoiding contagion risk. Additionally, taxpayers would also be safeguarded as reliance is made on industry-funded safety nets such as deposit guarantee schemes and resolution funds. ii. To shield the real economy from the effects of bank failure given that resolution is less disorderly than liquidation. In turn, clients can still have access to their bank accounts during a resolution period, whilst the critical functions of a bank are still preserved. iii. Wider coverage of protected deposits whereby the €100,000 coverage level for each depositor at each bank would still apply for all EU eligible depositors and, in addition, the proposal extends depositor protection to public entities and certain types of client funds such as investment companies, payment institutions and e-money institutions.

The new banking package: CRR III & CRD VI

The finalized texts of the EU banking package comprising of CRD VI and CRR III have been published on 6 December 2023, following finalization of discussions and negotiations which took place among the EU co-legislators. The next step is for the Council and the Parliament to formally adopt the texts envisaged in the course of 2024. An overview of the main changes which feature in the updated legal texts can be found in Figure 5.2.

Figure 5.2
THE NEW BANKING PACKAGE: CRR III AND CRD VI



BOX 6: THE SYSTEMIC IMPORTANCE OF O-SIIs IN MALTA[1]

1. Background

The CBM jointly with the MFSA annually identify O-SIIs, which are domestic credit institutions that, due to their systemic importance, could potentially create risks to financial stability. The identified O-SIIs are to maintain an O-SII capital buffer rate that enhances the resilience of these institutions by providing an additional layer of loss absorbing capital. A higher capital requirement acknowledges the greater impact that such banks could potentially have on the domestic financial system in case of failure.

The O-SII methodology is outlined in the CBM-MFSA policy document which is based on a set of EBA O-SII identification criteria guidelines, with some modifications to reflect national characteristics.[2,3] In line with the EBA guidelines, CBM and MFSA calculate the O-SII score by determining the weighted average market share for each indicator – this is a proxy of overall importance of a given credit institution for the Maltese financial system. The score is then multiplied by 10,000 to be expressed in terms of basis points. If the final O-SII score exceeds the threshold of 425 basis points, that credit institution is identified as an O-SII, and depending on the magnitude of the score, it will be classified into one of five buckets that correspond to an O-SII buffer.

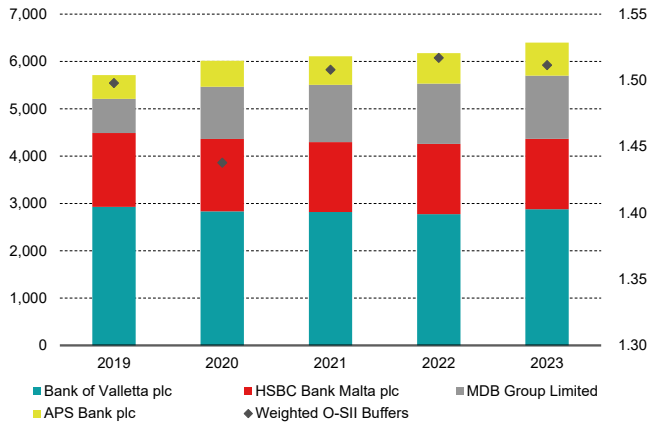
Against this background, section 2 delves into the relevance and coverage of this buffer in Malta. The box in section 3 compares MT O-SII buffers with other O-SII buffers applied in other European countries, while section 4 concludes.

2. O-SIIs significance to the Maltese banking sector

To investigate the relevance and coverage of this methodology, the CBM monitors a number of standard metrics. These help the Bank to gauge the extent of domestic systemic risk as measured by O-SII scores and the appropriateness of the 425 basis points O-SII identification threshold.

As can be observed from Chart 1, looking at the past five yearly assessments, a rising cumulative O-SII score can be observed. This highlights a trend of growing systemic importance of these institutions, reflecting potential higher risks to financial stability in case of failure. This increase can be attributed to the growth of APS Bank plc (39% increase in O-SII score since 2019) and MDB

Chart 1
EVOLUTION OF O-SII SCORES
(basis points; per cent)



Source: Central Bank of Malta calculations.

