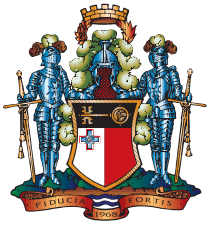
Periodical Part

Financial stability report / Central Bank of Malta. 14th (2021)

Financial stability report / Central Bank of Malta



BANK ĊENTRALI TA' MALTA
EUROSISTEMA
CENTRAL BANK OF MALTA

FOURTEENTH FINANCIAL STABILITY REPORT

2021

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The general risk assessment conducted in this edition of the Financial Stability Report takes into account events occurring up to March 2022. The cut-off date for regulatory and prudential returns is March 2022. The main insights presented in Box 4 on buffer usability are retrieved from the sampled banks which participated in a survey conducted in January 2022. The forecasts underpinning the Macro Stress Test's baseline scenario and the countercyclical capital buffer assessment are based on data published in June 2022. The source of data in tables and charts is the Central Bank of Malta unless otherwise indicated.

ISSN 2312-5918 (print)
ISSN 2074-2231 (online)

CONTENTS

PREFACE 9

ACKNOWLEDGEMENTS 10

1. MACROPRUDENTIAL RISK ASSESSMENT 11
Special Feature 1: Assessing Cyclical Risks in Malta 19

2. DEVELOPMENTS IN THE BANKING SECTOR 27
2.1 Core Domestic Banks 28
2.1.1 Profitability 28
2.1.2 Credit Dynamics 29
2.1.3 Asset Quality 30
2.1.4 Funding and Liquidity 33
2.1.5 Capital and Leverage 35
Box 1: Bank Lending Survey Results 36
2.2 Non-core Domestic Banks 42
2.2.1 Profitability 42
2.2.2 Credit Dynamics 42
2.3.3 Asset Quality 43
2.2.4 Funding and Liquidity 44
2.2.5 Capital and Leverage 45
2.3 International banks 46
2.3.1 Profitability 46
2.3.2 Credit Dynamics 47
2.3.3 Asset Quality 47
2.3.4 Funding and Liquidity 49
2.3.5 Capital and Leverage 49

3. STRESS TESTS 53
3.1 Macro Stress Testing Framework 54
Box 2: Review of Current Efforts for Mitigating Climate-risk and Related Scenario Design 55
Box 3: Treatment of Debt Securities in the Macro Stress Testing's Current Climate-related Adverse Scenario 64
3.2 Interest Rate Risk in the Banking Book 68
Special Feature 2: Net Stable Funding Ratio Stress Test 71

4. INSURANCE COMPANIES AND INVESTMENT FUNDS 79
4.1 The Domestic Insurance Companies 80
4.1.1 The Domestic Life Insurance Companies 80
4.1.2 The Domestic Non-life Insurance Companies 82
4.1.3 Domestic Insurance Risk Outlook 85
4.2 Domestic Investment Funds 85
4.2.1 Asset Composition 85
4.2.2 Investors 88
4.2.3 Risk Outlook 88

5. MACROPRUDENTIAL POLICY DEVELOPMENTS 91
5.1 Main Central Bank of Malta Developments 92
5.2 Other Developments 93
5.2.1 Changes to the Malta Development Bank COVID-19 Guarantee Scheme 93
Box 4: Insights from the Central Bank of Malta Survey on Buffer Usability 94
5.2.2 Malta Financial Services Authority Circulars 97
5.2.3 European Regulatory Developments 98

REFERENCES 105

APPENDICES 109

ABBREVIATIONS

AML/CFT	anti-money laundering/combating the financing of terrorism
APP	Asset Purchase Programme
ASF	available stable funding
BBMs	Borrower-Based Measures
BCBS	Basel Committee on Banking Supervision
BIA	Basic Indicator Approach
BLS	Bank Lending Survey
BR	Banking Rule
CA	Competent Authority
CBC	counterbalancing capacity
CBM	Central Bank of Malta
CBR	Combined Buffer Requirement
CCyB	Countercyclical Capital Buffer
CET1	Common Equity Tier 1
CfA	Call for Advice
CFIML	captive financial institutions and money lenders
CGS	COVID-19 Guarantee Scheme
CIU	Collective Investment Undertakings
CMDI	Crisis Management and Deposit Insurance
COR	Cost of Risk
CQD	credit quality deterioration
CRD	Capital Requirements Directive
CRR	Capital Requirements Regulation
DFR	deposit facility rate
DGS	deposit guarantee scheme
DGSD	deposit guarantee scheme directive
EBA	European Banking Authority
ECB	European Central Bank
EDIS	European Deposit Insurance Scheme
ESA	European Supervisory Authorities
ESG	Environmental, Social and Governance
ESMA	European Securities and Markets Authority
ESRB	European Systemic Risk Board
EU	European Union
EU-SCICF	European systemic cyber incident coordination framework
FA	financial auxiliaries
FATF	Financial Action Task Force
FSB	Financial Stability Board
FSR	Financial Stability Report
FV	fair value
FVTPL	fair value through profit and loss
GAR	Green Asset Ratio
GBP	British Pound Sterling
GDP	gross domestic product
G-SII	globally systemically important institutions
HH	households
HQLA	high-quality liquid assets
ICPF	insurance corporations and pension funds
IFD/IFR	Investment Firms Regulation and Directive
IFRS	International Financial Reporting Standards
IMF	International Monetary Fund

IPCC	Intergovernmental Panel on Climate Change
IRRBB	interest rate risk in the banking book
IRRD	Insurance Recovery and Resolution Directive
ITS	implementing technical standards
KPI	key performance indicators
LCR	Liquidity Coverage Ratio
LHS	left-hand scale
LTV	loan-to-value
MDA	Maximum Distributable Amount
MDB	Malta Development Bank
MFI	monetary financial institution
MFSA	Malta Financial Services Authority
MGS	Malta Government Stocks
MMF	money market funds
MREL	minimum requirements for own funds and eligible liabilities
MRO	Main Refinancing Operations
MSCI	Morgan Stanley Capital International
MST	macro stress testing
MT	Malta
NACE	nomenclature statistique des activités économiques dans la communauté européenne
NAV	net asset value
NCBs	national central banks
NDC	Nationally Determined Contributions
NFC	non-financial corporation
NGFS	Network of Central Banks and Supervisors for Greening the Financial System
NII	net interest income
NNII	net non-interest income
NPE	non-performing exposures
NPISH	non-profit institutions serving households
NPL	non-performing loans
NSFR	Net Stable Funding Ratio
NSO	National Statistics Office
NTI	net trading income
OCR	overall capital requirement
OFI	other financial intermediaries
O-SII	other systemically important institution
P&L	Profit and Loss account
P2G	Pillar 2 Guidance
PELTRO	pandemic emergency longer-term refinancing operations
PEPP	pandemic emergency purchase programme
PIF	Professional Investor Fund
RHS	right-hand scale
RI	relevant indicator
ROA	return on assets
ROE	return on equity
RRE	residential real estate
RSF	required stable funding
RTS	regulatory technical standards
RWA	risk-weighted assets
SCR	Solvency Capital Requirement
SDW	Statistical Data Warehouse
SME	small and medium-sized enterprise
sSyRB	sectoral systemic risk buffer
STREAM	Structural Macro-Econometric Model of the Maltese Economy

SyRB	systemic risk buffer
TLTRO	Targeted longer-term refinancing operations
TSCR	Total SREP capital requirement
UCITS	Undertakings of the Collective Investment in Transferable Securities
UK	United Kingdom
US	United States of America
USD	United States dollar
VIX	volatility index

THE DOMESTIC FINANCIAL SECTOR

Banks

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

Domestic Investment Funds

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

Domestic Insurance Companies

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

PREFACE

In line with its mandate of ensuring the soundness of the financial system, the Central Bank of Malta carries out regular risk assessments and stress tests to assess the preparedness of the financial system to withstand shocks. The Bank is also the competent authority in respect of macroprudential policy with a view to apply tools aimed at addressing the build-up of risks. The main outcomes of these assessments are published in the *Financial Stability Report* and its mid-yearly update.

This edition of the *Financial Stability Report* focuses on developments that occurred in 2021, with due acknowledgment to risks which intensified in early 2022. The economic recovery enabled the Maltese banking sector's profitability to improve, while on aggregate, liquidity remained ample and capital levels strengthened further. Banks' solvency and liquidity positions remained resilient, as also confirmed through stress tests and sensitivity analyses. Strong economic fundamentals as well as fiscal and other support measures have also enabled asset quality to remain sound, with a lower non-performing loans ratio reported. Meanwhile, the Russia-Ukraine war in early 2022 has dampened growth prospects, exacerbated supply chain disruptions, and contributed further to already-rising inflationary pressures particularly for energy and commodity prices, globally. Although the exposures of the domestic financial system towards these two countries are small and limited, nevertheless, the indirect effects from such developments could impact domestic financial institutions. Other sources of vulnerability may stem from the growing digitalisation of financial services which raise the exposure to cyber risks and greater competition. Climate change also poses additional risks on the balance sheets of stakeholders and market players in the financial sector. In this regard, this edition also includes for the first time, a climate risk related adverse scenario for the macro stress testing framework to assess the impact on banks' capital from increased transitional risks.

Cyclical risk is also on the rise, albeit affected by transitory factors emanating from COVID-support measures. The main sources of vulnerabilities stem from mortgages as elevated credit growth is contributing to higher concentration risks, as well as higher household indebtedness. At the same time, lending to corporates remained weak, particularly after accounting for loans under the Malta Development Bank COVID-19 Guarantee Scheme. This edition of the *Financial Stability Report* takes a deeper look at the drivers of cyclical risks through a Special Feature on the topic, highlighting the increased concentration towards property-related loans. This Special Feature also highlights the importance of continuous monitoring of such vulnerabilities to be able to adopt macroprudential policy measures in a timely manner should the need arises.

The *Report* also includes another Special Feature detailing the methodological framework of a newly-added liquidity test which assesses banks' liquidity stance over a 1-year horizon against the Net Stable Funding Ratio (NSFR) regulatory requirements. This edition also carries four boxed articles, one presents the main results of the bank lending surveys, another two boxes explain in detail the assumptions and methodology applied for the climate related adverse scenario, while the fourth focuses on the results of a Central Bank of Malta's survey on banks' buffer usability.

The analysis presented in this *Financial Stability Report* was prepared by the Financial Stability Surveillance and Research Department and the Policy, Crisis Management and Stress Testing Department of the Central Bank of Malta. The *Report* is reviewed and endorsed by the Central Bank of Malta's Financial Stability Committee, which is mandated to oversee the risk assessment and policy measures related to financial stability and the macroprudential framework.

ACKNOWLEDGEMENTS

The Financial Stability Committee

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Special Feature 2: NSFR Stress Test

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Box 1: Bank Lending Survey results

Ariana Bartolo (Economics Officer – Financial Stability Surveillance and Research Department)

Box 2: Review of current efforts for mitigating climate-risk and related scenario design

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Box 3: Treatment of debt securities in the MST's current climate-related adverse scenario

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Box 4: Insights from the CBM Survey on Buffer Usability

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1. Macroprudential Risk Assessment

1. MACROPRUDENTIAL RISK ASSESSMENT

Global economic growth rebounded amid continued challenges

In 2021, the global economy recovered as challenges stemming from the COVID-19 pandemic attenuated, with growth climbing to 6.1% in 2021.[1] This was also due to the vaccination programmes underway in most countries. However, the concurrent re-introduction of containment measures following the emergence of new variants continued to pose some level of uncertainty on the momentum of the recovery during 2021. In view of the increased geopolitical risks stemming from Russia's invasion of Ukraine, the International Monetary Fund (IMF) revised its global growth projections for 2022 downwards to 3.6% from the previous forecast of 4.9%.[2] Similarly, prospects for economic growth in the European Union (EU) and the euro area were both revised downwards to 2.7% in 2022.[3] Chart 1.1 shows annual gross domestic product (GDP) growth rates in selected countries. Although some advanced economies are expected to grow at a slower pace in 2022, the rate of growth is still higher than in pre-pandemic times. This likely reflects the extended level of policy support and strong vaccination rates in comparison to emerging and developing economies. Owing to the continued support from job retention schemes, the unemployment rate in the United States (US) and the United Kingdom (UK) both fell to almost 4% by end 2021.[4,5] Similar developments were observed in the euro area, with the unemployment rate declining by 1.2 percentage points to 7.0% in December 2021.[6]

Financial markets generally performed strongly in 2021. Yet, they still continued to face a challenging and uncertain environment, particularly due to intensifying inflationary pressures and expected monetary policy normalisation, all within an environment of rising cyclical risks. In this respect, global financial stability conditions weakened, particularly for Europe, influencing further the extent of the post-pandemic economic recovery. Geopolitical uncertainty heightened amid renewed trade tensions between the United States and China with developments relating to Taiwan being a flashpoint in their relations. The geopolitical situation also worsened as tensions between Russia and Ukraine escalated towards the end of 2021, culminating in February 2022 when Russia invaded Ukraine. This is evidenced by the Federal Reserve's geopolitical risk index which rose significantly particularly in the first five months of 2022.[7] While the financial sector in the EU is thought to have limited direct systemic links with Russia and Ukraine, any adverse implications through indirect effects, including volatility in the markets and increased cyber risks, could not be discounted.

As exports from both Ukraine and Russia came nearly to a halt in the first few months of 2022, further pressure was placed on already existing supply disruptions. This in turn exacerbated the increase in the prices of energy and other commodities. Furthermore, China's zero-COVID strategy and rising concerns about a weakening economy could further disrupt global supply chains. Such developments are causing higher inflationary pressures, with the euro area's inflation rate rising to 5.0% in December 2021, significantly higher than the European Central Bank (ECB)'s inflation target of 2%.[8] High inflation is expected to persist across most countries, which could weigh on debtors' repayment capabilities. Indeed, some advanced economies have already tightened their monetary policy stance to rein in inflation.

These recent developments have spurred the EU to reduce the dependence on Russian gas within a year. Over the medium term, this would be achieved through efforts aimed at enhancing energy efficiency as well as through transitioning to greener energy sources. This

Chart 1.1
REAL GDP GROWTH IN SELECTED ECONOMIES
(per cent)

Sources: IMF; NSO.
(1) Growth figures for 2022 reflect forecasts.

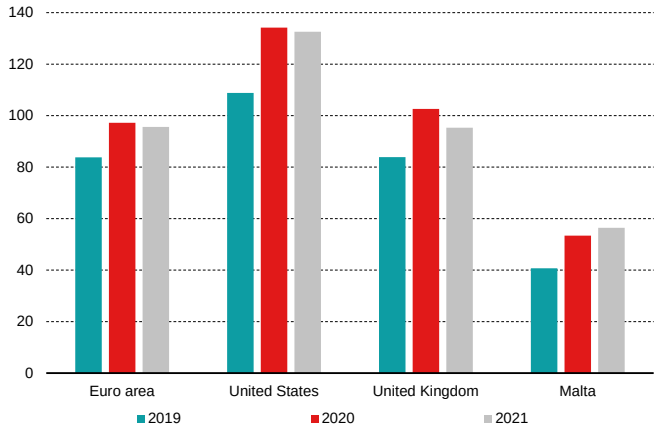
might also encourage further actions by governments and financial market participants to finance alternative sources of energy. In fact, preliminary discussions on a potential energy partnership between the United States and the EU to address rising energy prices going forward are already underway.

While near-term pandemic risks have lessened somewhat, medium-term cyclical risks in some countries are on the rise, largely on the back of rapid expansions in housing markets, coupled with higher private sector debt. While the financial position of both corporates and households across the euro area remained stable, any adverse impacts arising from the above-mentioned developments could not be eliminated going forward. In view of this, some national central banks (NCBs) are implementing macroprudential tools, such as the countercyclical capital buffer (CCyB), borrower-based measures (BBMs) and the sectoral systemic risk buffer (sSyRB), as well as combinations thereof. This, in a bid, to cushion against a potential correction in the real estate market and strengthen the resilience of the financial system (see Special Feature 1).

Global government debt levels surged further

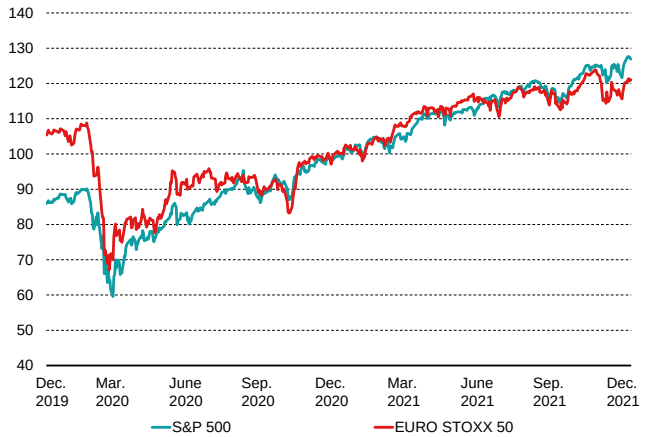
The substantial fiscal policy support since the onset of the pandemic has increased the interdependency amongst governments, banks, and firms; known also as the sovereign-bank-corporate nexus. This, combined with other subsidies, also led to a surge in government debt globally, raising concerns on fiscal sustainability as countries became more financially stretched. Government debt in the euro area rose to almost 96% of GDP in 2021, up by around 12 percentage points in two years (see Chart 1.2). Among the selected advanced economies, the United States registered the highest increase compared to pre-COVID levels, while in the UK, debt accounted for almost 96% of GDP in 2021. In contrast, debt sustainability risks in Malta remained contained with the government debt-to-GDP standing at 57% in 2021.[9] Prevailing risks, amplified by the war in Ukraine, may negatively impact euro area governments' finances, though in the short-term such risks are perceived to remain contained.[10]

Chart 1.2
GOVERNMENT DEBT-TO-GDP RATIO IN SELECTED ECONOMIES
(per cent)



Sources: Eurostat; IMF; Central Bank of Malta.

Chart 1.3
GROWTH IN STOCK MARKET INDICES
(end 2020 = 100)



Sources: Nasdaq; Investing.com; Central Bank of Malta calculations.

Risk sentiment in global financial markets improved though volatility remained high

Despite prevailing concerns, equities continued to appreciate with most stock indices reaching all-time highs. As shown in Chart 1.3, the S&P 500 and the EURO STOXX 50 indices rose to a higher extent when compared to their pre-COVID growth levels. In fact, in December 2021, the S&P 500 traded at almost

27% higher than in the previous year, while the EURO STOXX 50 appreciated by almost 21%, although such gains were largely reversed in early 2022.

Yields on most 10-year sovereign bonds rose in 2021 to reach pre-COVID levels. Compared to December 2020, the 10-year US Government bond yield increased by 65 basis points to 1.5%. The yield on the 10-year German bund also rose, but at -0.2% remained in negative territory towards the end of 2021. However, the latter turned positive in early 2022 as bond yields rose somewhat in the first months of the year.

Meanwhile, bond issuances by corporates in the United States and euro area picked up at a slower pace in 2021, as relative spreads remained historically low for both investment-grade and high-yield investments. The improvement in financial markets reflected positive risk sentiment by investors as the progress in vaccination, among other contributors, was better than originally anticipated. Yet, heightened uncertainty related to geopolitical tensions, a normalisation of monetary policy and a surge in inflation have caused swings in the markets, particularly during the first months of 2022.

The EU banking sector remained resilient

In the face of the adverse effects of the pandemic, EU banks remained resilient on the back of solid capital levels which remained well-above minimum regulatory requirements. The EU average Common Equity Tier 1 (CET1) ratio declined marginally to 15.7% in December 2021 from 15.9%, a year earlier.[11] Meanwhile, demand for loans especially by European households rose throughout the year as the economic environment showed renewed signs of recovery. Banks have nevertheless maintained a cautious approach on their credit outlook. Indeed, most participating banks in the euro area bank lending survey (BLS) reported a persistent tightening in credit standards for loans to firms in 2021, with credit standards for mortgages expected to tighten over the first quarter of 2022 (see Box 1).

Asset quality of EU banks also improved with the overall non-performing loans (NPL) ratio standing at 2.0% in December 2021, down from 2.6% a year earlier.[12] Furthermore, overall forborne exposures also declined. Nevertheless, concerns on asset quality could resurface as support measures are wound down. Although the volume of loans under active moratoria decreased further, and loans under the Public Guarantee Scheme (PGS) remained stable, some sectors are still recovering from the impact of the pandemic which, coupled with pressing inflationary pressures, could impact debt repayment capabilities.

EU banks maintained a strong liquidity position, ending the year with a liquidity coverage ratio (LCR) of 174.7%. Their profitability also recovered, after the significant contraction in 2020, owing to lower impairment charges reported in 2021.

In the same vein, as the economy recovered, banks earned more income from fees and commissions. Banks also reported higher net interest income (NII), albeit to a lower extent, as the low interest rate environment was still affecting their margins. All this led to the Return on Equity (ROE) for EU banks to surpass pre-pandemic levels, standing at 7.3% in December 2021.[13] Nevertheless, the outlook for profitability much depends on the continued momentum of the economic recovery amidst other concerns, such as the growing competition from technology firms, the increase in cyber risks and emerging climate-related risks.

European insurance and investment fund sectors remained resilient to developing risks

The EU insurance sector also remained robust with healthy profitability and solvency indicators. On the other hand, developing risks, especially in the context of rising inflation and the prolongation of the Russia-Ukraine war, might hamper profitability prospects going forward. Such developing risks already had implications for the EU investment fund sector especially for fixed income funds with a larger share of longer-dated bonds, given their sensitivity to interest rate movements. Furthermore, amid heightened uncertainty in financial markets following Russia's invasion of Ukraine, investors have also shied away from higher-risk equity funds to safer markets. The crisis in Ukraine has also spilled over to the emerging market bonds, which has already suffered a deterioration in asset valuations.

Economic conditions recovered domestically, backed by effective support measures

Following the pandemic-induced decline in economic activity in 2020, the Maltese economy recovered, with real GDP growing by 9.4% in 2021. Concurrently, the unemployment rate fell by 0.9 percentage points to 3.2% in December 2021.[14] Although inflation picked up pace in Malta, rising to 2.6% in December 2021 from 0.2% a year earlier, inflation was still among the lowest in the euro area.[15]

On the fiscal side, despite being at a rather conservative level, government borrowing is set to face upward pressures due to new domestic projects and further support to households and firms. The latter includes measures to mitigate increases in the price of fuel, energy and wheat which have been severely impacted by the Russian invasion of Ukraine.

Resident credit growth was primarily attributable to higher mortgage lending, which rose by 10.8% in December 2021. This was to some extent driven by tax incentives which aided eligible prospective borrowers during the pandemic. Furthermore, financial stability risks stemming from the property market are perceived to be contained as the Central Bank of Malta's house price misalignment index indicates that house prices are generally in line with their fundamentals. However, property price growth picked up momentum, while the median advertised property price-to-per capita income ratio stood above its long-term average. Going forward, demand for mortgages could be sustained should additional fiscal measures be introduced, which could also support higher prices.

At the same time, lending to resident non-financial corporations (NFC) decelerated to just 0.4% by the end of 2021, compared to almost 9% in December 2020. This primarily reflected lower demand for loans through the Malta Development Bank (MDB) COVID-19 Guarantee Scheme (CGS), which drove credit during the height of the pandemic. Indeed, excluding loans granted under the MDB CGS, corporate credit would have declined by 3.4% in December 2021.[16] Such trends are also corroborated with responses from the BLS (see Box 1). Indeed, the sectors that benefitted most from the scheme were those sectors severely hit by the pandemic, such as the accommodation and food services sector which accounted for around 23% of the disbursed amount, followed by the wholesale and retail trade sector accounting for 19% of disbursed funds. While the MDB CGS was extended till June 2022, applications for loan moratoria in line with the Central Bank of Malta's Directive no.18 came to a close as from 31 March 2021.[17] As a result, resident loans under moratoria declined to just €14.1 million in December 2021, equivalent to 0.1% of the resident private sector loan portfolio.[18] Furthermore, the share of loans under moratoria which turned non-performing upon expiry of such payment relief, remained negligible, limiting the deterioration in banks' asset quality.

The various support measures helped to mitigate the adverse impact of the pandemic on the financial position of households and NFCs alike. Indeed, households were able to save more, with their financial wealth increasing further. Nevertheless, households' leverage rose to some degree as household debt continued to grow at a faster pace than financial assets, accounting for 21.6% by end of 2021. Although corporate debt increased, they became less leveraged compared to their assets, with the share declining to slightly less than 30% by the end of the year.

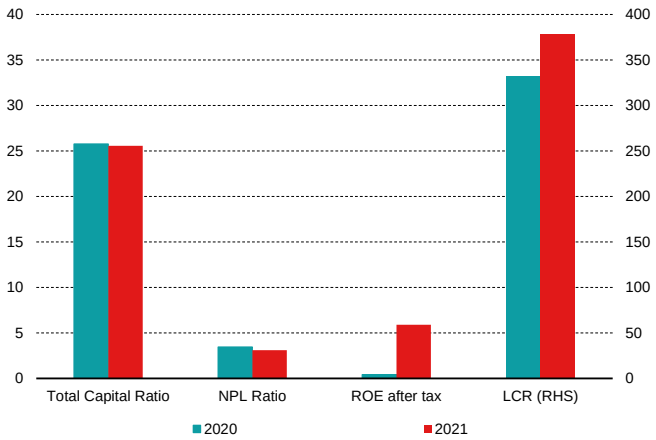
Based on the above developments, possible tentative signs of a buildup in cyclical risks could be observed, although the extent of how much of these risks are transitory in nature needs to be evaluated on a longer time span.

The strong financial position of the domestic banking sector proved sufficient to withstand the adverse effects of the pandemic

Despite emerging issues in 2021, in aggregate, domestic banks maintained healthy levels of capital, with the total capital ratio standing at 25.6% in December 2021, surpassing the minimum regulatory requirements (see Chart 1.4). The buffers which reflect the difference between minimum requirements and the actual capital, while currently sufficient, remained heterogeneous across banks and going forward these need to be maintained given the exigencies of regulatory and supervisory requirements.

At the same time, domestic banks continued to maintain ample liquidity buffers with the LCR increasing by a significant 45.9 percentage points to 378.7% in December 2021. This is complemented by the NSFR which became mandatory since the second half of 2021. Similarly, this ratio exceeded the minimum regulatory requirement of 100% in December 2021.

Chart 1.4
KEY RISK INDICATORS
(per cent)



Source: Central Bank of Malta.

Following the significant weakening in 2020, the profitability of the domestic banking sector improved, with the post-tax ROE ratio reaching almost 6% in December 2021, close to figures reported prior to the onset of the pandemic. Profitability increased largely on the back of lower net impairment losses reported across all three categories of banks and from higher fees and commissions, though at a lower extent.

Overall asset quality improved, with the NPL ratio declining by 0.4 percentage points to 3.1% in December 2021, reflecting both higher loans and advances and a drop in NPLs. Loans classified as IFRS Stage 2, and to a lower extent IFRS Stage 3, declined, while IFRS Stage 1 loans rose slightly. To this end, overall provisions decreased by 3.2%, with the coverage ratio nevertheless strengthening by 1.6 percentage points to cover almost 60% of NPLs in December 2021.

Domestically-relevant insurance companies and investment funds also remained resilient

During 2021, assets of the domestically-relevant investment funds increased moderately, reflecting higher holdings of equities, as markets continued to rally on the back of renewed optimism about the opening of economies and further government aid. In contrast, bond holdings declined, possibly in reaction to the impact of rising inflationary pressures on bond yields. However, the heightened geopolitical uncertainty caused by the Russia-Ukraine war spilled over into the stock market extending the volatility in most asset classes. Yet, the direct impact on locally-relevant funds is likely to be contained given the limited exposures to these two countries. Furthermore, funds benefit from healthy liquidity levels and low leverage.

Similarly, assets of the domestically-relevant insurance sector rose, also driven by increased participation in investment funds and higher exposures to equities. Both the life and non-life business reported growth in premia as the economy recovered, which together with higher investment income offset the increase in claims and provisions to result in higher profitability. Insurance companies continued to operate on healthy capital and liquidity levels.

Risk horizon and projections

Going forward, especially in the short-term, the intensification of geopolitical risks, primarily those related to the Russia/Ukraine crisis, places further concerns on global economic growth prospects as its economic effects are spreading quickly. The war has exacerbated pressures on supply-chain distributions and commodity prices, especially given the importance of both Russia and Ukraine in the euro area's export market. To this end, risks related to inflation remain tilted on the upside, while possible threats to the profitability of financial sector participants cannot be excluded, as the uncertainty induced by the pandemic persists. Indications are that the ECB will gradually begin the normalisation process of monetary policy as early as July 2022 and the likelihood of an exit from negative interest rates during 2022 is increasing.

Furthermore, authorities worldwide need to account for risks arising from the fast-paced adoption of digital services by institutions, which is likely to increase cyber threats. As support measures are phased out, the continued monitoring of loan books is warranted for the early detection of asset quality issues. This also ties in with a possible correction in real estate markets. From a domestic perspective, forecasts carried out by the Central Bank of Malta indicate a possible slowdown in property price inflation, at least until 2024. Other more longer-term risks that need to be kept on the radar of financial institutions and authorities include those arising from climate change. In this regard, further data disclosures are necessary to allow for appropriate and harmonised risk assessments across countries not only for credit institutions, but also for other institutions, such as insurance companies and investment funds.

Owing to these developments and rising inflationary pressures, the Central Bank of Malta revised downwards its GDP forecasts to 5.4% in 2022, while the unemployment rate is expected to remain relatively

Table 1.1
SUMMARY OF RISKS

Main vulnerabilities and risks for the financial system	Type of risk	Nature of risk	Change in risk level since FSR 2020	Risk assessment one year ahead
Vulnerabilities within the financial system				
Credit quality of the loan portfolio	Credit/Profitability	Cyclical/ Structural	↔	↑
Concentration in sectoral lending	Credit	Structural	↔	↑
Developments in bank credit growth	Credit	Cyclical/ Structural	↔	↔
of which mortgage lending			↑	↑
of which NFC lending			↓	↓
Interlinkages between banks and the non-bank financial sector	Contagion	Structural	↔	↔
Operational risk	Contagion	Structural	↑	↑
Developments related to net income	Profitability	Cyclical	↔	↔
Domestically-relevant insurances	Liquidity/Solvency/ Profitability	Cyclical/ Structural	↔	↔
Domestically-relevant investment funds	Credit/Solvency/ Profitability	Cyclical/ Structural	↔	↔
Vulnerabilities outside the financial system				
Domestic macroeconomic developments	Credit/Profitability	Cyclical	↔	↔
Real estate market developments	Credit/Contagion	Cyclical	↔	↔
Exposures of the financial sector to domestic sovereign	Profitability/Contagion	Structural	↑	↔
Economic conditions in the euro area and public debt sustainability	Credit/Profitability	Cyclical	↔	↑
Geopolitical uncertainties	Contagion	Structural	↑	↑
Prolonged low interest rate environment	Profitability	Cyclical	↔	↓
Reassessment in risk premia	Profitability	Cyclical	↑	↑

Risk position		Direction of risk	
Moderate		Increased risk	↑
Medium		Stable risk	↔
Elevated		Decreased risk	↓

stable in the coming three years.[19] Impact on the domestic financial sector arising from direct exposures towards Russia and Ukraine is seen to be contained due to the negligible ties in terms of the loan and securities portfolios, and limited trade with both countries. Any indirect impact on the Maltese economy is likely to occur through lower net exports and the effects of inflation on domestic demand and investment.

Although in June 2021, the Financial Action Task Force (FATF) placed Malta under enhanced monitoring, the implementation of key reforms in line with the agreed action plan proved effective with Malta having been removed from this list a year later.

SPECIAL FEATURE 1: ASSESSING CYCLICAL RISKS IN MALTA

1. Introduction

Systemic risk is the serious failure of the entire financial system or a part thereof, with adverse effects on economic development. Conceptually, systemic risks could be seen as encompassing two types of sources of risk, namely cyclical and structural (Hodula et al., 2021). The structural component is related to the build-up of financial fragilities, potentially amplifying adverse economic shocks and impair the proper functioning of the financial system. The cyclical component of systemic risk, on which this Special Feature focuses, is related to the dynamic evolution of the financial cycle, capturing potential macro-financial imbalances. Academic literature suggests that cyclical risks start building up well before a financial crisis. In an expanding phase of the financial cycle, against a backdrop of lax financial conditions, credit growth and prices of financial assets and property rise sharply. In turn, the elevated asset prices increase the value of collateral and thus the amount of credit the private sector can obtain, until the situation becomes unsustainable, possibly resulting in a crisis. Structural and cyclical risks are not independent of each other, and the nature of their interaction may change over the course of the financial cycle, with the levels of structural risk possibly impacting the degree of cyclical and credit risk materialization (Hodula et al., 2021).

Prior to the pandemic, cyclical risk was rising, leading to 13 European countries to activate a positive CCyB rate in view of the increased vulnerabilities in the household and corporate sectors and the property market.[20] With the onset of the pandemic in early 2020, several countries released buffers to provide banks with additional capital headroom and support their lending activities.[21] As economies started to recover in 2021, credit growth accelerated, private sector indebtedness rose further, coupled with strong activity in the real estate market. This triggered once again fears of build-up of cyclical risks, with a few countries setting higher positive buffer rates, some re-introducing the buffer while others setting it for the first time in their history.[22] However, other countries have maintained the rate at 0% after decreasing it during the pandemic or are yet to introduce one. The Russia-Ukraine war has heightened uncertainty, caused severe supply chain disruptions, and intensified inflationary pressures. Such developments forced some central banks to tighten their monetary policy stance. The latter could impact economic and credit growth prospects, thus countering the need for capital buffers targeting cyclical risks.

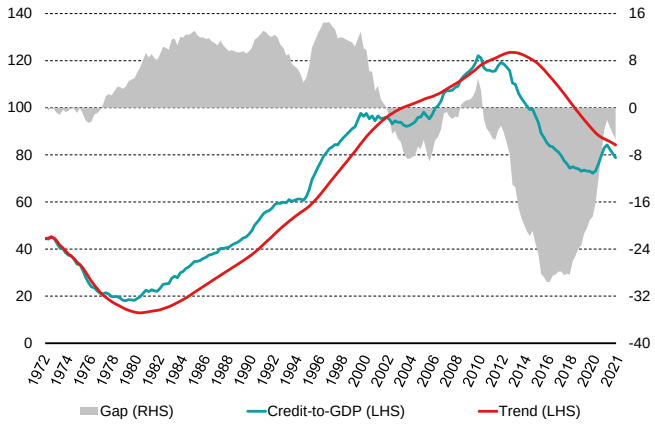
The Central Bank of Malta monitors cyclical risks and publishes its quarterly analysis on its website. However, recent post-pandemic developments highlight the importance of a deeper understanding and analysis of drivers of cyclical risks in Malta, particularly due to the possible transitory effects also stemming from the COVID-policy response. As a result, this Special Feature looks at historic trends of the major sources of systemic risks in Malta and presents an analysis of the headline and additional indicators most relevant for Malta grouped into three stretches.

2. Cyclical Risk Indicators

2.1 The headline indicator – the credit-to-GDP gap

The credit-to-GDP gap is widely used as an early warning indicator for a banking crisis (Borio and Lowe, 2002) while policymakers use it as a guide to activate the CCyB. As at the end of 2021, the bank credit-to-GDP gap in Malta remained in negative territory, standing at -5.35 percentage points (see Chart 1).[23] This however has

Chart 1
HODRICK-PRESCOTT FILTER (LAMBDA = 400,000) APPLIED TO THE CREDIT-TO-GDP RATIO
(per cent; percentage points)



Source: Central Bank of Malta calculations.

narrowed significantly since 2016 to bottom out at -3.9 percentage points in the last quarter of 2020, with the drop in part hastened by the pandemic-induced decline in GDP.

However, this measure was criticised by several academics especially due to the use of the HP filter for the calculation of the trend which can change significantly as more data is made available (end-point bias). Furthermore, structural breaks can also affect the calculation of the trend. As highlighted by Grech (2015), the credit market in Malta has changed radically over the last decades. While in the 1970s and 1980s, most bank credit was channelled to firms, the financial liberalisation of the 1990's led to an expansion in bank credit, mostly in the form of mortgages, possibly contributing to the increase in house prices. The three years prior to EU accession also contributed to structural changes in the economy where house prices grew on average by 14% per annum. Furthermore, the economy's orientation towards service activities became more pronounced, while the importance of manufacturing continued to shrink, possibly also shaping the demand for corporate bank credit going forward. All these factors, make the use of the HP filter to extract gaps from Maltese credit data even more problematic.

In addition, the assessment of cyclical systemic risks was also recently impacted by transitory elements, with governments and authorities introducing measures to support the economy during the pandemic. Such transitory elements may lead to a misinterpretation of the extent of cyclical risk, and thus would need to be further analysed when looking into the additional metrics.

The analysis proceeds by looking into three stretches: the households' stretch, the NFCs' stretch and property market stretch, where indicators within each stretch are standardised and compared with their historic trend since June 2009. Indicators within each stretch are then aggregated to arrive to an overall score.[24]

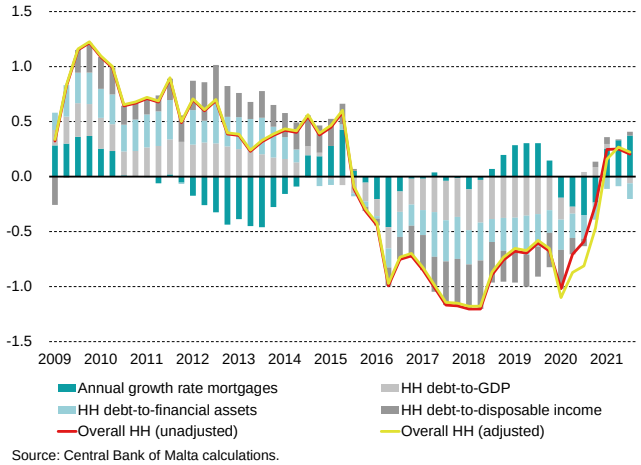
2.2 The households' stretch

Potential vulnerabilities in the household sector were analysed using four metrics namely growth in outstanding loans, and debt metrics such as household debt as a share of GDP, financial assets, and disposable income.

As can be seen in Chart 2, increasing risks were experienced soon after the great financial crisis, up until 2011 after which the overall household stretch score started to decline. In 2015, the score turned negative suggesting lower risks, as both credit and debt metrics declined. Such trend persisted until the first half of 2020, following which, both credit and debt picked up momentum.

Mortgages grew at double digit rates until prior to the financial crisis but decelerated to 6.2% in 2013 with growth subsequently fluctuating between 6% and 11%. By end 2019, mortgages were growing by about 10.3%, but with the pandemic, growth slowed down reflecting the effect of social distancing measures which prevented physical viewings of properties. However, the prompt policy response and the tax reflief scheme aided the recovery in the property market with growth in mortgages surpassing pre-pandemic figures and the long-term average of 8.5% since June 2009 to reach 10.8% by the end

Chart 2
HOUSEHOLDS' SECTOR STRETCH
(z-score)

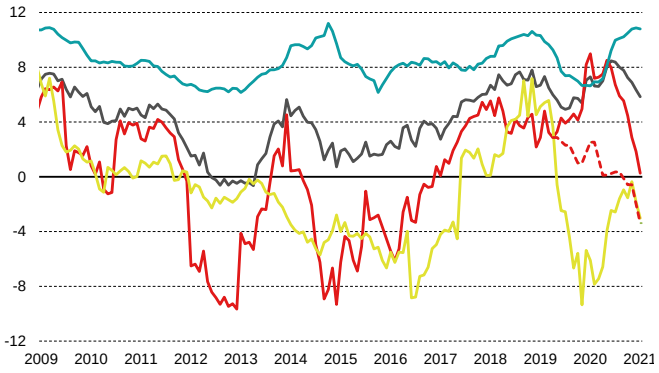


Source: Central Bank of Malta calculations.

of 2021 (see Chart 3). Such strong lending dynamics have affected the structure of the banks' resident loan portfolio, with the share of mortgages soaring from around a quarter in 2004, to just over half by end 2021.[25] Recent developments are deemed to be transitory, owing in part to the front loading of the decision by buyers and sellers to buy/sell their property to take advantage of such scheme. This front loading will persist in the data as parties eligible for tax benefits have till end September 2022 to sign the final deed for those promises of sales signed by end 2021. Furthermore, the impact of the scheme on mortgage lending is clearly visible by assessing new loans where these declined briefly in the first quarter of 2020 to increase significantly thereafter. Towards the end of 2021 the amount of new loans granted decreased indicating a possible slowdown in mortgages (see Chart 4). This is corroborated with off balance sheet commitments of banks which also slowed down during the initial stages of the pandemic to later resume their upward trend in early 2021 with a slight drop towards the end of the year.

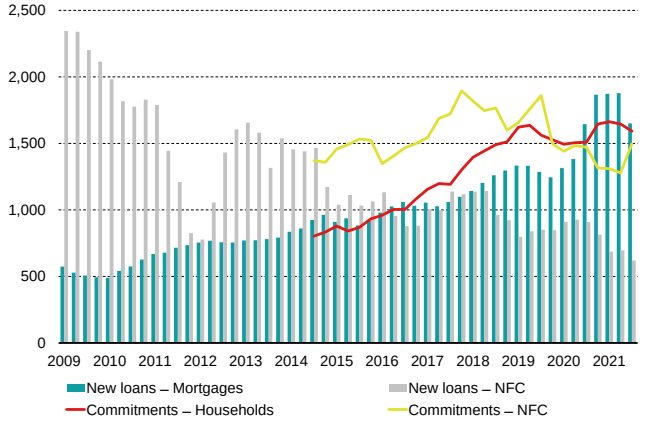
Just before the COVID-19 pandemic, household debt rose on average by 6.1% annually between 2009 and 2019, albeit at a slower rate than GDP, resulting in the household debt-to-GDP ratio to drop from 59.0% in 2009 to 47.7% in 2019 (see Chart 5). Subsequently, as GDP contracted in 2020, the share increased to 54.1% while household debt increased at a slower pace of 5.6%. Accounting for the decline in economic activity by keeping GDP constant at the March 2020 level, the score for the overall household stretch would have risen at a slower pace with the household debt-to-GDP ratio standing just below 50%.[26] In 2021, household debt resumed

Chart 3
ANNUAL CREDIT GROWTH RATE
(per cent)



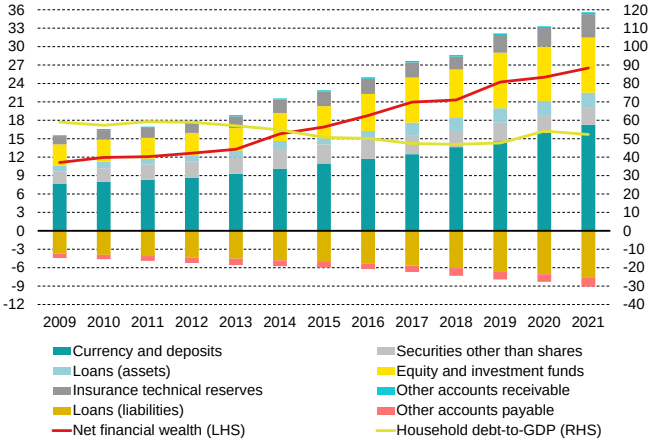
Source: Central Bank of Malta.