[1] Written by Ms Mariah Dimech, Senior Economist and Mr Brendon Cassar, Principal Economist within the Policy, Crisis Management and Stress Testing Department. The authors would like to thank Ms Christine Balzan, Manager; Mr Stephen Attard, Head within the Policy, Crisis Management and Stress Testing Department; and Mr Alan Cassar, Chief Officer Financial Stability and Statistics Division, for their valuable suggestions.

[2] The CBM-MFSA O-SII policy document is available on the following link.

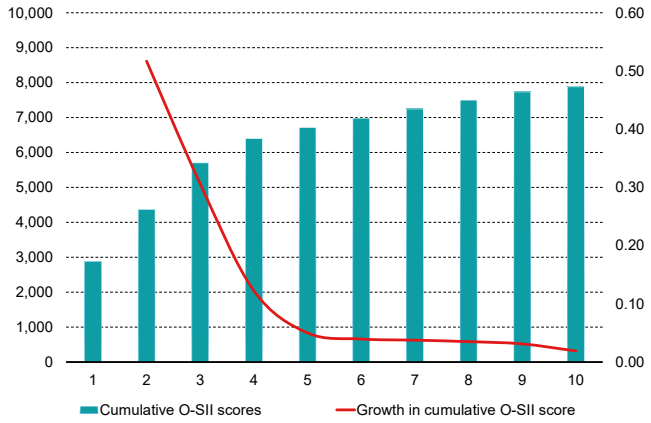
[3] EBA Guidelines on the criteria to determine the conditions of application of Article 131(3) of Directive 2013/36/EU (CRD) in relation to the assessment of other systemically important institutions (O-SIIs) (EBA/GL/2014/10).

Group Ltd (85% increase in O-SII score since 2019). The increased potential risk to the domestic financial system, has been reflected in the application of higher O-SII buffers. In fact, the weighted average O-SII buffers in Malta hovered around 1.5% between 2020 and 2023.[4] MDB Group Ltd and APS Bank plc were also requested to hold higher O-SII buffer rates through the years to reflect their growth and the related risk.

In a methodology based on weighted market shares, the total sum of all O-SII scores amount to 10,000 basis points, equivalent to a 100% share in all the risk categories captured in the O-SII methodology. Out of a maximum of 10,000 basis points, the latest assessment captured a total of 6,398 basis points of O-SII score through the identified four O-SIIs (see Chart 2). This is equivalent to around 64% of the total O-SII score of all credit institutions in Malta.[5]

When considering the O-SIIs on a scale of representativeness as seen in Chart 2, if a fifth institution is added to the list, the growth in cumulative O-SII score would only increase marginally by 5% and continue to decrease thereafter, tending to zero. This indicates that the current identification threshold of 425 basis points capturing four credit institutions is appropriate to address the Maltese banking sector's specificities, and adding further institutions adds little value.

Chart 2
CUMULATIVE O-SII SCORES
(basis points; per cent)

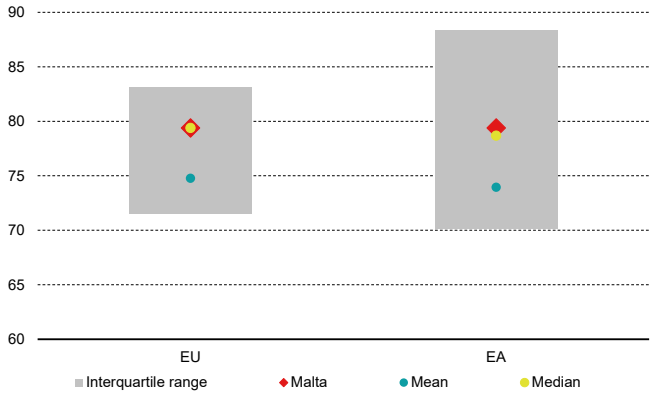


Source: Central Bank of Malta calculations.