Chart 4
NEW LOANS AND COMMITMENTS
(EUR thousands)



Source: Central Bank of Malta.
Note: New loans refer to the 12-month moving sum. Commitments refer to actual data.

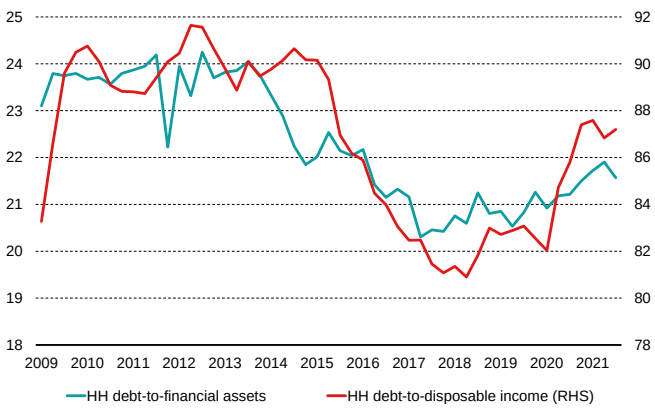
Chart 5
NET HOUSEHOLD FINANCIAL WEALTH
(EUR billions; per cent)



Source: Central Bank of Malta.

momentum, up by 8.6%, but since GDP recovered strongly, the household debt-to-GDP ratio fell to 52.3%, albeit higher than the 50% recorded in 2020 when maintaining GDP constant This stood still below the euro area average of 60.8%. Notwithstanding supporting factors, such as the noted strong balance sheet indicators, possible concerns emerge, as the increase in household debt has been outstripping the growth in disposable income and their financial assets since 2017. As a result, the household debt-to-disposable income increased to reach 87.2%, while household debt-to-financial assets rose to 21.6% (see Chart 6). Such levels remained below the levels reported in and before 2015, but should the increasing trend persist, risks to the household sector could be amplified, negatively impacting households' debt servicing capabilities, especially for the more highly-indebted cohort, particularly in a scenario of rising interest rates. To some extent the latter is mitigated given the stressed debt servicing rates inbuilt in the BBMs.[27]

Chart 6
HOUSEHOLD DEBT (LOANS) TO FINANCIAL ASSETS AND DISPOSABLE INCOME
(per cent)



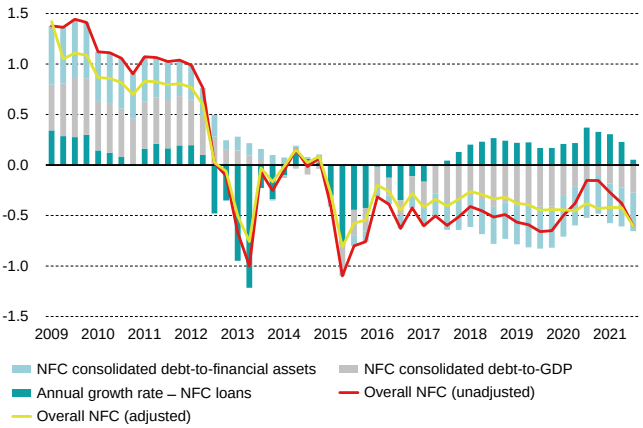
Source: Central Bank of Malta.

Going forward, the Bank expects mortgage growth to slow down somewhat at least until 2024, also in view to the potential rise in interest rates.

2.3 The non-financial corporations' stretch

As seen in Chart 7, the NFC risk score followed a downward trend since the global financial crises. The score remained generally in positive territory up until 2015 to turn negative thereafter. Unlike the household sector, recent developments point to further weakening. Between 2015 and 2017, both the credit and debt indicators contributed towards lowering NFC risks as credit to NFCs declined whilst debt indicators embarked on a downward trend. Despite the increase in debt throughout the years, as a share of GDP, NFC debt has been on a decreasing trend, standing at 228.9% as at end 2021. Similarly, consolidated NFC debt-to-GDP has been on a declining trend since 2009, except during the pandemic, to stand at 78.9% in 2021, compared to 105.8% in 2009. NFC leverage on a consolidated basis, defined as NFC debt as a share of their assets, narrowed to just below 30% and even lower than the euro area average (see Chart 8). Meanwhile, the annual growth for both new and outstanding NFC

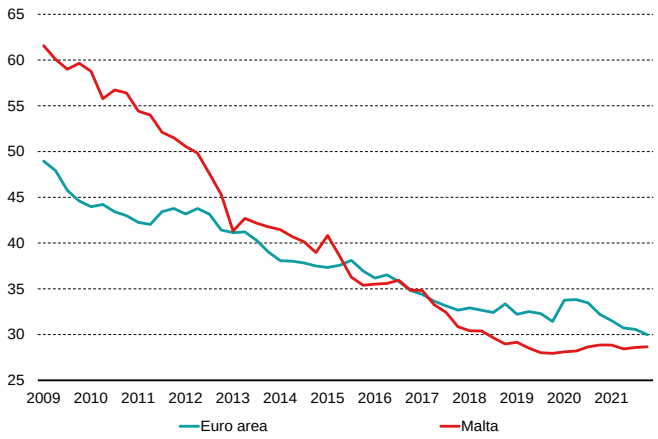
Chart 7
NFCs' SECTOR STRETCH
(z-score)



Source: Central Bank of Malta calculations.

credit turned positive in 2018, with the latter picking up momentum and peaking at 9.0% in 2020. This mainly reflected the MDB CGS, introduced in April 2020 to meet new working capital requirements for businesses experiencing cash-flow shortages, with around €263 million disbursed in 2020 and an additional €152 million in 2021.[28] However, while the availability of such scheme was extended up until June 2022, demand for such loans dwindled with only €12 million in loans disbursed in the first quarter of 2022. Growth in NFC lending decelerated significantly to just 0.3% as at end 2021. Furthermore, had the scheme not been in place, NFC credit would have contracted. Accounting for this scheme and the decline in GDP, the aggregate score would have been lower in 2021. These trends are corroborated by new NFC loans granted as well as off-balance sheet commitments to extend credit to NFCs, both of which embarked on a declining trend.

Chart 8
NFC LEVERAGE – NFC CONSOLIDATED DEBT-TO-ASSETS RATIO
(per cent)

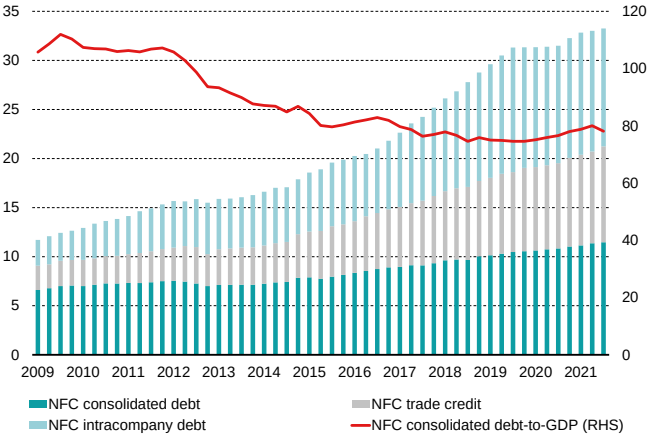


Source: SDW.

Historically, consolidated NFC debt, accounted for a significant share of outstanding debt, standing at around 56% in 2009. Although the level of consolidated debt did increase across the years, the largest rise was due to higher trade credit and intracompany debt. This may have policy implications going forward, as macroprudential measures such as the CCyB do not specifically target trade credit and intracompany debt. Since the latter two are the most common funding sources for NFC, such measures may prove to be ineffective if the need arises to implement them.

As the economy was growing at a fast pace, companies sought to finance their operations and capital expenditures from internal funds rather than through bank loans[29] (see Chart 9). As a result, the share of consolidated NFC debt on overall NFC debt – which includes trade credit – fell to 34.5% as at end 2021. Meanwhile intracompany funding became the most important funding source, accounting for 36.1% of total debt (2009: 22.5%), while trade credit grew to represent 29.4% (2009: 21.1%). From 2009 to just before the pandemic, NFC debt was rising on average by around 10% annually. However, in 2020, NFC debt grew only marginally as intracompany lending fell by almost 6% – reflecting a contraction in cashflow availability, which however led to higher trade credit. The economic recovery of 2021 also coincided with a pick-up in NFC debt, though at 5.6%, growth in NFC debt remained below pre-pandemic levels. As a result, cyclical risks derived from the NFC sector are perceived to be in check with the aggregate NFC score staying well below historic trend.

Chart 9
NFC DEBT
(EUR millions; per cent)



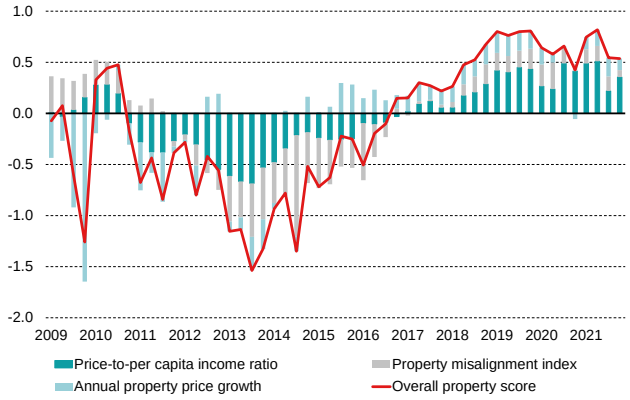
Source: SDW.

2.4 The property market stretch

Another important source of a potential build-up of cyclical risks is the property market, where overheating could expose the banking sector to vulnerabilities, as strong house price growth could compromise borrowers' affordability. In contrast, a sudden correction in property prices may affect the collateral value of banks' exposures and their asset quality. Therefore, the aggregate property market stretch risk score comprises of the annual growth in property prices, the price-to-per capita income ratio, and the house price misalignment index.

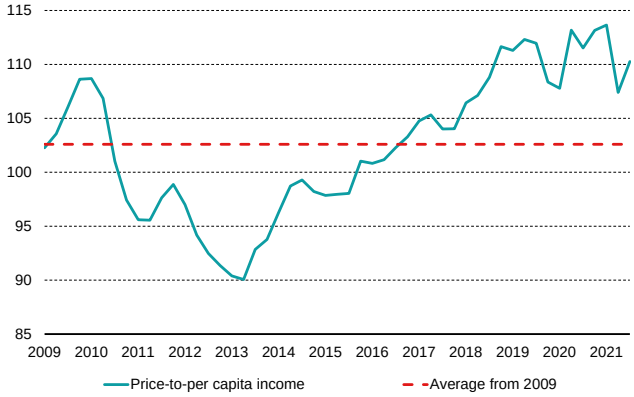
As can be seen in Chart 10, the risk score hovered below average between 2010 and 2016 primarily driven by the price-to-per capita income as well as the Central Bank's house price misalignment index which indicated that property prices were below their fundamental level (see Charts 11 and 12). Since 2017, the aggregate stretch score turned positive, peaking in 2019 largely on the back of rising property prices. However, just before the onset of the pandemic, property prices started to decelerate, picking up momentum during the pandemic, ending 2020 with a growth of just 1.6% (see Chart 13). Such developments contributed to a slight drop in the overall score, yet remained in positive territory. Subsequently, property prices recovered as demand picked up supported by tax incentives. Chart 10 highlights that the higher relative growth in house prices coupled with upticks in the misalignment index and the price-to-per capita income, are all contributing to potential vulnerabilities in the real estate market, standing at around 0.5 standard deviations, which however may come under further pressure

Chart 10
PROPERTY MARKET STRETCH
(z-score)



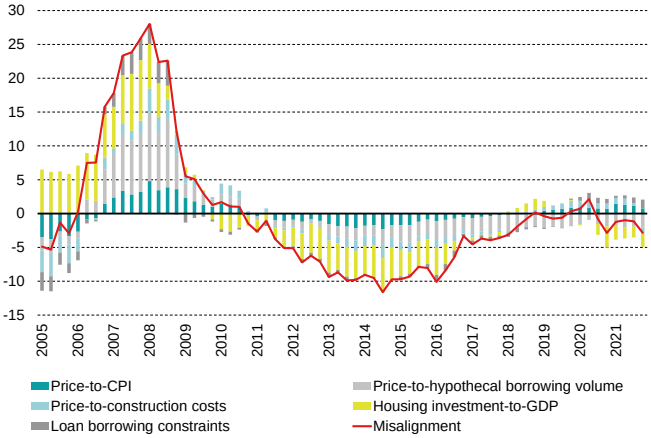
Source: Central Bank of Malta calculations.
Note: Property misalignment index as estimated by the Central Bank of Malta. Price-to-per capita income refers to 4-quarter moving average

Chart 11
MEDIAN PROPERTY PRICE-TO-PER CAPITA INCOME RATIO
(per cent)



Source: Central Bank of Malta.
Note: Based on the Central Bank of Malta advertised property prices. Refers to 4-quarter moving average with 2000Q4 = 100.

Chart 12
HOUSE PRICE MISALIGNMENT INDEX
(percentage points; based on transaction prices)



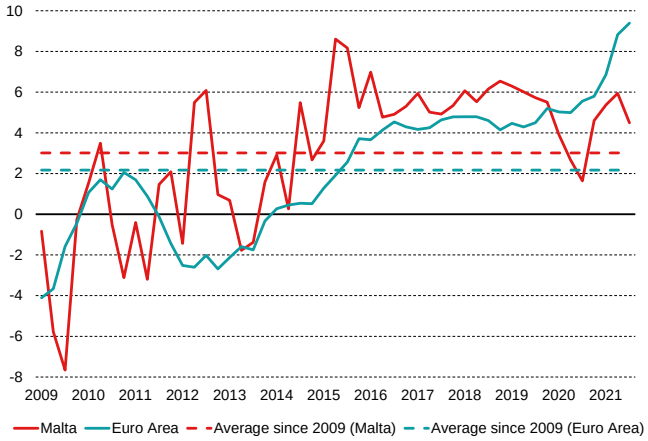
Source: Central Bank of Malta estimates.

should economic growth prospects deteriorate going forward.

3. Concluding Remarks

The financial sector plays a fundamental role in the financing of the economy but may also propagate strong swings in economic activity. Cyclical risks which are associated with the financial cycle, tend to build up gradually well in advance of financial crises and are normally measured by credit and asset price dynamics. In the upswing of a financial cycle, firms and households tend to become more indebted, and prices of financial assets and immovable property rise sharply. Peaks of financial cycles have historically tended to cause serious macroeconomic imbalances.

Chart 13
PROPERTY PRICES
(per cent; annual growth rates)



Source: Eurostat.

The assessment of indicators complementing the standard credit-to-GDP partially indicate a possible build-up in cyclical risks locally. These are found to be driven by the household and property stretches as otherwise the NFC sector's score remained in negative territory. This highlights the diverging trends being reported across the three main stretches assessed. Any decision to activate measures to counter any identified risk also depends on whether the current trends persist once the transitory elements driven by the pandemic fade away. Indeed, resident NFC lending has already weakened after the slight pick-up driven by the MDB CGS. NFC debt measures, both as a share of GDP as well as in relation to their assets, declined throughout the years, indicating that the NFC sector does not seem to be propagating any cyclical risks. On the other hand, the pandemic left its mark on the property market as valuation metrics stand above their long-term average, as well as the household sector, with mortgages resuming strong growth momentum after a short lull in the initial period of the pandemic. Such lending dynamics have contributed to higher household indebtedness. As fiscal incentives expire, a slowdown in mortgage lending is expected to materialize, which to some extent could already be detected in both the extent of new mortgage loans granted as well as in the number of promises of sale agreements, which fell in the first four months of 2022 compared to the same period in 2021. However, should the current growth rates be sustained, cyclical risks as measures by the the household and property market stretches could increase further. Furthermore, given an already overheating credit cycle, persistent growth rates would likely contribute to the materialization of risks, possibly even if such dynamics occur at a somewhat lower than average trend growth. Persistent elevated growth contributes also towards heightened structural vulnerabilities in terms of concentration risks, as mortgages and other property-related loans would continue to dominate the banks' resident lending book.

Against this backdrop, taming the cycle in the upswing can prove very challenging for macroprudential policy, especially in the context of the recent gradual phasing out of expansionary monetary policy and the diverging growth trends in some sectors. Furthermore, care should be taken not to jeopardise credit growth going forward, especially in areas where credit growth is anaemic, such as in the case of NFC lending, or which could be currently affected by transitory factors related to the pandemic and temporary fiscal measures. As discussed in this Special Feature, the sources of NFC vulnerabilities are currently emanating from aspects of corporate funding that are not ideally addressed through capital-based macroprudential policies. This also in the light of the significant rise in geopolitical tensions, particularly with the war in Ukraine, which are derailing economic recovery. As a result, these elements impact not only the timing of when measures should be implemented, but also the type of measures that best target any identified vulnerabilities.

Notes

[1] See IMF World Economic Outlook Update published in April 2022. Source: https://www.imf.org/en/Publications/WEO/Issues/2022/04/19/world-economic-outlook-april-2022

[2] For previous forecast see IMF World Economic Outlook Update published in October 2021. Source: https://www.imf.org/en/Publications/WEO/Issues/2021/10/12/world-economic-outlook-october-2021

[3] See European Commission Spring 2022 Economic Forecast published in May 2022. Source: https://ec.europa.eu/info/system/files/economy-finance/ip173_en.pdf

[4] See Federal Reserve Bank of St. Louis. Source: https://fred.stlouisfed.org/series/UNRATE

[5] See Office for National Statistics. Source: https://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/unemployment/timeseries/mgsx/lms

[6] See Eurostat data. Source: https://ec.europa.eu/eurostat/documents/2995521/14233878/3-01022022-AP-EN.pdf/cfe71acd-ef6c-b52b-085f-838598dd9a88

[7] The index grew to 134.79 in May 2022 from 108.61 in December 2021. Source: https://www.matteoiacoviello.com/gpr.htm

[8] Inflation in the euro area further increased to 8.1% in May 2022.

[9] See NSO *News Release* 068/2022 published in April 2022. Source: https://nso.gov.mt/en/News_Releases/Documents/2022/04/News2022_068.pdf

[10] See ECB Financial Stability Review May 2022 published in May 2022. Source: https://www.ecb.europa.eu/pub/financial-stability/fsr/html/ecb.fsr202205~f207f46ea0.en.html

[11] European Banking Authority (EBA) Risk Dashboard Q4 2021. Source: https://www.eba.europa.eu/sites/default/documents/files/document_library/Risk%20Analysis%20and%20Data/Risk%20dashboard/Q4%202021/1029360/EBA%20Dashboard%20-%20Q4%202021%20for%20publication.pdf

[12] See EBA Risk Dashboard Q4 2021.

[13] See EBA Risk Dashboard Q4 2021.

[14] See NSO *News Release* 096/2022 (31 May 2022).

[15] See NSO *News Release* 009/2022 (20 January 2022).

[16] Between April 2020 and December 2021, a total of 654 facilities were approved under the MDB CGS.

[17] Central Bank of Malta Directive No. 18 on 'Moratoria on Credit Facilities in Exceptional Circumstances'. Source: https://www.centralbankmalta.org/site/About-Us/Legislation/Directive-18.

[18] A total of 11 banks have granted EBA-compliant loan moratoria since the issuance of Directive No. 18.

[19] See Central Bank of Malta Outlook for the Maltese Economy 2022:2 https://www.centralbankmalta.org/site/Publications/Projections-2022-2.pdf.

[20] The countries with a positive CCyB buffer rate by end 2019 were Belgium, Bulgaria, Czech Republic, Denmark, France, Germany, Iceland, Ireland, Lithuania, Luxembourg, Norway, Slovakia and Sweden with rates varying from 0.25% to 2.5%.

[21] The countries which decreased their CCyB buffer rate during 2020 were Belgium, Bulgaria, Czech Republic, Denmark, France, Germany, Iceland, Ireland, Lithuania, Norway, Slovakia and Sweden.

[22] The countries which have announced an increase in their CCyB buffer rate during 2021 and early 2022 were Bulgaria, Croatia, Czech Republic, Denmark, Estonia, France, Germany, Iceland, Norway, Romania and Sweden.

[23] As at March 2022, the credit-to-GDP gap stood at -5.95 percentage points.

[24] Each stretch is composed of several indicators which are standardised using the z-score to be able to compare how many standard deviations each indicator is from its mean. These z-scores are given an equal weight and summed into a composite indicator for each stretch.

[25] This contributed to the share of property related loans to rise by over 23 percentage points to 65.2% as at end 2021, of which the share of lending to the construction and real estate sectors decreased to around 13% in 2021.

[26] GDP levels as at March 2020 are based on 4-quarter moving sum and reflect the highest GDP prior to the pandemic-induced contraction.

[27] The BBMs are governed by CBM Directive No.16. https://www.centralbankmalta.org/site/About-Us/Legislation/Directive-16-2021.pdf

[28] Furthermore, around €24 million and €13 million were granted respectively in 2020 and 2021 to the financial sector.

[29] See *Financial Stability Review* 2017, Box 2: NFC loans from other corporates – evidence from Malta's financial accounts statistics. https://www.centralbankmalta.org/site//Financial-Stability/WP-Other-Studies/box2-fsr-2017.pdf

2. Developments in the Banking Sector

2. DEVELOPMENTS IN THE BANKING SECTOR

2.1 Core Domestic Banks

The balance sheet of the six core domestic banks expanded at a stronger pace than in the previous year, with total assets increasing by 7.9% to €27.8 billion (see Chart 2.1). Notwithstanding, given the strong economic rebound, assets as a share of GDP declined by 8.0 percentage points to 189.1%.