3. Comparison of MT O-SII buffer rates with EU counterparts

It is important to assess whether the applied O-SII buffers adequately align with the elevated risk that the macro financial system is potentially exposed to by O-SIIs. This is a combined function of the number of O-SIIs being identified, their relative importance within the domestic economy, and the applied O-SII buffer rates. On average, EU Member States identify five

Chart 3
CUMULATIVE O-SII TOTAL ASSETS
(per cent of domestic total assets)



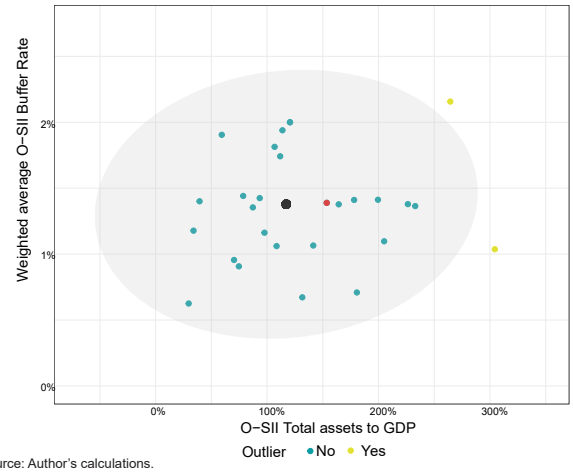
Sources: National O-SII reporting templates; Central Bank of Malta; author's calculations.
Note: Data based on latest reporting templates. Total Assets figure for Malta excludes branches.

[4] O-SII buffers are weighted by respective O-SII scores.
[5] A total of 21 credit institutions (including four branches of credit institutions exercising the right of establishment in Malta) comprise 10,000 basis points. For the purpose of Chart 2, only ten out of 21 credit institutions are taken into consideration.

O-SIIs within their jurisdiction. In Malta, four institutions are identified as O-SIIs. However, together they capture 79.4% of domestic total assets. As shown in Chart 3, this is in line with the EU median, and above the EU mean of 74.8%.[6] Compared with the euro area, Maltese O-SIIs capture a higher share of total assets than the euro area median (78.7%) and higher than euro area average (74.0%). This also indicates that the O-SII measure captures a substantial level of the domestic banking sector's core activities.

The range of buffer rates under the CBM-MFSA methodology reaches a maximum of 2.00%, which is below the 3% maximum allowed under the CRD. Some euro area countries revised their policies, with O-SII buffers in some jurisdictions reaching a maximum of 2.50%. These national variations can be compared by examining the relationship between applied O-SII buffer rates vis-à-vis the activity of the O-SII banking sector relative to GDP. In Chart 4, the weighted average O-SII buffer rate is compared with O-SII total assets as a percent of GDP, to capture the relevance of O-SIIs within domestic economies.[7]

Chart 4
RELATIONSHIP BETWEEN O–SII BUFFER RATES AND COUNTRY GDP
(outlier detection using Mahalanobis distance)



Source: Author's calculations.

Countries to the upper left-hand side of the graph have high O-SII buffer rates despite the smaller size of O-SIIs relative to GDP. Conversely, countries to the bottom-right set low O-SII buffers despite the larger size of total assets relative to GDP. Malta, depicted by the red point, has a weighted average rate for O-SIIs of 1.53%, which is close to the centre of the distribution.[8] When compared to other European peers, this could indicate that given their importance, Maltese O-SII have well balanced O-SII buffer rates.