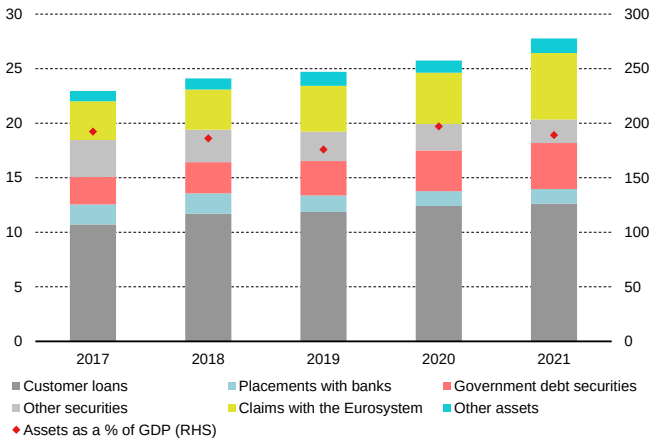
The strong growth in assets was primarily driven by higher placements with the Central Bank of Malta, which grew by almost 30%, to represent over a fifth of these banks' balance sheet, exhibiting their ample liquidity (see Chart 2.2).[1] Higher holdings of government debt securities also contributed to the expansion in the balance sheet, which rose by around 13%.

The overall growth of customer loans decelerated rapidly during the year under review, mainly due to a slowdown in NFC loans. As a result, compared to a year ago, the contribution to growth in assets was smaller. This resulted in the loan portfolio to decline by 2.7 percentage points to 45.4% of assets. Meanwhile, the significant contraction in interbank activity reported in the previous two years, seems to have slowed down to just 1.2%, mainly in the form of deposits.

2.1.1 Profitability

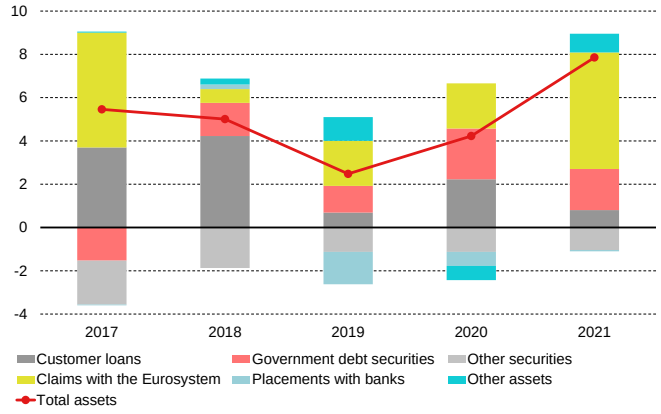
Profitability of the core domestic banks recovered somewhat following the large fallout caused by the pandemic in 2020. Pre-tax profits rose from almost nil to €142.6 million in December 2021. As a result, post-tax ROE and Return on Assets (ROA) increased to 4.3% and 0.3%, respectively, from -0.3% and -0.02% a year earlier (see Chart 2.3). Nevertheless, profitability for

Chart 2.1
DISTRIBUTION OF ASSETS – CORE DOMESTIC BANKS
(EUR billions; per cent)



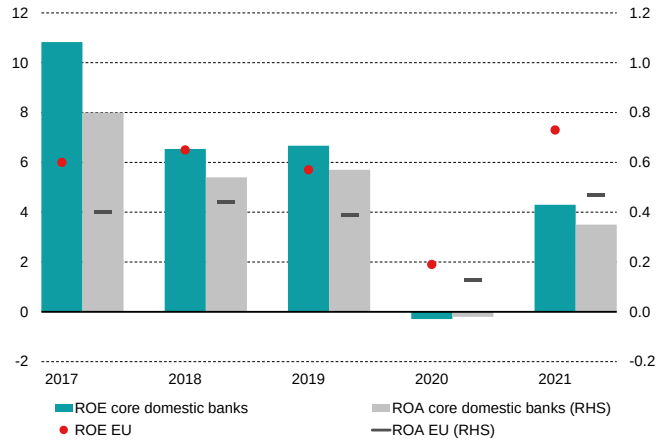
Source: Central Bank of Malta.

Chart 2.2
CONTRIBUTION TO BALANCE SHEET GROWTH – CORE DOMESTIC BANKS
(percentage points)



Source: Central Bank of Malta.

Chart 2.3
PROFITABILITY RATIOS – CORE DOMESTIC BANKS
(per cent)

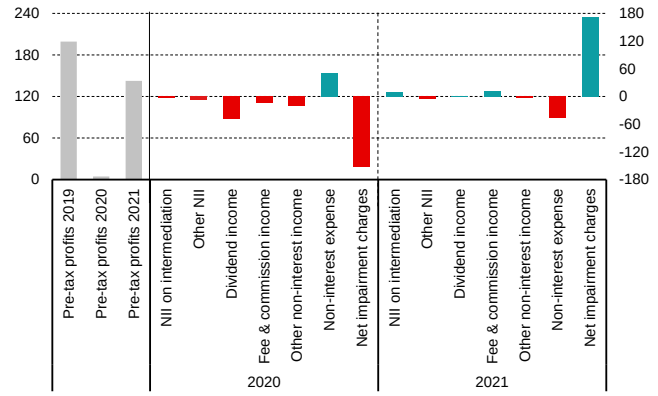


Sources: Central Bank of Malta; EBA.

core domestic banks continued to lag behind pre-pandemic levels and remained below that of European banks, which posted a weighted average ROE and ROA of 7.3% and 0.5%, respectively in December 2021.[2,3]

The lifting of social restrictions and the general economic recovery affected positively the risk outlook on borrowers' repayment capabilities, enabling core domestic banks to reverse around €18 million of provisions reported in 2020. As a result, net impairment charges played a major role in the significant increase in profitability during 2021 (see Chart 2.4).

Chart 2.4
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.

Apart from the reversal of provisions, fees and commission income also contributed positively to profits, increasing by about 11% mainly due to increased lending activity coupled with fees related to non-intermediation activities, such as fund management. Overall fees and commission income now account for over three fourths of the non-interest income. Meanwhile, dividends from related subsidiaries remained mute as the pandemic had impacted adversely the operations of subsidiaries. Conversely, although trading profits only represent a minor component in terms of its contribution to overall profitability, these continued to decline following unfavourable fair value (FV) movements on financial instruments and lower gains on foreign exchange activities.

Concurrently, NII increased by a marginal 0.8%, exclusively driven by higher NII from intermediation which expanded by 2.6%, as interest paid fell at a faster pace than interest income. The latter was impacted by the increased placements with the Central Bank of Malta which are remunerated at a negative rate. Other interest income from intermediation also fell. This mainly reflected lower interest received on loans to NFCs and other financial intermediaries (OFI), as related lending volumes declined, along with a lower weighted average interest rate on overall loans, which fell by 0.2 percentage point to 3.2%. The weighted average interest rate on deposits declined by 0.05 percentage point to 0.16% in 2021, leading to a narrower average interest rate margin. On the other hand, although bond holdings increased, core domestic banks reported lower NII from non-intermediation activities.

Non-interest expenses rose by a considerable 12.3%, mainly due to an increase in general administrative expenses and other operating expenses. These mainly related to additional contributions to the Deposit Guarantee Scheme (DGS) Fund on account of the increase in retail deposits, as well as a higher spending on IT-related technologies. Moreover, higher staff expenses were also reported, in part due to an increase in staff headcount, while fees and commissions payable and depreciation expenses remained relatively stable.

As a result, the cost efficiency of these banks deteriorated as the substantial increase in operating expenses outweighed the improvement in operating income. This was reflected in the operational cost-to-income ratio which rose by 7.2 percentage points to 75.3% in 2021, exceeding the EU average of about 63%.[4]

2.1.2 Credit Dynamics

Resident loans rose by 5.7%, driven by mortgages which picked up momentum following a brief lull during the pandemic. By end 2021, mortgages increased by 10.8% and surpassed growth rates recorded pre-pandemic, to just over half of the resident loan book (see Chart 2.5). Such developments in part reflect the possible front loading to take advantage of the pandemic-related government fiscal incentives. In addition

to this, replies of the BLS participant banks point towards improving housing market prospects which also drove growth in mortgages (see Box 1). Resident consumer credit continued to decline for the second consecutive year, but at a less pronounced rate at -4.3%, compared to -7.7% reported in the previous year.

Lending to resident NFCs decelerated throughout the year and fell by almost half a percentage point in December 2021, showing a persistent two-speed trend in lending when compared to the growth of mortgage lending. This decline mainly reflected the lower usage of the MDB CGS, following the strong uptake in 2020 to finance working capital and liquidity needs, with private corporate lending remaining generally stable.[5] Loans to construction and real estate sectors, professional, scientific and technical activities, and the energy-related sector contracted while loans to the accommodation and food services sector surged by 16.7% in 2021 (see Chart 2.6).[6] Meanwhile, public corporate loans, other than to the general government fell by 7.0%.

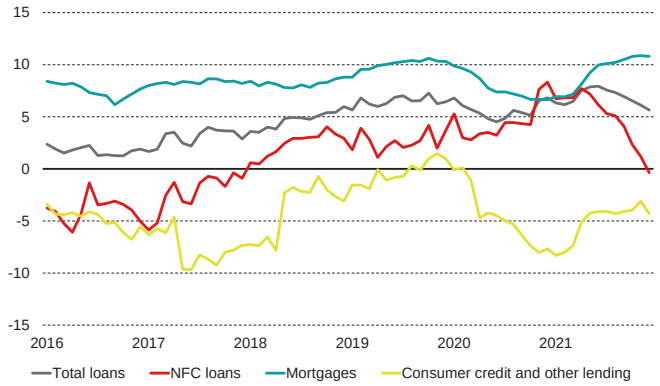
Non-resident loans dropped by over a third, largely driven by the liquidation of their syndicated loan portfolio, to account for just over 5% of the core domestic banks' overall loan book.

2.1.3 Asset Quality

Non-performing loans

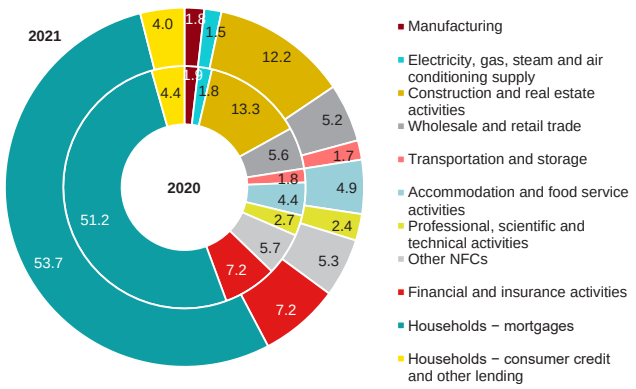
Core domestic banks reported an increase of around 2% in their stock of NPLs, significantly less than the 20% reported in the previous year. Such growth was attributed to resident NPLs which went up by 8.8%, as otherwise, non-resident NPLs fell by around 17%. As a result, the

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



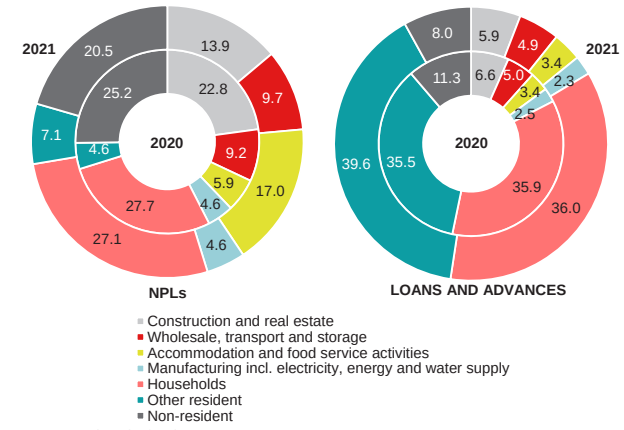
Source: Central Bank of Malta.
Note: A break in series was reported in May 2017 with regards to household consumer credit and other lending due to a reclassification exercise.

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



Source: Central Bank of Malta.

Chart 2.7
SECTORAL ALLOCATION OF LOANS AND ADVANCES AND NPLs − CORE DOMESTIC BANKS
(per cent)

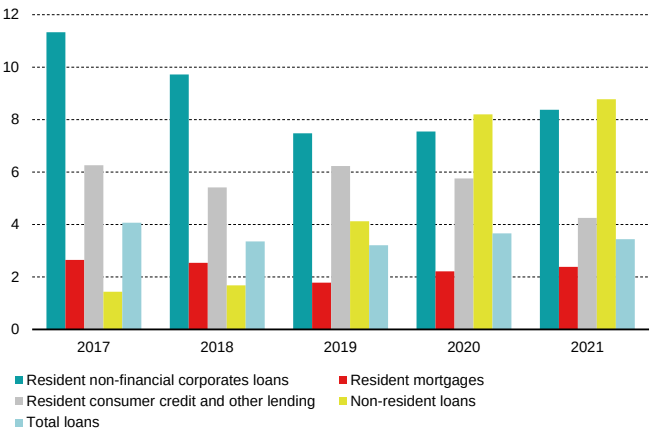


Source: Central Bank of Malta.

share of non-resident NPLs fell to around a fifth in 2021 (see Chart 2.7). The increase in resident NPLs was largely on the back of higher corporate NPLs operating in the accommodation and food services, the sector most affected by the pandemic, resulting in its share of overall NPLs to surge to 17.0%, from 5.9% a year earlier.

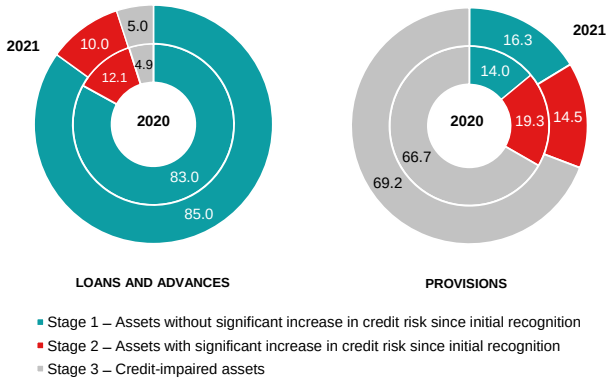
Nevertheless, as loans and advances grew at a faster rate of 9.0%, the overall NPL ratio declined by 0.2 percentage point to 3.4% in 2021 (see Chart 2.8).[7] The resident NPL ratio also fell from 3.1% in 2020 to 3.0% in 2021, as resident loans and advances grew by about 13%. The household sector remained resilient with the resident household NPL ratio improving by 0.2 percentage point to 2.6% in 2021. This reflected a drop in both the mortgage and consumer credit NPL ratios, standing at 2.4% and 4.3%, respectively. On the other hand, the NPL ratio for resident NFC loans deteriorated, as it increased from 7.5% to 8.4%.[8] The non-resident NPL ratio also weakened by 0.6 percentage point to 8.8% in 2021, as non-resident corporate loans, largely syndicate loans, dropped by a faster pace compared to non-resident NPLs.

Chart 2.8
NPL RATIOS – 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.

In 2021, loans classified as Stage 2 declined by 16.9%, as some of these loans were transferred to the less risky Stage 1 category. Although this reversed in part the increase reported in 2020, Stage 2 loans remained higher than the levels reported prior to the pandemic. Stage 1 loans rose to account for 85% of outstanding loans as at end 2021 (see Chart 2.9). Meanwhile, the proportion of Stage 3 loans increased only marginally to remain limited at 5.0% by end 2021. This reflects somewhat benign expectations of a contained fallout from the pandemic.

Loan loss provisions

Core domestic banks' overall provisions decreased by almost 10%, particularly related to non-financial and other financial corporates' loans. The lower provisions were mainly for Stage 2 loans, which fell by almost 30%, although provisions related to Stage 3 loans also fell, albeit by a lower extent.[9] Notwithstanding, Stage 3 provisions continued to account for most of the provisions, around 69%, while the remaining share of provisions was almost equally split between Stage 1 and Stage 2 loans (see Chart 2.9). As a result, the overall coverage ratio contracted to 46.6% in 2021, from 52.5% a year ago (see Chart 2.10). Moreover, the Reserve for General Banking Risks, as per Banking Rule 09/2019, declined by 1.9% to represent 2.7 percentage

points of the overall coverage ratio. Collateral backing NPLs continued to mitigate credit risk, standing at around 47%, which together with overall provisions covered about 94% of NPLs.

Meanwhile, the cost of risk (COR) which reflects the cost of managing risk and incurring losses, decreased from 1.1% in 2020 to 0.3% in 2021, given the drop in total provisions, standing below the average of 0.5% for EU banks.[10,11]

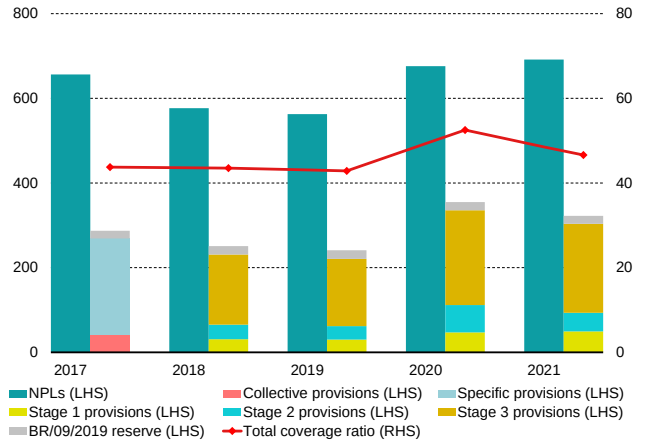
Loan exposures with forbearance measures[12]

Loan exposures with forbearance measures increased by over a half, to 4.4% of loans and advances. As EBA-compliant moratoria expired, loans that required adjustments to their terms and conditions had to be classified as forborne. As a result, forborne loans classified as performing rose by around 110%, to account for 54.1% of forborne loans (see Chart 2.11). Meanwhile, non-performing forborne loans rose by 24.3% in 2021. In this regard, although the bulk of forborne loans is mainly classified as performing, core domestic banks need to continue monitoring their loan portfolio and provisioning needs, since such loans tend to be more sensitive to repercussions from adverse economic conditions.

The securities portfolio

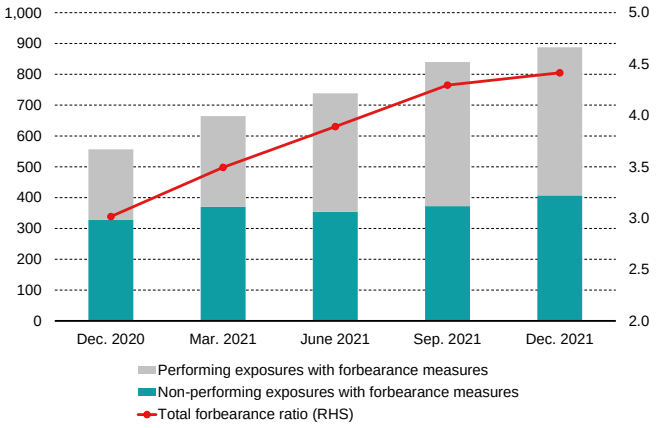
Core domestic banks reported an increase of 3.7% in their securities portfolio, accounting for around 23% of their balance sheet. The portfolio allocation remained largely unchanged from the previous year, with bonds accounting for about 93% of the overall securities portfolio. Investment in bonds rose by 3.7%, and in line with previous years, this was mainly driven by higher government debt securities, reinforcing bank-sovereign links. Home bias persists, with exposures

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



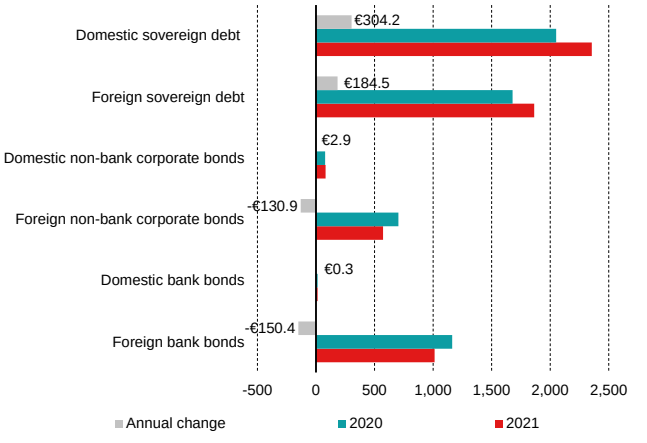
Source: Central Bank of Malta.

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



Source: Central Bank of Malta.

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



Source: Central Bank of Malta.

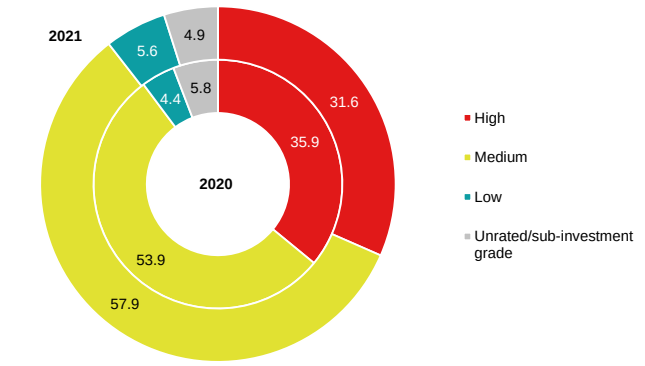
in domestic sovereign paper rising by 14.8%, to account for almost 40% of their bond portfolio (see Chart 2.12). Holdings of foreign sovereign debt, particularly of euro area governments, also increased, pushing their share in the bond portfolio to 31.6%. Meanwhile, holdings of both foreign bank and non-bank corporate bonds dropped further, possibly reflecting the still uncertain prospects. Holdings of domestic debt securities issued by bank and non-bank corporates continued to represent a small share of the bond portfolio, similar to levels in 2020.

Although equities increased by 3.6% on the back of investment in related entities, such holdings remained limited to 1.7% of the banks' balance sheet.

Quality of the securities portfolio

During 2021, the ratings of the bond portfolio deteriorated somewhat, as holdings of high-rated bonds declined by around 9%, on the back of lower holdings of non-resident financial entities. As a result, these holdings represented 31.6% of the bond portfolio. Meanwhile, medium-rated bonds increased by 11.5%, to account for almost 58% of the overall bond portfolio (see Chart 2.13). These were driven in part by higher domestic sovereign bond holdings. Moreover, low-rated bonds also increased by almost a third, to 5.6% of the overall portfolio. In contrast, unrated bonds fell by around 13%, with their share in the bond portfolio declining from almost 6% in 2020 to 4.9% in 2021. The core domestic banks did not record any non-performing securities, with their non-performing exposures (NPE) ratio still contained at 2.7%.[13]

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



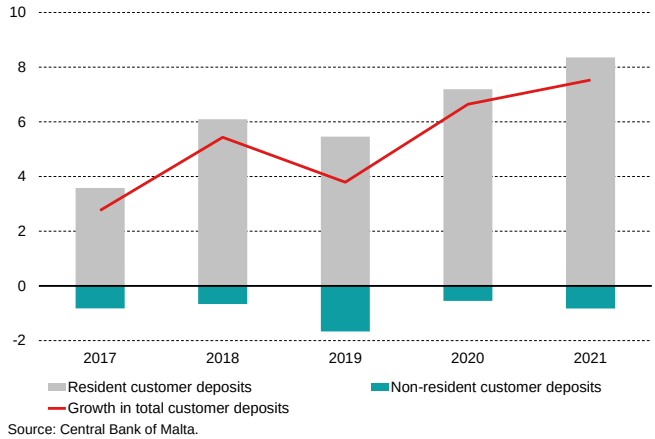
Source: Central Bank of Malta.
Note: Investment-grade bonds carrying a rating of AA- or above are regarded as 'high-rated bonds'. 'Medium-rated bonds' are those rated between A- and A+, whereas 'low-rated bonds' are those rated between BBB- and BBB+. Sub-investment grade bonds are rated lower than BBB-.

2.1.4 Funding and Liquidity

Customer deposits

Core domestic banks continued to fund their operations through customer deposits, financing around 82% of their balance sheet in 2021. Such deposits grew by 7.5%, as resident customer deposits, largely pertaining to households, surged by 9.1% (see Chart 2.14). Household deposits remained the main funding channel, accounting for more than two-thirds of the overall customer deposits (see Chart 2.15). Deposits from resident private NFCs, primarily within the real estate sector, together with other resident customer deposits, mainly from general government and insurance corporations and persions funds (ICPF), also continued to grow, up by 10.9% and 11.8%, respectively. These accounted for almost 15% and 12% of overall customer deposits respectively.[14] Conversely, non-resident customer deposits

Chart 2.14
CONTRIBUTION TO GROWTH IN CUSTOMER DEPOSITS − CORE DOMESTIC BANKS
(percentage points; per cent)

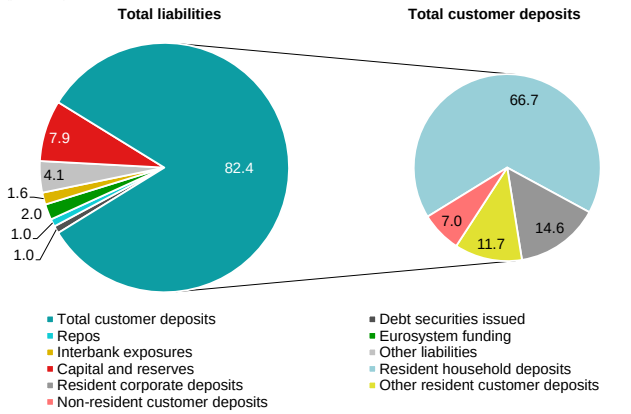


Source: Central Bank of Malta.

declined further by around 10%, resulting in the share of non-resident customer deposits to contract to 7.0% of overall customer deposits in 2021.

During the year, preference for short-term deposits remained strong, with the increase in overall deposits predominantly driven by demand deposits, up by 11.6% to about 83% of total deposits. In contrast, time deposits fell by around 6%, mainly reflecting the drop in deposits with a maturity exceeding one year, which fell by almost 10%.

Chart 2.15
BANKS' LIABILITIES COMPONENTS – CORE DOMESTIC BANKS (2021)
(per cent)



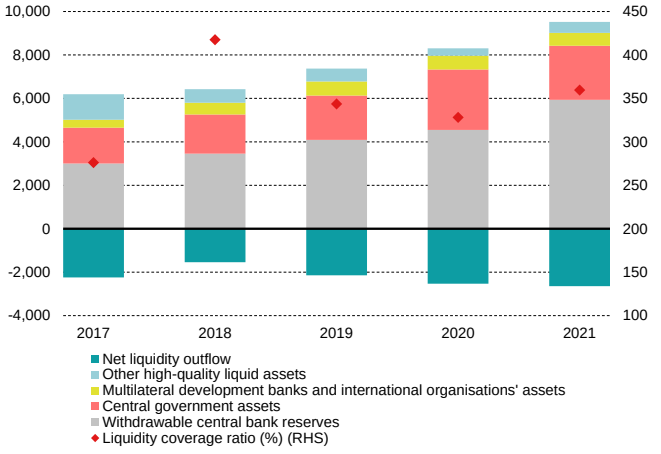
Source: Central Bank of Malta.
Note: Total customer deposits pie chart represents the 82.4% in the total liabilites pie chart. This adds up to 100%.

Eurosystem and wholesale funding

During 2021, core domestic banks tapped further into the Eurosystem funding to take advantage of the favourable funding conditions. In fact, this source of funding stood at around €564 million as at end 2021, compared to €13.5 million in the previous year. This largely reflected increased banks' participation in the Eurosystem's third series of targeted longer-term refinancing operations (TLTRO III), totalling €513.5 million, with about another €14 million in the ECB's main refinancing operations (MRO) and the remaining in USD operations. As a result, participation in Eurosystem monetary operations funded 2.0% of assets, as compared to 0.1% in 2020. Despite the significant increase in such funding, core domestic banks have ample unencumbered Eurosystem-eligible debt securities against which they could use for further funding. These amounted to almost €4 billion as at end 2021, of which 93.4% were unencumbered.

Meanwhile, funding through the interbank market (excluding repos) fell by around 23%, owing to lower non-resident intragroup lending, to finance just 1.6% of overall assets. Concurrently, funding through repo operations declined by 30.3%, with the share of repo funding contracting by 0.5 percentage point to 1.0% of overall assets. Furthermore, such group of banks increased their capital and reserves by 2.9% in 2021, to about 8% of their balance sheet. At the same time, other liabilities rose by around 5.0% to 4.1% of total assets. Financing through debt securities remained a limited source of funding, albeit some of such issues represent an important element in terms of MREL requirements.

Chart 2.16
LIQUIDITY COVERAGE RATIO – CORE DOMESTIC BANKS
(EUR millions; per cent)



Source: Central Bank of Malta.

Liquidity

Core domestic banks strengthened further their abundant liquidity buffers with the LCR improving by 31.4 percentage points to reach almost 360% in 2021 (see Chart 2.16). This reflected higher liquid assets which surged by 14.6% on the back of higher withdrawable central bank reserves and, to a lower extent, from other high-quality liquid assets. Meanwhile, net liquidity outflows grew by about 5%. In

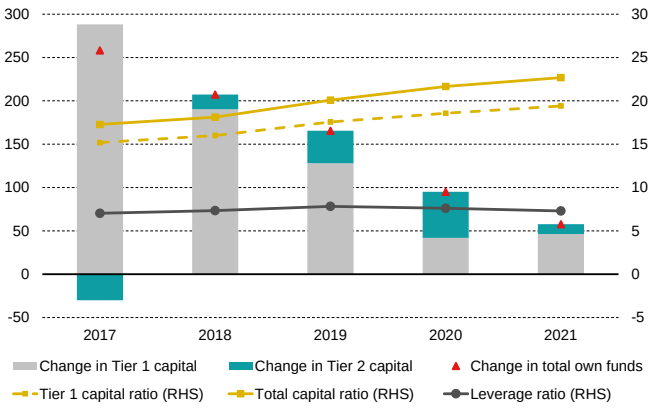
addition, the customer loan-to-deposit ratio for core domestic banks declined by 3.3 percentage points to 55.1% in 2021, remaining below the euro area average of about 94%.[15]

Concurrently, the NSFR stood at 174.0% in 2021, with all the core domestic banks exceeding the 100% threshold. Such strong liquidity position was also supported by the notable increase in counterbalancing capacity eligible (CBC) holdings of unencumbered central bank-eligible assets, up by 16.4% to represent 1.9 times the LCR net cash outflows and 18.5% of their balance sheet size.[16]

2.1.5 Capital and Leverage

Core domestic banks continued to strengthen further their capital position though at a slower pace compared to recent years (see Chart 2.17). In fact, while Tier 1 capital increased, growth was limited to 2.3%, with the Tier 1 capital ratio improving by 0.8 percentage point to 19.4% in 2021. Moreover, such banks also improved their Tier 2 capital, up by 3.4%, owing to an increase in intra-group subordinated loans. As a result, total own funds rose by 2.5% to reach €2.4 billion by end 2021. This coupled with the decline of 2.1% in risk-weighted assets (RWA), led to the Total Capital Ratio to increase by 1.0 percentage point to 22.7%. Meanwhile, the leverage ratio declined by 0.4 percentage point to 7.3%, albeit remaining well-above the minimum regulatory threshold of 3%, as banks reported a faster increase in assets compared to the fully phased-in Tier 1 capital.

Chart 2.17
CHANGE IN TOTAL OWN FUNDS, CAPITAL AND LEVERAGE RATIOS – CORE DOMESTIC BANKS
(EUR millions; per cent)



Source: Central Bank of Malta.

The risk profile of core domestic banks, defined as the ratio of RWA to total assets, improved further, decreasing by 3.8 percentage points to 39.1% in 2021 (see Chart 2.18). The drop in RWA was mainly attributable to lower credit risk exposure on loans to corporates and institutions. While credit risk declined, such development also reflected the increased mortgage lending by core domestic banks which attract a lower risk weight, yet simultaneously, this gives rise to higher concentration risks within the core domestic banks' lending portfolio. However, credit risk still accounted for the bulk of total risk exposures standing at around 91%. Moreover, RWA for operational risk dropped by 1.0% to represent 8.9% of RWA. Other RWA increased, driven by risk exposure from credit valuation adjustments, as otherwise risk exposures attributed to cover for foreign exchange and commodities fell, which in aggregate, represent just 0.1% of total risk exposure.

Chart 2.18
GROWTH IN ASSETS AND TOTAL RISK EXPOSURE – CORE DOMESTIC BANKS
(per cent)

Source: Central Bank of Malta.
Note: Percentages in circles represent the share of total risk exposure in 2021. Other percentages refer to the annual growth rate.

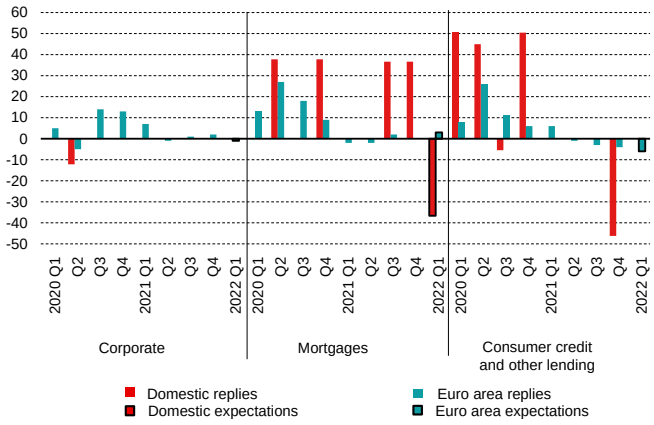
BOX 1: BANK LENDING SURVEY RESULTS

During 2021, the Bank carried out four quarterly rounds of the BLS to gather information on lending demand and supply conditions for both enterprises and households.[17] Expectations for the first quarter of 2022 were drawn from the replies in the January 2022 survey round. The BLS also contains several ad hoc questions which provide information to support the ECB's Governing Council monetary policy decisions. During 2021, around 150 euro area banks participated in the survey, of which four were Maltese banks. The latter represented about 90% of the overall domestic bank credit, indicating the high respresentativeness of the Maltese sample.[18] This Box provides insights on the main results of local participating banks which are also compared with the aggregated outcome of euro area banks.

Credit supply conditions

Credit standards on loans to enterprises of domestic banks remained stable throughout 2021, following some easing in the second quarter of 2020 (see Chart 1). In contrast, after some tightening in the second half of 2020, euro area banks tightened further their corporate credit standards in the first quarter of 2021 and remained broadly stable for the rest of the year. Such net tightening was mainly due to higher risk perceptions, related to both industry and firm-specific conditions, and to lower risk tolerance by euro area banks. Looking ahead to the first quarter of 2022, domestic and euro area banks expected credit standards for loans to firms to remain broadly unchanged.

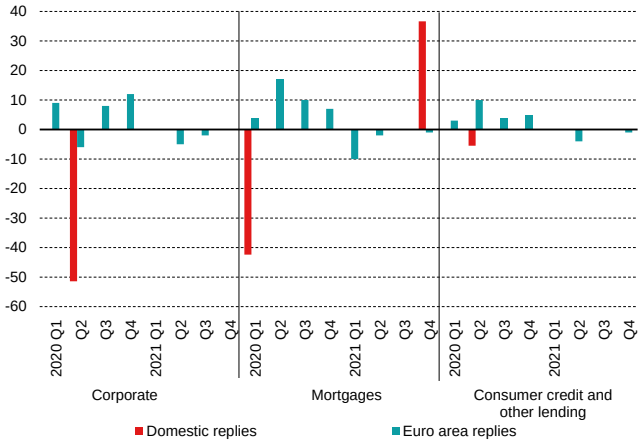
Chart 1
CREDIT STANDARDS
(+ indicates net tightening/- indicates net easing)



Sources: ECB; Central Bank of Malta calculations.

On aggregate, domestic BLS banks reported stable corporate credit terms and conditions during 2021, following the net easing in the second quarter of 2020 (see Chart 2). Euro area banks reported marginal net easing in the second and third quarters of 2021, owing to competitive pressures and favourable funding costs and balance sheet conditions. This led to narrower margins on average loans, longer maturities and larger loan sizes.

Chart 2
CREDIT TERMS AND CONDITIONS
(+ indicates net tightening/- indicates net easing)



Sources: ECB; Central Bank of Malta calculations.

During the second half of 2021, domestic participant banks tightened credit standards for mortgages, mainly due to lower risk tolerance and tightening of lending standards (see Chart 1). A partial reversal was expected in the first quarter of 2022 through some easing in credit standards. Following the tightening in 2020, euro area banks eased their credit standards in the first half of 2021 on the grounds of improved economic activity and competitive pressures from other banks. However, euro area banks tightened mortgage credit standards in the third quarter of 2021, and were expected to tighten further in the first three months of 2022.

Turning to mortgage terms and conditions, in the last quarter of 2021, domestic participant banks reported some net tightening through a lower loan-to-value (LTV) ratio owing to higher risk perceptions and lower risk tolerance (see Chart 2). On the other hand, overall mortgage terms and conditions in the euro area eased particularly during the first quarter of 2021, due to competitive pressures, which led to narrower margins on average loans.

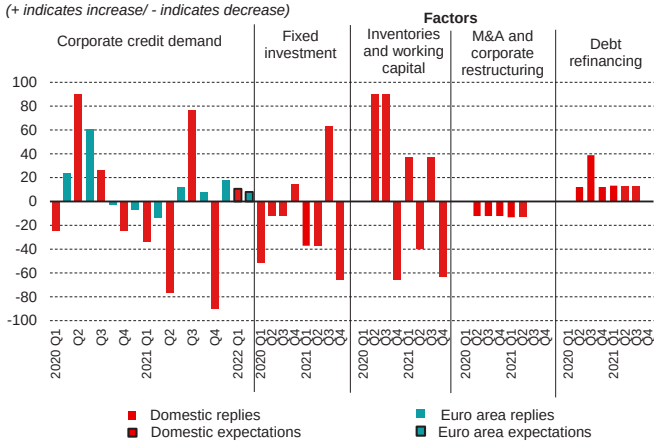
Following the net tightening in 2020, domestic banks kept credit standards for consumer credit and other household lending stable during the first three quarters of 2021, but were eased in the last quarter of the year largely due to the improved economic conditions (see Chart 1). Looking ahead, domestic BLS banks did not anticipate any changes for the first quarter of 2022. Meanwhile, the tightening reported by euro area banks in 2020 continued into the first quarter of 2021. However, credit standards were eased as from the second quarter driven by competitive pressures from other banks, lower costs of funds, and increased risk tolerance of banks. Such easing impact was anticipated to persist through the first quarter of 2022.

Domestic banks kept their credit terms and conditions on consumer credit and other household lending stable during 2021 (see Chart 2). Meanwhile, euro area banks eased such credit terms and conditions in the second and last quarter of 2021, owing to competitive pressures leading to narrower margins on average loans, longer maturities, larger credit limits and less strict collateral requirements reported.

Credit demand conditions

During 2021, on balance, domestic demand for corporate loans fell due to lower long-term loans by large corporates. This reflected a drop in loans for fixed investment, inventories and working capital requirements, and lower loans for mergers and acquisitions and corporate restructuring (see Chart 3). Such drop in domestic demand was reported in three out of the four survey rounds conducted in 2021, with an increase in demand reported in the third quarter, mainly reflecting higher financing for fixed investment, while corporate debt refinancing contributed positively to demand. Looking ahead to the first quarter of 2022, offsetting developments were expected by domestic banks, whereby

Chart 3
CORPORATE CREDIT DEMAND
(+ indicates increase/ - indicates decrease)



Sources: ECB; Central Bank of Malta calculations.
Note: The impact of factors relate solely to the domestic corporate credit demand.

lower credit demand for corporates owing to the uncertainty caused by the pandemic was offset by a pick-up by large corporates via long-term loans.

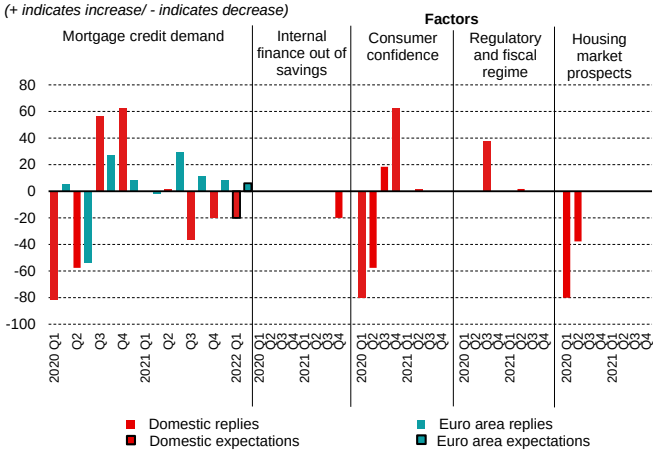
In contrast, at euro area level, an overall increase in the demand for corporate loans was reported from the second quarter of 2021, which offset the drop reported in the first quarter. The increase in demand occurred on the back of higher debt refinancing needs as well as for inventories and working capital requirements. In the first quarter of 2022, euro area banks expected a continued net increase in demand for corporate loans, with a somewhat larger increase from small and medium-sized enterprises (SMEs).

Following the strong domestic mortgage demand during the second half of 2020 aided by the pandemic-related fiscal incentives, developments were more contained in the first half of 2021, with demand declining in the second half of 2021. Maltese respondents noted that borrowers were using more of their own funds to purchase property, coupled with uncertainty on property market developments going forward (see Chart 4). Lower demand was expected to persist in the first quarter of 2022 owing to competitive pressures from other banks, coupled with the tapering of Government tax incentives.

Except for a marginal drop in the first quarter of 2021, euro area banks reported higher net demand for mortgages, driven by improved consumer confidence, the low level of interest rates, better housing market prospects and to a lower extent debt refinancing by households. Furthermore, euro area banks expected mortgage demand to rise further in the first quarter of 2022.

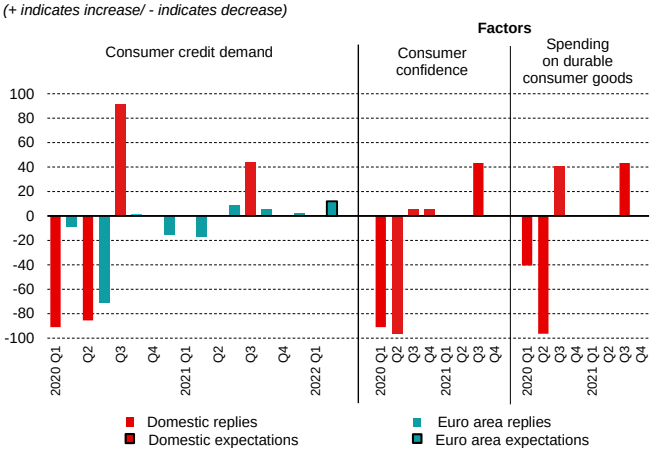
Domestic demand for consumer credit and other lending to households was generally contained in 2021. However, some pick-up in demand was reported in the third quarter largely due to higher spending on durable consumer goods on the back of improved consumer confidence (see Chart 5). Furthermore, consumer credit demand was expected to remain stable for the first

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



Sources: ECB; Central Bank of Malta calculations.
Note: The impact of factors relate solely to the domestic mortgage credit demand.

Chart 5
CONSUMER CREDIT AND OTHER LENDING DEMAND
(+ indicates increase/ - indicates decrease)



Sources: ECB; Central Bank of Malta calculations.
Note: The impact of factors relate solely to the domestic consumer credit demand.

quarter of 2022. Meanwhile, euro area banks continued to report lower demand even for the first quarter of 2021, owing to lower consumer confidence and decreased spending on durable goods on the back of the uncertainty brought about by the pandemic. As containment measures were relaxed and consumer confidence improved, an increase in demand was reported as from the second quarter of 2021, reflecting higher spending on durables. In the first quarter of 2022, euro area banks' demand for consumer credit and other lending to households was expected to increase further.