4. Concluding remarks

O-SII buffers continue to play a crucial role in the resilience of the domestic banking sector. In fact, O-SII buffers account for 34.6% of total CBR, and the 2024 O-SII buffers added 0.97% worth of resilience to the domestic banking system's total capital ratios, a 0.027 percentage-point increase from last year. This buffer increases the loss absorption capacity of credit institutions through the increased availability of capital, thereby making them more resilient to financial stress. Upon evaluating the degree of importance of O-SIIs for the financial system, and following a comparison with other EU peers, the applicable buffer rates in Malta are reflective of the importance of such institutions to the domestic financial system.

6 EU mean and median derived by estimating O-SII total assets to domestic total assets at the individual country level.
7 Respective O-SII buffer rates are weighted by O-SII total assets.
8 The large black dot represents the centroid of the distribution, based on the median. This point is a relative measure that could indicate a proxy for O-SII buffer rates which are appropriate given O-SII importance relative to GDP.

APPENDICES

Appendix A
IMPLEMENTED POLICY MEASURES[1]

CAPITAL-BASED MEASURES[2]

Capital Buffer for Other Systemically Important Institutions (O-SII)	2021	2022	2023	2024	Implementation date
MDB Group Limited*	0.500%	0.625%	0.750%	0.875%	1 Jan. 2016 Revised 1 Jan. 2020
HSBC Bank Malta plc**	1.500%	1.500%	1.250%	1.250%	
Bank of Valletta plc	2.000%	2.000%	2.000%	2.000%	
APS Bank plc***	0.0625%	0.125%	0.250%	0.375%	

* MDB Group Limited's O-SII buffer rate is subject to a transitory period for the build-up of its fully-loaded O-SII buffer rate of 1%, in the year 2025.

** HSBC Bank Malta plc qualifies for the provisions of Article 131(8) of CRD, which results in the capping of its O-SII buffer rate from 1.50% to 1.25%.

*** APS Bank plc's O-SII buffer rate is subject to a transitory period for the build-up of its fully-loaded O-SII buffer rate of 0.5% in the year 2026 (and an interim rate of 0.4375% in the year 2025).

Sectoral Systemic Risk Buffer* (sSyRB)	2023	2024	Implementation date
All credit institutions involved in mortgage lending	1%	1.5%	1% as from end Sep. 2023 1.5% as from end Mar. 2024

* Effective as from 28 March 2023.

Countercyclical Capital Buffer (CCyB)	2021				2022				2023				2024	Implementation date
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	
All credit institutions	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1 Jan. 2016

BORROWER-BASED MEASURES

	2021	2022	2023	2024	Implementation date
BBMs	Issuance of amended Directive No.16	No changes occurred	No changes occurred	No changes occurred	1 July 2019 (amended 29 Nov. 2021)

OTHER POLICY MEASURES

Material Third Countries	2021	2022	2023	2024	Implementation date
Identification of Material Third Countries	United States of America, United Kingdom, United Arab Emirates	United States of America, United Kingdom, United Arab Emirates	United States of America, United Kingdom, United Arab Emirates	United Kingdom, United Arab Emirates	June 2016

	2021	2022	2023	2024	Implementation date
Banking Rule 09 on measures addressing non-performing and forborne exposures (BR/09/2023)	Implementation of NPL Reduction Plan for banks which exceed the 6% NPL ratio threshold	Implementation of NPL Reduction Plan for banks which exceed the 6% NPL ratio threshold	New regulatory allocation and implementation of EBA guidelines (reduction strategies for banks with NPL ratio > 5%)	No changes occurred	Revised in 2019 A revamped version of the Rule became effective on 1 Jan. 2023

[1] List of implemented policy measures up to 2024 Q1.