Ad hoc questions

The BLS questionnaire included an ad hoc question on banks' access for wholesale and retail funding. In line with developments in 2020, access to retail funding in 2021 increased for domestic BLS banks mainly from higher short-term deposits, reflecting the precautionary behaviour of savers owing to the pandemic-induced uncertainty. Meanwhile the use of the short-term interbank unsecured money market decreased somewhat, while funding through the very short-term unsecured money market remained quite stable.[19] Euro area banks noted an improvement in their access to retail funding, mainly through short-term deposits. In addition, access to money markets and wholesale funding via both the short-term and medium-to-long-term debt securities improved. Furthermore, compared to a year ago, access to securitization improved somewhat.

In the April 2021 survey round, domestic participant banks reported that the ECB's asset purchase programme (APP) and the pandemic emergency purchase programme (PEPP) aided their liquidity position and cost of funding in view of the improved market financing conditions.[20] Meanwhile, on profitability, domestic respondents reported that lower NII offset higher capital gains. Lower NII was also reported during the October 2021 survey round, which covered the second and third quarters of the year, and was expected to persist up to the first quarter of 2022. Similarly, euro area banks also reported that the APP and PEPP contributed to a better liquidity position and market financing conditions. Their profitability deteriorated given lower NII, which was partly offset by higher capital gains. Moreover, because of the APP and PEPP, euro area banks reported eased terms and conditions and higher lending volumes for corporate and household loans.

The BLS survey rounds included a bi-annual ad hoc question on the impact of NPL ratios on banks' lending policies. On aggregate, respondents noted that the current level of the NPL ratio caused some tightening effect on credit standards for corporate loans during the first half of 2021. Furthermore, they expect some tightening in terms and conditions for corporate loans in the first half of 2022 owing to greater costs relating to the capital position. This amid increased regulatory requirements, coupled with risk perception and lower risk tolerance. On balance, euro area banks reported that NPL ratios resulted in tighter credit standards and terms and conditions for corporate loans and, to a lower extent, consumer credit. This was due to higher risk perceptions related to the general economic outlook and borrowers' creditworthiness, lower risk tolerance and pressure related to supervisory or regulatory requirements.

The ECB's negative deposit facility rate (DFR) continued to affect negatively the profitability of both domestic and euro area banks owing to lower NII, although this was to some extent mitigated through the two-tier system.[21] On balance, the DFR enabled banks to report a drop in lending and deposit rates, coupled with narrower loan margins for both corporates and households. Meanwhile, domestic banks reported that the ECB's negative DFR led to a rise in non-interest charges on corporate deposits during the last quarter of 2020 and in the first quarter of 2021. Meanwhile, euro area banks reported some positive impact of the DFR on their loans and deposits volumes.

The questionnaire also contained feedback on the impact of the TLTRO III operations on banks and their lending policies. Some domestic BLS banks participated in the March 2021 TLTRO operations given the attractive financing conditions. This led to improved liquidity, market financing conditions

and profitability, as well as contributed to some easing of credit standards. The latter contributed to higher lending volumes of corporate loans and consumer lending, with such developments expected to persist into the first quarter of 2022. A large share of euro area banks participated in the March 2021 TLTRO III operations, while a more limited number of banks participated in the June and September 2021 TLTROs. The profitability motive remained the most important reason for banks to participate, with funds being mostly used to grant loans to the non-financial private sector, and to a lower extent, to hold liquidity for future use. Euro area banks indicated an overall positive impact of TLTROs on their financial situation, market financing conditions and profitability, with an easing impact on their terms and conditions across all loan categories. In addition, some positive impact on lending volumes particularly to enterprises was also evident.

In 2021 domestic banks did not report any changes in their credit standards and loan margins owing to new regulatory and supervisory actions. However, domestic banks reported an increase in their total and liquid assets, as well as their capital position through higher retained earnings. These developments are expected to persist in 2022, given new MREL eligible deposits to be issued to meet the MREL regulatory requirements and the issuance of new shares to the public. Euro area banks continued strengthening their capital position against the backdrop of regulatory or supervisory actions in 2021, driven mainly by higher retained earnings. Following new regulations or supervisory measures implemented in the context of the pandemic, euro area banks' total assets via liquid assets and risk-weighted assets increased, coupled with an easing impact on funding conditions. Moreover, euro area banks' credit standards and credit margins for both loan categories tightened in 2021.

Another ad hoc question focuses on banks' changes in lending conditions and loan demand across the main economic sectors.[22] Although, most of the domestic banks reported stable credit standards and terms and conditions on new loans, some tightening was reported in the first half of 2021 for real estate loans, while the terms and conditions of wholesale and retail trade loans were eased somewhat. No changes were reported in the second half of 2021, although some easing in the terms and conditions across all the main economic sectors was expected during the first half of 2022. Loan demand declined across a number of sectors in 2021, with the most prominent being within the real estate, services, wholesale and retail trade, and construction sectors. Meanwhile, offsetting developments were reported for manufacturing loan demand. Looking ahead to the first half of 2022, lower demand was expected for new loans in manufacturing, wholesale and retail trade, construction, and commercial real estate sectors. Euro area banks indicated a moderate net tightening of credit standards and terms and conditions for new loans to enterprises across the main economic sectors, particularly in the first half of 2021. On balance, demand for loans in all economic sectors increased further during 2021, particularly in real estate activities.

The survey also carried a question on the impact of COVID-19 government guaranteed loans. Domestic respondents noted that credit standards for such guaranteed loans remained unchanged in 2021 but terms and conditions for loans to SMEs and large corporates were eased somewhat. Offsetting effects in terms of demand for guaranteed loans were reported, although on aggregate demand dropped owing mainly to firms' lower liquidity needs, the use of less precautionary buffers, lower financing of fixed investment and lower loan substitution. As for loans without government guarantees, corporate lending standards were eased somewhat in the second half of 2021. Euro area banks eased their lending conditions for corporate loans with COVID-19-related government guarantees, with lower demand for such loans noted in 2021. These owing mainly to precautionary liquidity needs, lower fixed investment, and loan substitution. Meanwhile, when considering loans without government guarantees, euro area banks reported a slight net tightening impact for credit standards, while the terms and conditions eased and demand for such loans increased.

Conclusion

While on aggregate lending standards for domestic corporates remained unchanged in 2021, survey replies to ad hoc questions indicated particularly that some easing pressures continued throughout the year. Specifically, the DFR and TLTRO had some easing effects, with some easing also reported across the wholesale and retail trade loans, while some tightening was reported for real estate loans. Notwithstanding the generally stable lending standards, survey replies indicated that demand for corporate loans declined on average due to lower demand for guaranteed loans as firms required less financing for liquidity needs and for fixed investments. Lower demand was driven by the real estate and construction sectors, services sectors, as well as the wholesale and retail trade. Indeed, growth in resident NFC credit slowed down to 0.3% in 2021, from 9.0% a year earlier.

Domestic participating banks reported a tightening in both the credit standards and terms and conditions for mortgages, in part owing to lower risk tolerance by banks and higher risk perceptions. This was corroborated with a drop in demand for such loans. While resident mortgages grew strongly, from 6.6% in 2020 to 10.8% in 2021, new loans data shows a slowdown mirroring the drop in demand reported in the BLS. Although domestic banks' credit standards for consumer credit were eased and there were indications of a pick-up in demand during the third quarter of 2021, overall lending fell.

Participant banks continued to report an increase in retail funding, with overall resident deposits increasing by 9.3% during the year. The liquidity position of the banks was further supported by the ECB's APP and PEPP, which led to higher liquidity and lower cost of funding. However, banks' profitability was negatively impacted through lower NII. This was also the case due to the ECB's negative DFR, as banks continued to place their excess liquidity with the Central Bank of Malta.

2.2 Non-core Domestic Banks

As economic activity picked up pace, the balance sheet of the six non-core domestic banks expanded further, up by 11.2% in 2021, and continued to represent about 23% of GDP. Such share remained in line with the previous year. Growth was driven by increased lending activity and investments in securities, largely in sovereign bonds, as well as higher interbank placements. The non-core domestic banks continued to fund their activities primarily through foreign customer deposits, although they also tapped into the interbank market and Eurosystem funding. While the business model of this group of banks remained concentrated towards attracting foreign customers, resident assets represented a sizeable share of almost 43% of their overall assets.

2.2.1 Profitability

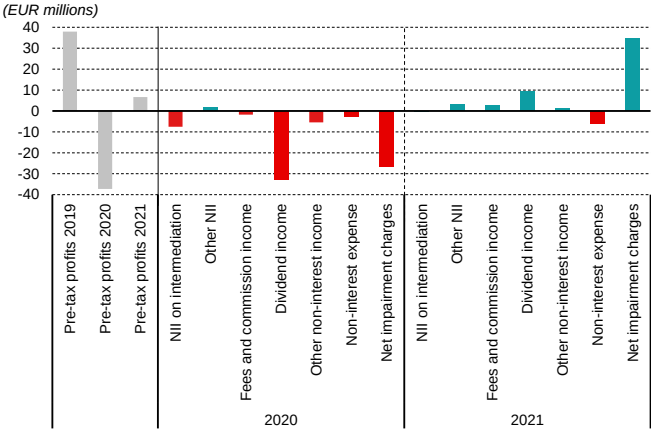
Following the adverse impact on profitability caused by the pandemic, profits recovered on the back of the improved macroeconomic environment, albeit still lower than pre-pandemic figures. This translated into an aggregate post-tax ROE and ROA of 2.4% and 0.2%, up by 15.2 and 1.7 percentage points, respectively.

The decline in net impairment charges reported during the year was the main contributor to the rise in profits, as credit risk on these banks' balance sheets stabilised (see Chart 2.19). Meanwhile, gross income expanded by almost a third, reflecting higher income from both interest- and non-interest-bearing activities. Interest income grew at a faster rate than interest expenses, with NII rising by almost 11%, reflecting the increase in intermediation activities.

Non-interest income increased by around 50% to about three-fifths of gross income in 2021, as non-core domestic banks were able to earn higher dividends primarily reflecting the recovery of related companies. In addition, almost all of the non-core domestic banks earned higher fees and commission income, reversing the losses incurred in the previous year. Lower trading losses also contributed to the turnaround in profitability.

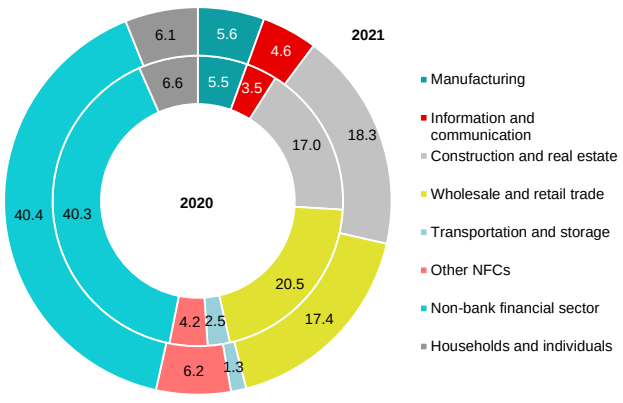
Expenditure related to non-interest-bearing activities increased by 13.0%, almost half of which due to higher staff expenses, as most non-core domestic banks expanded their headcount over the past year. Nevertheless, as the increase in gross income was more sustained, the cost-to-income ratio declined by almost 14 percentage points to 82.2%.

Chart 2.19
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 profits.

Chart 2.20
CUSTOMER LOANS BY SECTOR – NON-CORE DOMESTIC BANKS
(per cent)



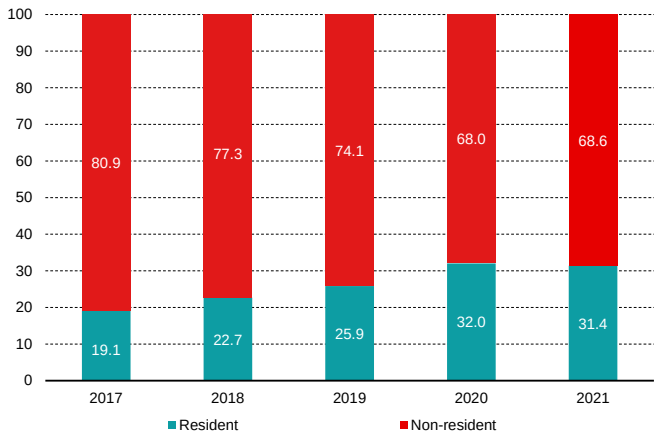
Source: Central Bank of Malta.

2.2.2 Credit Dynamics

The non-core domestic banks' customer loan portfolio grew by a further 15.3% during 2021. This was primarily due to higher credit

granted to NFCs, particularly those operating in the construction and real estate sectors. As a result, the share of these loans in the overall loan portfolio increased by 1.4 percentage points to 18.3% (see Chart 2.20). This notwithstanding, customer loans remained concentrated in the non-bank financial sector, principally insurance companies, with such loans recording the second largest growth in their loan book. Meanwhile, loans granted to companies operating in the wholesale and retail trade declined slightly to represent the third largest component of the customer loan portfolio in 2021, accounting for 17.4%. Household lending rose by 6.3% to represent 6.1% of overall customer loans.

Chart 2.21
CUSTOMER LOANS BY RESIDENCY – NON-CORE DOMESTIC BANKS
(shares in per cent)



Source: Central Bank of Malta.

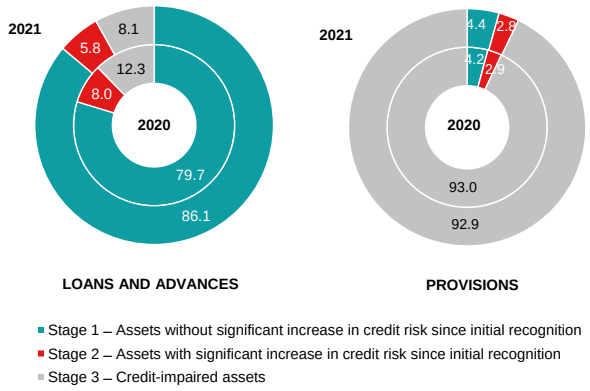
Non-residents remained the primary customer base for this group of banks, accounting for more than two thirds of the overall customer loan portfolio (see Chart 2.21). Such lending picked up pace, reversing the decline reported in 2020, and grew by 15.7% in 2021. Meanwhile, loans to resident customers continued to increase, up by almost 15%, to represent slightly less than one third of the entire customer loan portfolio. This reflected higher credit granted to resident NFCs operating in the real estate sector, and resident households, but to a lower extent.

2.2.3 Asset Quality

The loan portfolio

As the economy rebounded, the quality of the non-core domestic banks' lending portfolio improved, with the overall NPL ratio declining by 2.0 percentage points to 5.1%. This came predominantly from a reduction in NPLs of around 26%, owing to the recovery of a significant share of NPLs, coupled with write-offs of legacy NPLs. Most of the decline related to NFCs operating in the wholesale and retail trade sector, which however continued to account for more than half of such outstanding corporate NPLs. Meanwhile, pandemic-related support measures for households enabled them to continue repaying their loans, with the households' NPL ratio remaining stable at just 0.1%.

Chart 2.22
STAGE ALLOCATION OF LOANS AND ADVANCES AND PROVISIONS – NON-CORE DOMESTIC BANKS
(per cent)



Source: Central Bank of Malta.

The expansion in the loan book also supported the drop in the overall NPL ratio. Loans classified as Stage 1 rose to 86.1% of the loan portfolio, while loans classified as Stage 2 and 3 fell, reversing the increase reported last year (see Chart 2.22).

As a result, overall provisions fell by almost 10%, mainly driven by lower Stage 3 loans provisions, which, at almost 93%, continued to represent the bulk of provisions. The slower drop in provisions compared to NPLs led to an increase in the coverage ratio of 10.5 percentage points to around 58% in December 2021.

The securities portfolio

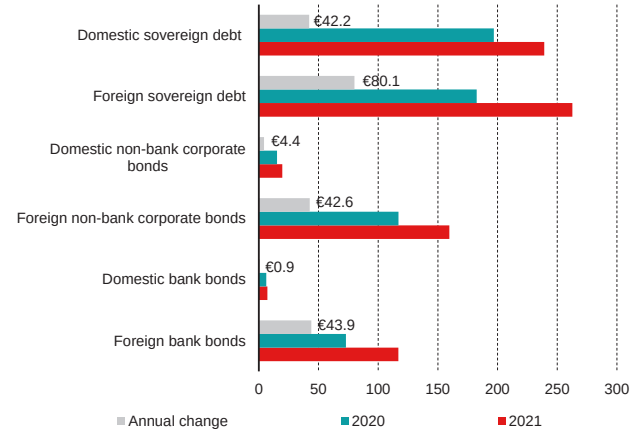
The growth in the non-core domestic banks' securities portfolio persisted throughout 2021, with securities holdings expanding by almost a third, to represent around 30% of overall assets. This was mainly attributable to higher debt securities, which rose by 36.2% to almost 78% of the securities portfolio. This was driven by higher sovereign debt securities, especially those issued by the US, Greek, and Luxembourg governments. Holdings of domestic sovereign bond paper also increased significantly, almost exclusively in Treasury bills (see Chart 2.23). These banks also invested in debt securities issued by unrelated foreign credit institutions, and corporates mainly operating in the industrial and consumer sectors situated in the Czech Republic and Germany.[23] Although holdings of resident corporate and bank bonds also increased, these remained limited to just 3.3% of the debt securities portfolio.

The debt securities portfolio continued to be concentrated in medium-rated bonds, which rose further on the back of higher holdings of sovereign paper, to make up more than half of the bond portfolio by end 2021. High-rated bonds accounted for a further 31.0% with the remaining share largely in low investment grade or unrated debt, representing 3.6% and 14.8%, respectively.

The debt securities portfolio remained of sound quality, as no forborne and non-performing exposures were reported. Consequently, the NPE ratio declined to 3.8% from 5.6% a year ago.

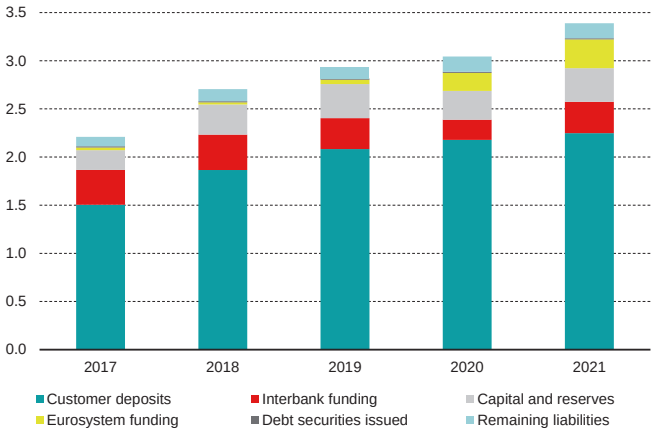
Equity holdings rose largely due to increased investments in subsidiaries. Yet, their share in the overall securities portfolio declined by 3.7 percentage points to 22.4%. The increase stemmed exclusively from shares issued by OFIs and, to a lower extent, non-MMF Investment funds. Issuers were mostly located in the UK followed by the Netherlands.

Chart 2.23
BOND PORTFOLIO – NON-CORE DOMESTIC BANKS
(EUR millions)



Source: Central Bank of Malta.

Chart 2.24
DISTRIBUTION OF LIABILITIES – NON-CORE DOMESTIC BANKS
(EUR millions)



Source: Central Bank of Malta.

2.2.4 Funding and Liquidity

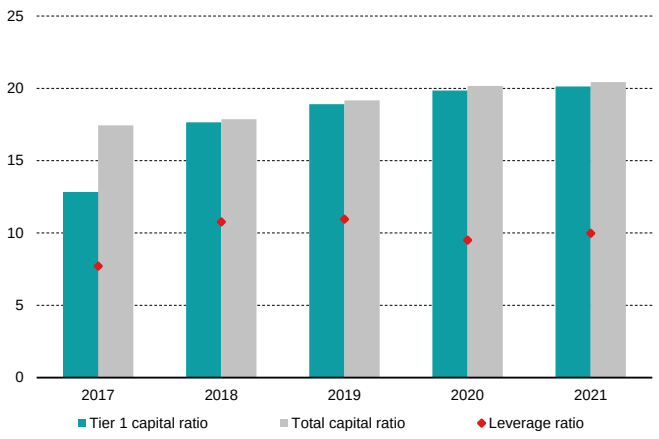
The non-core domestic banks' assets continued to be mainly funded through customer deposits, despite their share falling by around 5 percentage points to almost two thirds of overall liabilities (see Chart 2.24). Deposits continued to originate mainly from non-resident customers, largely from OFIs, and to a much lesser extent, corporates. Nevertheless, non-core domestic

banks also registered an increase in resident customer deposits, namely from OFIs. Almost half of the deposits were time deposits, limiting somewhat the extent of rollover risk on the balance sheet of this group of banks.

Meanwhile, these banks are increasingly substituting their funding sources by stepping up interbank as well as Eurosystem funding respectively, to finance around 19% of their assets. The increase in interbank funding originated mostly from related credit institutions, though funding from unrelated credit institutions also rose. Meanwhile, most non-core domestic banks participated in liquidity providing operations, through pandemic emergency longer-term refinancing operations (PELTRO), TLTRO III and the 14-day US dollar funding operations. Although one bank issued new debt securities, these remained limited to just 0.4% of overall assets.

These banks continued to benefit from ample liquidity with placements with the Central Bank of Malta accounting for about 22% of assets. Although these fell by 10.1% during the year, net liquidity outflows declined at a faster rate, resulting in the LCR to improve to 357.0%. At the same time, the NSFR stood at 178.4% by the end of 2021. Both liquidity ratios reflect the strong liquidity position of this bank category, as they continued to amply exceed the minimum regulatory requirements.

Chart 2.25
CAPITAL AND LEVERAGE RATIOS – NON-CORE DOMESTIC BANKS
(per cent)

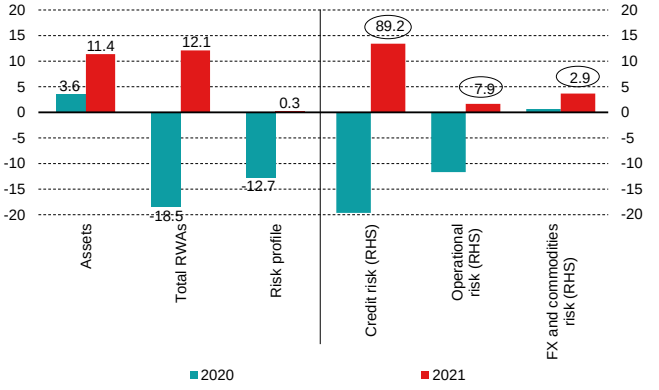


Source: Central Bank of Malta.

2.2.5 Capital and Leverage

Despite the challenging economic environment, the capital position of the non-core domestic banks strengthened somewhat during the year under review, as the total capital ratio rose by 0.2 percentage point to 20.4% as at December 2021 (see Chart 2.25). Total own funds rose by 14.7%, reflecting an increase of almost 15% in Tier 1 capital, which came almost exclusively from CET1 capital. Indeed, the Tier 1 capital ratio rose further to 20.1%, up from 19.9% in December 2020. Meanwhile, RWA grew by 13.5% following the declines reported in the previous year. Most of the increase related to credit risk in line with the expansion in the lending portfolio, accounting for almost 90% of overall RWA (see Chart 2.26). Other increases originated from exposures associated namely with operational risk and foreign exchange risks. This led to the risk profile of these banks to deteriorate slightly, with the share of RWA on total assets expanding from 49.0% in 2020 to 50.6% in 2021.

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



Source: Central Bank of Malta.
Note: Percentages in circles represent the share of total risk exposure in 2021. Other percentages refer to the annual growth rate.

The leverage ratio increased by half a percentage point to 10.0% in December 2021, significantly exceeding the minimum regulatory requirement. This reflected a bigger increase in Tier 1 capital in relation to the corresponding assets within scope of the leverage ratio calculation.

2.3 International Banks

The number of credit institutions classified as international banks dropped to ten during 2021, as two subsidiaries of foreign banks voluntarily surrendered their license in the last quarter of the year.[24] Consequently, the number of subsidiaries and stand-alone banks decreased to six, while the rest operated as branches of foreign banks. As a result, the overall assets of international banks shrank by 1.3% to 77.8% of GDP in 2021. Looking at the developments of these ten banks for 2020, the balance sheet of this category of banks would have grown by 2.8% in 2021, as the remaining subsidiaries and stand-alone banks grew by about 4%. The noted decline was also attributable to the branches of foreign banks which continued to consolidate their position during the year, with their assets contracting by 2.7%. The business model of international banks remained concentrated towards the foreign retail and wholesale market, although resident exposures increased from 6.0% to 10.0% of overall assets, fuelled by higher placements with the Central Bank of Malta.

2.3.1 Profitability

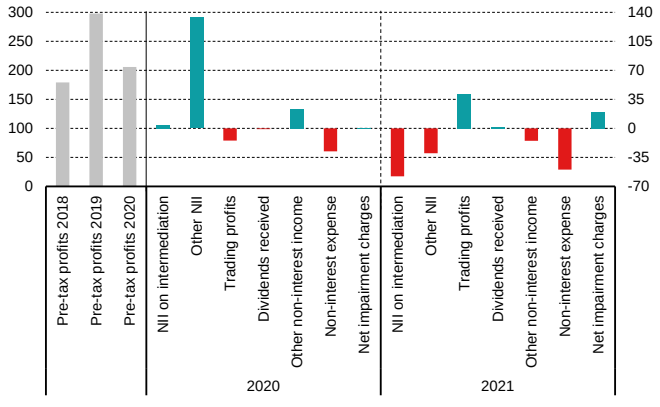
While the financial performance of most international banks is recovering, their overall profitability remained weak, with pre-tax profits declining by 31.0% over 2020, to slightly above €200 million in 2021 (see Chart 2.27). Such development was mainly attributed to the branches of foreign banks, whose profitability more than halved, driven in part by the consolidation process of some branches, pushing down their overall post-tax ROA to 0.9% from 2.1% a year earlier. In contrast, net profit before tax of the subsidiaries and stand-alone banks improved by more than 60% to €115.8 million in 2021, with their post-tax ROE and post-tax ROA standing at 11.6% and 3.9% in 2021, respectively, up from 6.2% and 2.5% a year earlier.

The deterioration in profits stemmed from lower NII, particularly for branches, with the overall share dropping to 56.4% of gross income, from 64.8% a year earlier. The deterioration in the branches' NII was driven predominantly from lower interest income on NFC loans and intragroup placements. The branches also recorded lower NII from their non-intermediation activities, which fell by 34.0%, especially due to lower interest from their bonds. Meanwhile, subsidiaries and stand-alone banks also reported lower NII, down by 5.5%, reflecting reduced income from both non-intermediation and intermediation activities. While interest income on NFC loans declined, interest income earned on household loans continued to rise.

Non-interest income strengthened by 12.4%, driven mostly by higher trading profits earned by both the subsidiaries and stand-alone banks as well as the branches of foreign banks, as otherwise non-interest income for the branches declined significantly largely on the back of trading losses on foreign exchange deals.

As the economic conditions recovered, net impairment charges dropped by 14.2% over 2020, contributing positively to profitability. Meanwhile, non-interest expenses rose by 21.9%, owing to higher administrative and other expenses by the subsidiaries and stand-alone banks. In contrast, operating expenses incurred by the branches fell by 5.3%. The overall cost

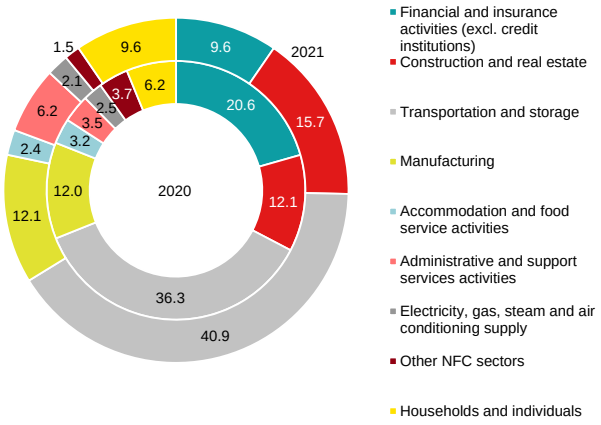
Chart 2.27
MAIN CONTIBUTORS TO PROFITS − INTERNATIONAL BANKS
(EUR millions)



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.

efficiency of this group of banks deteriorated, owing to higher operational expenses, with the cost-to-income ratio widening from 35.3% in 2020 to 47.3% in 2021. The increase in the operational cost-to-income ratio reflected developments within both the branches, whose ratio increased by 2.7 percentage points to just 5.7%, as well as the remaining subsidiaries and stand-alone banks, with their cost-to-income ratio reaching 59.8% in 2021 from 59.0% in 2020.

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



Source: Central Bank of Malta.

2.3.2 Credit Dynamics

The loan book of international banks declined by 17.0%, to account for about 37% of overall assets. Both the branches and subsidiaries and stand-alone banks reported a contraction in their loan portfolios of around 19% and 12.3%, respectively.

The drop in overall customer lending reflected lower loans to OFIs, which fell by around three-fifths, to represent 9.6% of total customer loans. Corporate loans, mostly for non-residents, also dropped by 8.3%, due to reduced lending primarily to the transportation and storage sectors, and to a lesser extent towards the mining and quarrying sector as well as the manufacturing. Notwithstanding, this sector accounted for the largest share of the portfolio, followed by lending to the construction and real estate activities which also rose during the period under review (see Chart 2.28). On the other hand, lending to households expanded by more than a quarter, driven by higher consumer credit as micro-lending to foreign households soared. Resident customer loans declined by 6.2% to account for just 0.3% of the international banks' loan portfolio, mainly driven by the transportation and storage sector which however continued to represent the largest share of resident loans.

Interbank placements increased by more than two fifths accounting for 17.8% of total assets, up from 12.3% in 2020. This was exclusively driven by higher placements by branches, largely with related credit institutions, as otherwise subsidiaries and stand-alone banks reported a drop in interbank placements.

2.3.3 Asset Quality

Loan portfolio

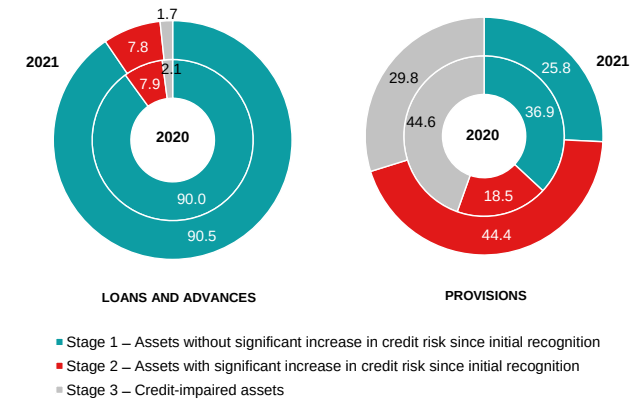
The outstanding stock of NPLs contracted by more than a fifth, with both the branches and stand-alone banks recording drops of 51.4% and 9.9%, respectively. The overall decline stemmed from non-resident corporate NPLs, which shrank by 69.6% to account for 10.7% of overall NPLs of international banks. This, in part reflected some write-offs related to covid-sensitive sectors such as accommodation and food services activities, manufacturing, and to a lower extent, wholesale and retail trade. Meanwhile, non-resident households' NPLs fell by 2.6% but still accounted for about 80% of outstanding NPLs in 2021. Meanwhile, resident NPLs rose by 1.9%, representing 9.1% of the overall NPLs. Such increase was on the back of NFCs operating in the transportation and storage sector, which was partly offset by lower NPLs towards resident OFIs.

As a result, the international banks' credit quality improved, with their NPL ratio narrowing by 0.4 percentage point to 1.4% in December 2021. This largely reflected non-resident loans, as otherwise the resident NPL ratio remained limited to 0.5% in 2021. Meanwhile, loan exposures with forbearance measures rose significantly to 7.4% of total loans, with such increase coming from performing exposures, while non-performing

exposures with forbearance measures fell over the previous year to represent just 2.5% of overall forborne loans.

As international banks' loan portfolio contracted, Stage 1 loans fell by 6.5%, albeit still accounting for around 90% of the lending portfolio (see Chart 2.29). Similarly, Stage 2 loans dropped by around 8%, accounting for another 7.8% of total loans. The remaining share making up Stage 3 loans, contracted by almost a quarter over 2020.

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



Source: Central Bank of Malta.

Despite the drop reported in the loan portfolio and NPLs, overall provisions still increased by 18.7% over 2020. While the share of Stage 1 and 3 provisions declined to 25.8% and 29.7%, respectively, Stage 2 provisions almost tripled to account for about 44% of overall provisons. As a result, overall provisions more than cover outstanding NPLs, with the overall coverage ratio increasing from 91.4% to 137.7% in 2021.

Securities portfolio

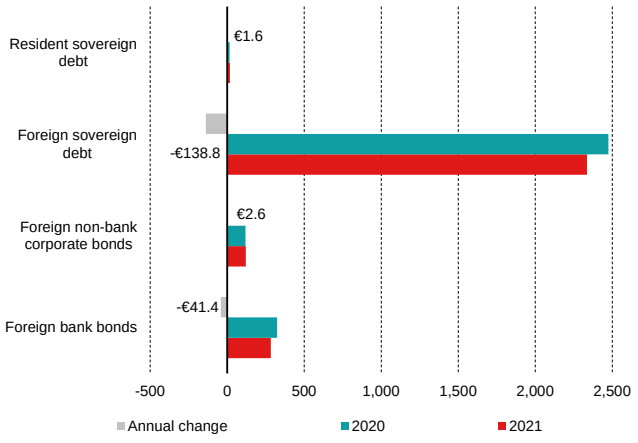
During 2021, the securities portfolio contracted by 3.7%, accounting for just above a quarter of these banks' assets. This reflected the consolidation of the branches of foreign banks, as otherwise subsidiaries and stand-alone banks stepped up their investments by about 28.2%.

Overall bond holdings fell by 6.0%, largely driven by lower sovereign bonds of the Turkish Government by the branches of foreign banks (see Chart 2.30). In contrast, investments in domestic sovereign paper increased by about 10%, but still represented less than 1% of the overall securities portfolio. Investments in foreign bank bonds also fell by 12.8%, while investments in NFC debt securities rose by 2.2%, yet accounting for just 1.1% of assets in 2021.

Investment in unrated or sub-investment grade bonds dropped by 4.4% over 2020. However, these bonds continued to represent the lions' share of the international banks' debt securities portfolio, accounting for 82.8%, largely due to the Turkish sovereign debt holdings. Meanwhile, the share of low-rated bonds decreased by 1.1 percentage points to 13.9%, while the share of medium and high-rated bonds fell to represent just 3.3% of overall debt securities.

Investments in equities more than doubled compared to 2020, driven exclusively by the subsidiaries and

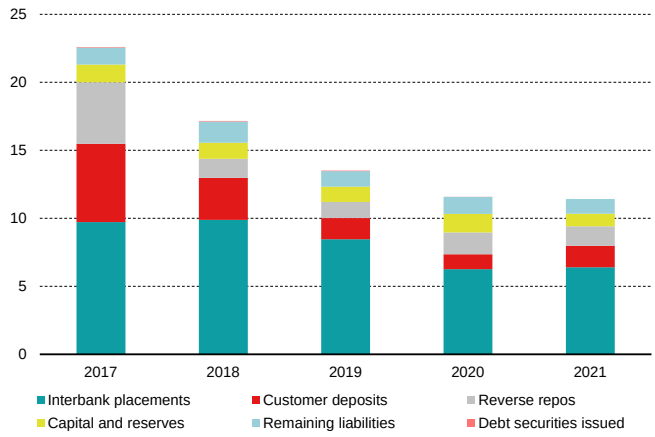
Chart 2.30
BOND PORTFOLIO – INTERNATIONAL BANKS
(EUR millions)



Source: Central Bank of Malta.

stand-alone banks' increased holdings in related non-financial foreign companies. This led to the share of equities to double but remained limited at 4.5% of the securities portfolio.

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



Source: Central Bank of Malta.

2.3.4 Funding and Liquidity

Given that two subsidiaries of foreign banks voluntarily surrendered their license during 2021, the level of capital and reserves held by the overall international banks declined by 31.6%, to finance 8.1% of the overall balance sheet of international banks. Otherwise, their funding composition remained relatively unchanged, with more than half of their assets funded from interbank placements. These increased by 2.3% reflecting the branches' dependence on intra-group funding (see Chart 2.31). On the other hand, subsidiaries and stand-alone banks continued to diversify their funding sources through higher customer deposits which financed around 56% of their activities. Notwithstanding, such funding avenue remained limited to just 12.6% of the overall international banks' assets.

Customer deposits placed with international banks increased by 43.8%, predominantly driven by higher influx from non-resident deposits in the subsidiaries and stand-alone banks. This primarily reflected higher deposits from foreign NFCs, which more than tripled to account for almost 22% of overall customer deposits. Such growth reflected particularly the manufacturing sector, reversing the decline witnessed during 2020. Such increase was complemented by higher deposits from foreign households and OFIs, up by 23.6% and 8.4% respectively, albeit their share weakened to 35.4% and 30.5% of overall customer deposits, respectively. Deposits of insurance companies and pension funds also increased but remained contained to just 1.6% of customer deposits in 2021. Meanwhile, resident customer deposits rose by almost 72%, driven by NFCs operating mainly in the wholesale and retail trade, in the other services category, and administrative and support services activities. On the contrary, resident deposits from OFIs and households declined. Notwithstanding such net increases in customer deposits, the links with the domestic economy remained very weak as such deposits accounted for just 0.8% of total resident customer deposits in the Maltese banking sector.

Most of customer deposits were term deposits, of which, more than half mature within one year. Demand deposits more than doubled to represent 45.8% of overall customer deposits, indicating customers' preference to keep their savings more liquid amidst the current low interest rate environment, indicating potentially higher rollover risk resulting from a possible increase in policy rates.

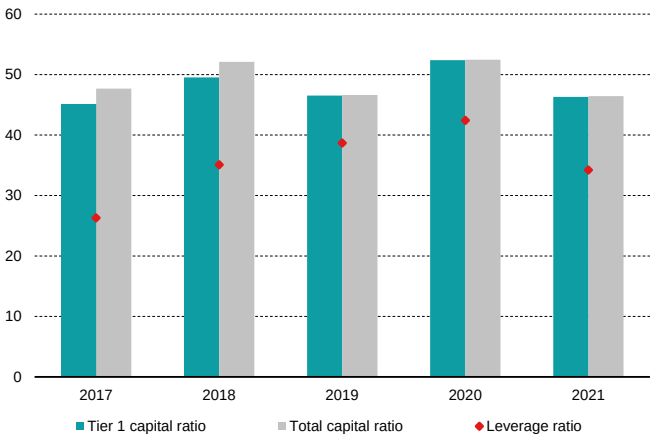
The liquidity position of subsidiaries and stand-alone banks strengthened further, as the LCR rose from 686.6% in 2020 to almost 2470% in 2021. Such increase reflected higher central bank placements. Meanwhile, the liquidity position for over a longer-term horizon also kept well above the regulatory minimum of 100%, as the NSFR stood at 155.3%.

2.3.5 Capital and Leverage

The capital position of the subsidiaries and stand-alone banks weakened, though still staying well above the minimum regulatory requirement.

Both the total capital ratio and the Tier 1 capital ratio contracted by 6.0 percentage points to 46.4% in 2021 (see Chart 2.32). Such fall is attributed to lower own funds, which dropped by 17.7% over 2020, mirroring the voluntary closure of the two subsidiaries. RWA also contracted albeit at a slower rate of 6.9%, mainly reflecting the 10% reduction in credit risk exposures. Notwithstanding, at 72.3%, credit risk exposures still represented the largest component of RWA in 2021. Risk arising from operational exposures fell by 2.2%, while foreign exchange risk exposures almost doubled, accounting for 24.7% and 3.0% of RWA in 2021, respectively.

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



Source: Central Bank of Malta.

The drop in RWA led to the risk profile of subsidiaries and stand-alone banks to improve, with the share of RWA on total assets decreasing from 82.8% in 2020 to 74.8% in 2021. Although the leverage ratio, which is a non-risk-based solvency ratio, declined by 8.2 percentage points to 34.2%, it stood well-above the minimum requirement.

Notes

[1] In this regard, a two-tier system for reserve remuneration was introduced in 2019, which exempts part of credit institutions' excess liquidity holdings (i.e., reserve holdings in excess of minimum reserve requirements) from negative remuneration at the rate applicable on the deposit facility.

[2] Profit before tax in 2021 accounted to almost three-fourths of the profits registered in 2019, indicating a more positive rebound from the effects of the pandemic.

[3] Source: EBA Risk Dashboard Q4 2021.

[4] Source: EBA Risk Dashboard Q4 2021.

[5] In 2021, the total cumulative amount disbursed by the MDB CGS to core domestic banks amounted to €149.1 million, compared to the €253.9 million reported for the period starting in April 2020 to December 2020. Yet, the share of outstanding guaranteed loans in overall resident lending rose to 3.4% from 2.2% a year earlier.

[6] Despite these developments, loans in the construction and real estate sectors still account for over 12% of the resident loan book, equivalent to a third of the total resident NFC lending.

[7] The NPL ratio stood above the EU banks' average NPL ratio of 2.0%. Source: EBA Risk Dashboard Q4 2021.

[8] Moreover, the resident NPL ratio for other financial corporates, which refer to financial corporates other than central banks, general governments, and credit institutions, deteriorated by 1.6 percentage points to 3.4% in 2021, given an increase in NPLs and a drop in the respective loans.

[9] Stage 1 provisions reflect provisions for loans without significant increase in credit risk, provisions for Stage 2 loans are those which have increased credit risk but not classified as non-performing, and provisions for Stage 3 loans represent non-performing loans.

[10] COR is estimated as the change in allowances and provisions as a ratio of total loans subject to impairments.

[11] Source: EBA Risk Dashboard 2021 Q4.

[12] Forbearance measures are concessions towards a debtor facing or about to face financial difficulties, such as a modification of the terms and conditions of the contract, or total or partial refinancing of an exposure that would not have been granted had the debtor not been in financial difficulties (Source: EBA).

[13] Non-performing exposures include defaulted loans and securities as a share of total loans and securities.

[14] Other resident customer deposits include deposits from the general government, ICPFs, non-MMF investment funds, OFIs, financial auxiliaries (FA) and captive financial institutions and money lenders, and public NFCs.

[15] Source: ECB Statistical Data Warehouse (SDW).

[16] The central bank-eligible CBC assets are defined as the stock of unencumbered assets or other funding sources which are available to cover potential funding gaps.

[17] Supply conditions 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.

[18] The BLS data for all euro area countries are published on the ECB's Statistical Data Warehouse (SDW).

[19] The very short-term money market refers to funding with a duration of up to one week, while the short-term money market consists of funding for more than one week.

[20] During the April 2021 survey round, banks considered the direct and indirect impact of APP and PEPP over the past six months, thus covering the last quarter of 2020 and the first quarter of 2021.