[2] Risk weights for RRE exposures are stricter than imposed than Article 126(1) CRR, where a 35% risk weights is applied to exposures that have an LTV ratio up to 70% as opposed to 80% per CRR rules. Risk weights for CRE exposures are in line with Article 126(2) of the CRR. This measure was enacted in 2008 and is still applicable:
https://www.esrb.europa.eu/pub/pdf/other/Esrb.notification230308_Other_MT~c0edd3b7a8.en.pdf

Appendix B
FINANCIAL SOUNDNESS INDICATORS

	Core Domestic Banks					Non-Core Domestic Banks					International Banks[1]					Total Banks[1]				
	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
Capital[2]																				
Regulatory capital to RWAs	20.1	21.7	22.7	23.0	23.9	19.2	20.2	20.3	20.4	21.5	45.7	52.5	46.3	41.1	38.5	23.6	25.8	25.6	24.9	25.4
Regulatory Tier 1 capital to RWAs	17.6	18.6	19.5	19.6	20.2	18.9	19.9	20.0	19.3	20.4	45.6	52.4	46.3	40.7	38.2	21.7	23.4	23.1	22.1	22.5
Leverage ratio	7.8	7.6	7.3	7.2	7.6	11.0	9.5	10.0	9.5	9.6	36.4	42.4	34.2	32.3	28.2	10.6	10.5	9.6	9.0	9.2
Large exposures to total own funds	76.3	69.6	66.1	83.3	71.2	140.7	175.8	173.0	184.7	132.8	88.5	83.3	67.9	75.6	67.4	85.7	81.8	76.4	91.6	76.5
RWAs to total assets	46.2	42.9	39.1	38.0	38.8	61.1	49.0	50.9	50.5	48.1	84.5	82.8	74.9	70.8	66.1	50.9	46.6	43.0	41.5	41.9
Profitability																				
ROA[3]	0.6	0.0	0.4	0.4	1.0	1.3	-1.5	0.2	-0.4	0.6	1.1	2.2	1.5	2.6	2.5	0.8	0.6	0.7	0.9	1.3
ROE[2,3]	6.7	-0.3	4.3	5.4	12.0	11.0	-12.7	2.4	-3.4	5.9	5.8	6.2	11.6	6.2	11.6	6.8	0.4	6.0	4.6	11.3
Operational cost-to-income ratio	66.3	68.0	75.2	82.3	50.9	47.0	95.8	82.2	81.0	67.4	39.9	35.1	47.2	44.5	55.7	53.9	51.7	61.8	62.9	53.8
Interest margin to gross income	63.7	73.2	72.1	71.8	78.7	31.5	48.9	40.9	54.0	63.8	56.1	64.8	56.4	49.2	36.0	58.0	67.8	62.7	59.3	59.8
Non-interest expense to gross income	67.8	70.0	77.0	83.2	51.4	47.1	97.5	83.4	81.3	68.2	39.9	35.2	47.3	44.5	55.7	54.7	52.7	62.7	63.3	54.1
Personnel expenses to non-interest expenses	43.8	45.8	41.2	36.4	46.6	50.2	48.3	48.5	47.3	48.4	13.5	12.7	10.8	10.0	9.1	34.6	34.2	30.3	27.6	30.3
Non-interest income to gross income	36.3	26.8	27.9	28.2	21.3	68.6	51.1	59.1	46.0	36.2	43.9	35.2	43.6	50.8	64.0	42.0	32.3	37.3	40.7	40.2
Net impairment charges to gross income	0.1	29.2	-3.4	-11.5	0.4	12.8	79.5	6.3	35.2	4.6	24.2	18.7	18.9	15.1	5.5	11.0	25.6	8.1	4.4	2.8
Asset Quality																				
NPLs to total own funds[2]	25.1	28.9	29.4	21.5	18.1	34.8	53.1	34.2	27.8	6.3	15.9	13.2	12.1	11.5	12.1	23.5	26.4	25.7	20.1	15.8
NPLs to total gross loans	3.2	3.7	3.5	2.7	2.5	5.4	7.1	5.1	4.3	0.9	1.8	1.9	1.4	1.3	1.5	3.0	3.5	3.1	2.5	2.1
Overall NPL Ratio excluding CBM placements	4.2	5.1	5.3	3.7	3.2	8.1	12.6	8.5	6.4	1.4	2.0	2.2	1.9	1.6	1.9	3.7	4.7	4.6	3.4	2.8
Non-performing exposures to total gross exposures	2.5	2.8	2.7	2.0	1.7	4.6	5.6	3.8	3.0	0.7	1.3	1.3	1.0	0.9	0.9	2.2	2.6	2.4	1.8	1.5
Total coverage ratio[4]	39.3	49.7	44.3	46.5	44.0	41.0	47.6	59.8	72.7	68.7	78.4	91.4	147.5	189.6	125.0	46.8	55.2	57.9	66.1	56.5
Unsecured loans to total lending	25.1	23.2	20.1	18.7	18.0	77.6	80.8	71.9	55.3	47.1	22.4	19.7	21.5	23.6	27.8	27.1	25.6	23.8	22.4	22.1
Share of Stage 3 provisions to total provisions	71.9	66.7	70.2	69.6	66.6	91.4	93.0	90.2	88.3	52.5	48.7	44.6	27.9	26.5	45.3	67.1	65.1	60.5	58.4	59.2
Forborne loans to gross loans	2.4	3.0	4.5	3.5	2.6	0.9	0.5	0.8	0.6	1.1	3.7	3.3	7.4	7.4	1.3	2.7	2.9	4.9	4.1	2.2
Liquidity																				
LCR[2]	343.7	328.2	359.9	380.0	360.4	374.7	325.4	356.8	316.0	393.0	303.0	686.6	2469.6	383.7	569.2	345.4	332.7	379.0	373.8	373.1
Liquid assets to total assets[2,5]	31.0	33.3	35.6	36.3	34.7	36.2	40.3	33.2	30.8	35.5	12.7	11.8	27.3	26.9	30.5	29.9	32.3	34.7	35.1	34.5
Customer loans to customer deposits	59.5	58.4	55.2	56.0	58.9	46.6	46.5	52.2	54.4	49.3	376.6	462.3	267.0	230.6	185.3	79.3	75.4	67.5	67.2	67.0
CBC on net cash outflows	139.0	169.9	189.3	251.0	284.6	245.4	238.1	300.8	240.7	267.2	116.1	326.3	601.9	58.6	190.2	149.5	180.2	204.0	239.8	278.6
NSFR[2]			174.0	187.1	175.2			178.4	174.2	191.3			155.3	118.4	136.4			172.8	180.4	173.2
Balance Sheet																				
Assets-to-GDP	172.8	192.8	181.2	163.1	151.2	20.5	22.8	22.1	19.6	18.5	95.8	86.7	71.9	57.9	51.1	289.1	302.3	275.2	240.6	220.9
Domestic debt securities to total assets	6.4	8.3	8.8	9.4	8.9	2.9	7.2	7.9	7.9	6.2	0.0	0.1	0.2	0.2	0.0	4.1	5.9	6.4	7.1	6.6
Foreign debt securities to total assets	15.4	13.8	12.4	16.5	19.2	10.7	12.2	15.9	18.0	17.3	26.4	25.2	24.0	29.8	35.8	18.7	16.9	15.8	19.8	22.9
Customer loans to total assets	48.0	48.2	45.4	47.2	48.8	33.1	33.2	34.5	38.2	36.5	43.4	43.9	36.9	41.7	38.4	45.4	45.8	42.3	45.1	45.4
Interbank exposures to total assets	6.2	5.3	4.9	4.9	3.9	14.7	9.7	9.4	7.2	6.4	13.5	12.3	17.8	10.0	7.6	9.2	7.6	8.7	6.3	5.0

[1] Satabank plc is excluded 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.

[2] Data for international banks excludes the branches of foreign banks.

[3] Based on profits after tax.

[4] For the core domestic banks the ratio includes 'Reserve for General Banking Risks' as per the revised BR 09/2019.

[5] Liquid assets defined in line with the EBA Liquidity Coverage Ratio (LCR DA) Methodology.