[21] The ECB's two-tier system for reserve remuneration exempts part of credit institutions' liquidity holdings in excess of minimum reserve requirements from negative remuneration at the annual rate of 0%.

[22] The main economic sectors refer to manufacturing, construction (excluding real estate), services (excluding financial services and real estate), wholesale and retail trade, and real estate (broken down in commercial and residential real estate).

[23] Industrial sectors broadly include manufacturing and related activities, including packaging and transportation, while consumer sectors incorporate food and pharmaceutical products, among others.

[24] The two banks were CommBank Europe Limited and Yapi Kredi Bank Malta Limited. Unless otherwise indicated, this means that for the below analysis 12 banks were considered for 2020, while ten for 2021.

3. Stress Tests

3. STRESS TESTS

In its effort to promote financial stability and detect pockets of vulnerability from potential systemic risks, the Central Bank of Malta employs various stress testing frameworks to assess the resilience of the domestic financial system to severe – yet plausible – shocks under different hypothetical scenarios. The results are benchmarked against the applicable minimum requirements for both solvency and liquidity and aim to capture the effect of systemic, rather than bank-specific, risk. Thus, despite the frameworks' capacity to delve into idiosyncrasies of individual institutions, the analysis may be restricted by subjecting the domestic banking system to a common scenario with similar assumptions and methodologies. Moreover, these frameworks are continually being reviewed and broadened to cater for various requirements to assess the build-up of existing risks or vulnerabilities to new and emerging risks.[1] To this end, while the Bank runs the frameworks on a regular basis, this edition focuses on revised and novel frameworks.

Section 3.1 presents the Macro Stress Testing (MST) framework which features a climate-related adverse scenario. Drawing from the review on current best practices and international efforts to model climate risk, the adverse scenario has been tailored to the characteristics of Malta as a small open economy being subject to transition risks because of the assumed international efforts to phase-out fossil fuels.

Section 3.2 presents an overview and the results of the scenarios of Interest Rate Risk in the Banking Book (IRRBB) framework which feature increases in the short-term rates.

Finally, the chapter introduces a new liquidity framework assessing the Net Stable Funding Ratio (NSFR). The methodology and results are presented in Special Feature 2.

Despite the heightened severity of the MST's climate-related adverse scenario originating both from the scenario specific shocks and the current economic conditions, the banking system demonstrates resilience. Indeed, both core and non-core domestic banks remained above the minimum Tier 1 capital requirement (international banks are out of scope). The major common source of impact on the solvency position of the two banking categories is credit risk, paired with its consequent impact on net interest income (NII). Additional losses arise from market risk, reflecting the business model of individual banks. The stress test result sheds light on the exposures of bank to economic sectors susceptible to transition risks. Based on the current level of exposure, this is found to be quite significant, and merits focus by the banks. This stress testing exercise sheds also light on the need for banks to shore up their preparedness in terms of addressing data gaps and modelling capacity, as well as risk assessment, amongst others.

The aggregate stress test results presented in this chapter show overall strong resilience of the banking sector to the assumed shocks to solvency and liquidity, while highlighting weaknesses in the liquidity position in systemic events for a few banks in part also due to the extreme assumptions applied in the tests to be able to assess systemic risks.[2]

3.1 Macro Stress Testing Framework

The MST framework assesses the impact on banks' balance sheets from changes in the domestic and international macroeconomic and financial environment. The framework is designed to capture the core and non-core domestic banks as part of the sample due to their direct links with the domestic economy, albeit limited in the case of the latter category of banks. The scenarios have been tailored to the current macro-economic outlook amid inflationary pressures and feature the June 2022 macroeconomic projections as a baseline and a novel climate-related adverse scenario. While long-dated horizon scenarios associated with climate change are important to properly map the scenarios and understand the impacts of physical and transition risk, they tend to smooth out shorter-term fluctuations and to some degree can underestimate overall risks. Thus, near-term scenarios can address these shortcomings and play a complementary role in risk assessments. For this reason, the MST retains its 3-year horizon with the adverse scenario being designed on the international efforts for scenario design reported in Box 2 and adapted to the characteristics of Malta as a small open economy.

BOX 2: REVIEW OF CURRENT EFFORTS FOR MITIGATING CLIMATE RISK AND RELATED SCENARIO DESIGN

The impact of repercussions surrounding climate change is increasingly on institutions' agenda as a source of risk for financial stability that could materialise not only in the longer-term but also in the short-to-medium term. With increasing evidence of physical effects and accelerating impacts of the effort to transition to a low-carbon economy, financial regulators are rapidly integrating climate-related and environmental risks into their supervisory frameworks.

In the 2015 United Nations Climate Change Conference (COP 21), 196 Parties adopted the **Paris Agreement** to limit global warming compared to pre-industrial levels to well-below 2°C, preferably 1.5°C, in accordance with the recommendations of the United Nations' Intergovernmental Panel on Climate Change (IPCC). The Paris Agreement entered into force on 4 November 2016, with countries aiming to achieve this long-term temperature goal by curbing greenhouse gas emissions, as soon as possible, and reach a climate neutral world by 2050. In its Sixth Assessment Report (AR6), the IPCC has warned that "it's now or never", to address these concerns "if we want to limit global warming to 1.5°C," global greenhouse emissions are required to peak before 2025 at the latest, and start a turning point at which emissions are reduced across all sectors by 43% by 2030 (IPCC, 2022). If alternatively global warming is targeted to 2°C, greenhouse gas emissions still need to peak before 2025 at the latest and be reduced by 25% by 2030.

The **Network of Central Banks and Supervisors for Greening the Financial System** (NGFS) was launched at the Paris One Planet Summit on 12 December 2017 and currently consists of circa 130 central banks and supervisors. The NGFS was established with the aim of contributing to the global response needed to achieve the Paris Agreement's goals, as well as to improve the role of the financial system in risk management and capital mobilization for green and low-carbon investments. In its first progress report of October 2018, the NGFS acknowledged that central banks and supervisors are mandated to ensure resilience of the financial system against climate-related risk (NGFS, 2018).

The NGFS considers scenario analysis as a useful tool for central banks and supervisors to determine, amidst all the uncertainty, how climate change would affect the financial system and assess the soundness of financial firms. For this reason, the NGFS is continuously investigating how scenarios can be integrated into authorities' toolkits. In July 2020, the NGFS released the first iteration of climate scenarios, now known as the Phase I scenarios, to investigate the impacts of climate change and climate policy as a common reference framework for central banks and supervisors (NGFS, 2020). In July 2021, the NGFS released the second iteration of the scenarios, referred to as the Phase II scenarios (NGFS, 2021a). The Phase II scenarios consist of six alternative pathways for global changes in policy, the energy system and climate, and differ in terms of the two key financial risks, namely physical risk and transition risk. These six long-term scenarios (with projections up to 2050) are grouped into three categories: the *orderly; disorderly*; and *hot house world* scenarios. These scenarios also vary in terms of the extent of physical risks as a consequence of environmental events such as floods; or transition risks associated with new policies and technologies. The orderly scenarios, which are the Below 2°C and the *Net Zero 2050* scenarios, assume that climate policies are enacted in a timely manner and gradually become more stringent to smoothly limit climate change to below 2°C compared to pre-industrial levels (a more ambitious target of 1.5°C under *Net Zero 2050*). In these scenarios, both physical and transition risks are kept under control. The two disorderly scenarios, consisting of the *Delayed Transition* and the *Divergent Net Zero* scenarios, include higher transition risk due to policies that are delayed or diverge across different countries and industries. Under the former scenario, carbon prices are assumed to rise quickly after a 10-year delay to allow for a fossil-fuel based economic recovery after COVID-19. The *Divergent Net Zero* scenario instead still reaches the net-zero emissions target by 2050 but with divergent policies and a faster

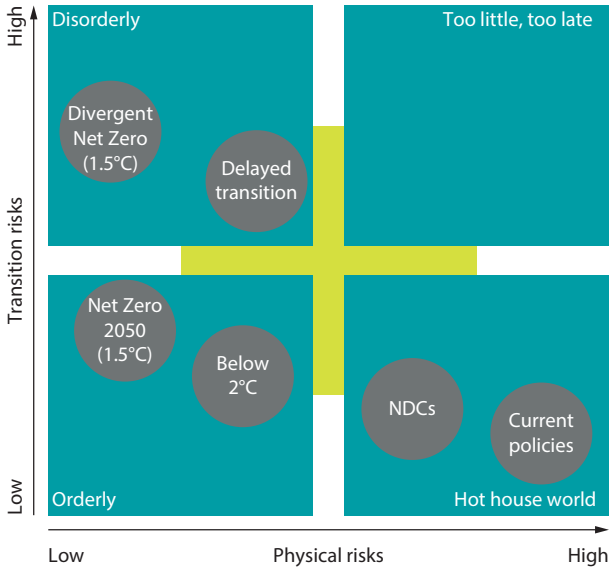
phase-out of fossil fuels. Both disorderly scenarios lead to higher transition costs compared to the orderly scenarios. Finally, the two hot house world scenarios, which are the *Current Policies* and the *Nationally Determined Contributions (NDCs)* scenarios, assume that some climate regulations are enacted in some jurisdictions, but global efforts are unsuccessful in preventing major global warming. This results in significant physical risk, such as irreversible impacts like a sea-level rise.

Figure 1 illustrates the six scenarios classified by the level of transition and physical risks, as presented by the NGFS.

Some of the major challenges encountered in climate scenario analyses include data gaps and the alignment of different data sources and models, the uncertainty driven by the climate exercise's long-time horizon contemplated, the adaptation of current stress test methodologies which typically focus on the short to medium term, and the development of adequate in-house climate-related scientific expertise. To address some of these challenges, the NGFS scenarios provide a framework for supervisors and financial institutions to engage in forward looking climate-related risk analysis. In early-2021, the ECB conducted its first economy-wide climate stress test based on the NGFS Phase I scenarios (ECB, 2021). The exercise, which relied on internal datasets and models, was conducted on almost all monetary financial institutions in the euro area to estimate how the probability of default for corporate loans would change during a 30-year horizon up to 2050. The results highlight the clear benefits of acting early to reduce the costs of physical risks to businesses which, in the absence of additional climate policies, could rise drastically, thereby increasing their probability of default.

Central banks and supervisors have also been increasingly conducting scenario analyses to identify and assess the impact of climate risk in the financial system. In the NGFS progress report on

Figure 1
CLASSIFICATION OF THE SIX NGFS SCENARIOS BY TRANSITION AND PHYSICAL RISKS



Source: NGFS (2021a, slide 7).

global supervisory and central bank climate scenario exercises, several NGFS members highlighted the work being carried out in their respective jurisdictions (NGFS, 2021b). There is an inherent diversity in terms of design choices and approaches with an even split between top-down and bottom-up. While all exercises consider the respective banking system, some also extend testing to insurers and pension funds. Depending on the number of years available in their projections and the computational capacity, some exercises consider 30-year time horizons, while others focus on shorter time-horizons of three to five years to assess the short-term implications of climate risk. The majority of the exercises consider a static balance sheet assumption due to the ease of implementation and interpretation of the results across the board. Several institutions are using the NGFS scenarios in their analyses, mostly focusing on transition risk with few also considering the impact of physical risk.

In January 2022, the ECB launched its supervisory climate stress test (ECB, 2022a). This differs from the economy-wide climate stress test carried out in 2021 as it relies on the self-assessment of banks regarding their exposure to climate change risk and their preparedness to address it, thus being more bottom-up oriented. The exercise is carried out on over 100 supervised entities, including the three domestic significant institutions, and consists of three separate modules: (i) a qualitative questionnaire assessing banks' climate stress testing capabilities, (ii) a peer benchmark analysis on the sustainability of banks' business models and their exposure level to emission-intensive firms, and (iii) a bottom-up stress test targeting transition and physical risks. Smaller banks will not be requested to give their own stress test estimates in the third module, in order to maintain the exercise's degree of proportionality. The exercise is an exploratory stress test with no direct implications on P2G, although findings may impact P2R in a qualitative way. For the third module, the ECB is considering six different scenarios: (i) a flood risk scenario, (ii) a heat and drought risk scenario, (iii) a short-term (3-year horizon) disorderly transition scenario based on the NGFS' Delayed Transition scenario and three long-term (30-years horizon) scenarios based on the NGFS' (iv) *Net Zero 2050*, (v) *Delayed Transition* and (vi) *Current Policies* scenarios which correspond to an orderly, disorderly and hot house world scenario, respectively. The exercise was concluded in July 2022, with results highlighting the need for banks to enhance their climate risk tress-testing frameworks and further address the current data gaps (ECB, 2022b).

Domestically, the Central Bank of Malta performed its first analysis of climate-related risk exposures for the Maltese financial system that may be impacted by the transition to a less polluting economy (Ciantar and Scerri, 2021). Drawing from the methodologies adopted by the EBA and ECB, the Bank developed a methodology for classifying economic sectors by carbon-emission intensity from the available data sources and thereby identifying those most vulnerable to climate transition risks.

Based on current practices and the findings for the domestic banking system, the MST will feature a climate-related adverse scenario to provide further insight on the resilience of domestic banks to climate-related shocks.

Key features for designing a climate-related adverse scenario for Malta

As a primary consideration, a climate-related adverse scenario for the banking system could give priority to assessing transition risk and the impact of policy response to address climate change in the short to medium term. The NGFS has two disorderly scenarios that feature heightened transition risk, namely: Disorderly Transition (DT) and Divergent Net Zero (DNZ). While both scenarios are triggered by rapid increases in oil prices to disincentivize the use of fossil fuels, the DT features a swifter increase in 2031-2033 after a 10-year period of no policy response to allow for a fossil-fuel based recovery after the COVID-19 pandemic.

A second consideration is that the MST framework relies on the 3-year horizon of the economic projections to assess the banking system's resilience to shocks over the short to medium term. Indeed, given that the projections of the NGFS scenarios are defined as deviations from baseline figures, any three years within the NGFS' 30-year horizon could be applied to the baseline to determine the projections under a hypothetical adverse scenario. Indeed, the most adverse reactions (increases in oil prices, drops in GDP growth, increases in the unemployment rate, and declines in house prices, amongst others) over a 3-year time window are observed instantaneously following the materialization of the event (in this case 2022-2024) for the DNZ and with a lag of around 10 years (in this case 2031-2033) for the DT. This is consistent with the "urgency" under the DNZ to phase-out greenhouse gas emissions compared to the 10-year no policy response under the DT. Overall, while compared to the DT the increase in oil prices is lower under the DNZ, the reaction of the other macro-variables is more conservative given the on-going recovery from the disruption of COVID-19. Thus, the DNZ is deemed more appropriate in assessing the near-term impact of a phase-out of fossil fuels.

Another consideration relates to the assumption of the starting conditions and its implications for the baseline scenario and the results. The framework takes the prevailing starting conditions upon which the adverse climate-related scenario is to materialize as a given. This implies that such starting conditions also reflect the recovery from a global pandemic (COVID-19) as well as the effects of a war in Europe (Russia's invasion of Ukraine).

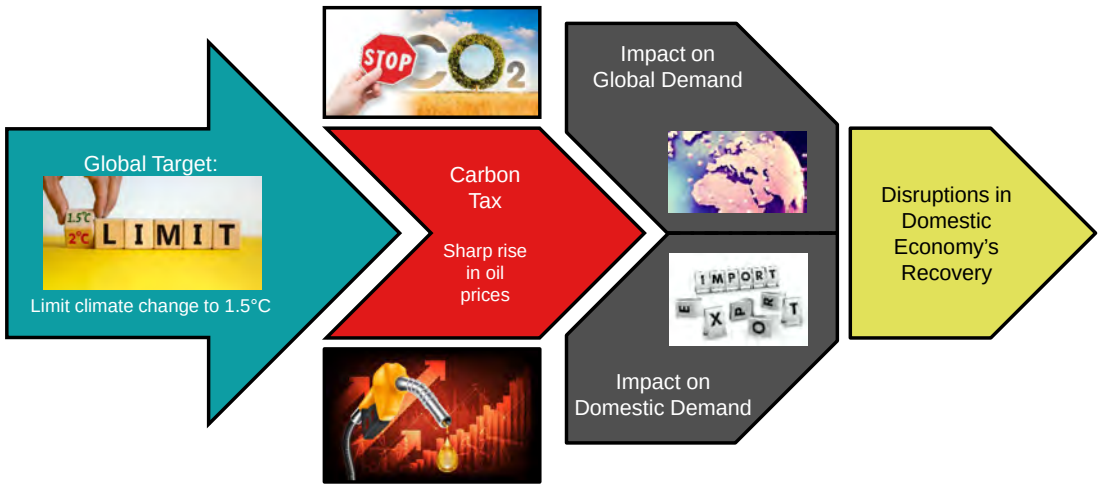
A fourth consideration is the specific characteristics of Malta as a small open economy amidst a recovery from a pandemic and further developments related to geopolitical tensions in Europe. Specifically, although Malta is reliant on natural gas (also classified under fossil fuels), the cost of energy is overall fixed for a period of time through long-term contracts for local production. Moreover, although energy sourced via the interconnector is purchased at the prevailing market price, currently price fluctuations are borne by the supplier and not transmitted on to the consumer. Nevertheless, being reliant on imports, the increase in oil prices would be reflected in overall higher associated costs via imported inflation, as well as higher fiscal financing requirements. Thus, the impact of increases in oil prices has to be reflected more in terms of inflationary pressures from both the local and international economy. These pressures would have a higher impact on CO_2 emissions intensive sectors. Thus, the intention of the test is to shed light on the importance of assessing risks related to exposures linked with high CO_2 emissions and associated costs going forward rather than quantifying the need for recapitalisation.

Narrative of the climate-related adverse scenario

In a bid to attain the Paris Agreement and reduce carbon emissions by 2050 to limit global warming to 1.5°C, the climate-related adverse scenario is triggered by the introduction of a carbon tax by all countries against the use of all non-renewable energy sources (including oil and gas). Under this scenario, the magnitude of the carbon tax is aligned to the efforts for the decarbonisation of energy supply and industry via a rapid increase in oil prices projected under the NGFS' DNZ by USD71 per barrel in the first year, USD112 in the second year and USD157 in the third year over the baseline prices. It is assumed that the Government does not intervene locally to insulate the impact of this increase in prices but rather allows energy and fuel prices to adjust to market movements. In line with the DNZ's narrative, the failure to coordinate policy stringency is a higher burden on consumers globally, affecting global demand.

The effect of the increase in oil prices on the domestic economy in the medium-term (consistent with the assumed 3-year horizon) is modelled via the Bank's macro econometric model STREAM. As a small open

Figure 3.1
CLIMATE-RELATED ADVERSE SCENARIO NARRATIVE



Source: Central Bank of Malta.

economy, oil prices (in USD) affect two composite indicators in STREAM, the one representing import prices and, to a lesser extent, the other representing export prices (as re-export for marine-vessels calling at port for refuelling). This net effect on imports is translated via the local price transmission of STREAM which would curb households' disposable income and reduce competitiveness of local exports. In the case of the latter, while oil prices would have an impact on all exports internationally, local exports would be more susceptible as a result of the drop in foreign demand and its reliance on import content. Ultimately there would be headwinds to the expected economic recovery arising from both external and domestic demand.

Figure 3.1 outlines the narrative of the climate-related adverse scenario.

With a view of the shock to oil prices acting as a trigger, scenario calibration is conducted in two phases. As a first step, an annual shock to world demand is calibrated to align the path of domestic GDP growth with the DNZ. The calibrated shocks to world demand in STREAM are -2.7%, -2.8% and -2.3% for 2022, 2023 and 2024, respectively, to account for the fact that GDP levels under the DNZ are around 5% lower than the levels expected under the baseline scenario. In a second step, the assumed increases in oil prices are combined with the calibrated shocks to world demand to result in a more pronounced slowdown in GDP growth, higher inflation and increased unemployment. This added inflation adversely affects both households' ability to consume and NFCs' cost of production and ultimately, their ability to honour their credit obligations leading to a rise in non-performing loans (NPLs).

Given the anticipated transition risk, it is also assumed that supervisors increase risk weights by 25% for loans to NFCs operating in sectors associated with high CO_2 emissions. Moreover, banks experience valuation losses on bonds and equities linked to carbon intensive activities (more details on both assumptions can be found below under methodological notes and in Box 3).

Projections for 2022, 2023 and 2024

Under the baseline scenario, which is based on the Bank's macroeconomic projections published in June 2022, GDP is expected to grow by 5.4% in 2022, 4.9% in 2023 and 3.8% in 2024. Compared to the February 2022 projections, there is a downward revision to reflect weakened global trade and exacerbated supply chain disruptions due to the Russian invasion of Ukraine and the COVID restrictive measures in Asia. Such disruptions have also increased imported price pressures, raising the projection for the harmonised index for consumer prices (HICP) to 5% for 2022 (compared to 0.7% in 2021). The unemployment rate starts a gradual increase from 3.3% in 2022 to 3.4% in 2023 and returns to the 2021 level of 3.5% in 2024.

Under the DNZ, using the deviations from baseline quoted for Europe, domestic GDP is expected to grow by 2.5% in 2022, 4.8% in 2023 and 4.3% in 2024. Under the MST's adverse scenario, the modelled GDP growth deviates further from the DNZ and is equivalent to a growth rate of 1.4% in 2022, -0.1% in 2023 and -1.8% in 2024, effectively resulting in a recession. This is because the domestic economic recovery is assumed to be hindered further by the increase in oil prices and associated heightened inflationary pressures from reliance on imports, in addition to disruptions already captured in the baseline scenario. The unemployment rate under the climate-related adverse scenario is assumed to increase steadily from 3.6% in 2022 to 4.0% in 2023 and 4.1% in 2024.

Methodological changes

As a main component of the adverse scenario narrative, the phase-out of fossil fuels could have repercussions on specific instrument classes. To target these specificities, the following adaptations to the methodology were introduced.

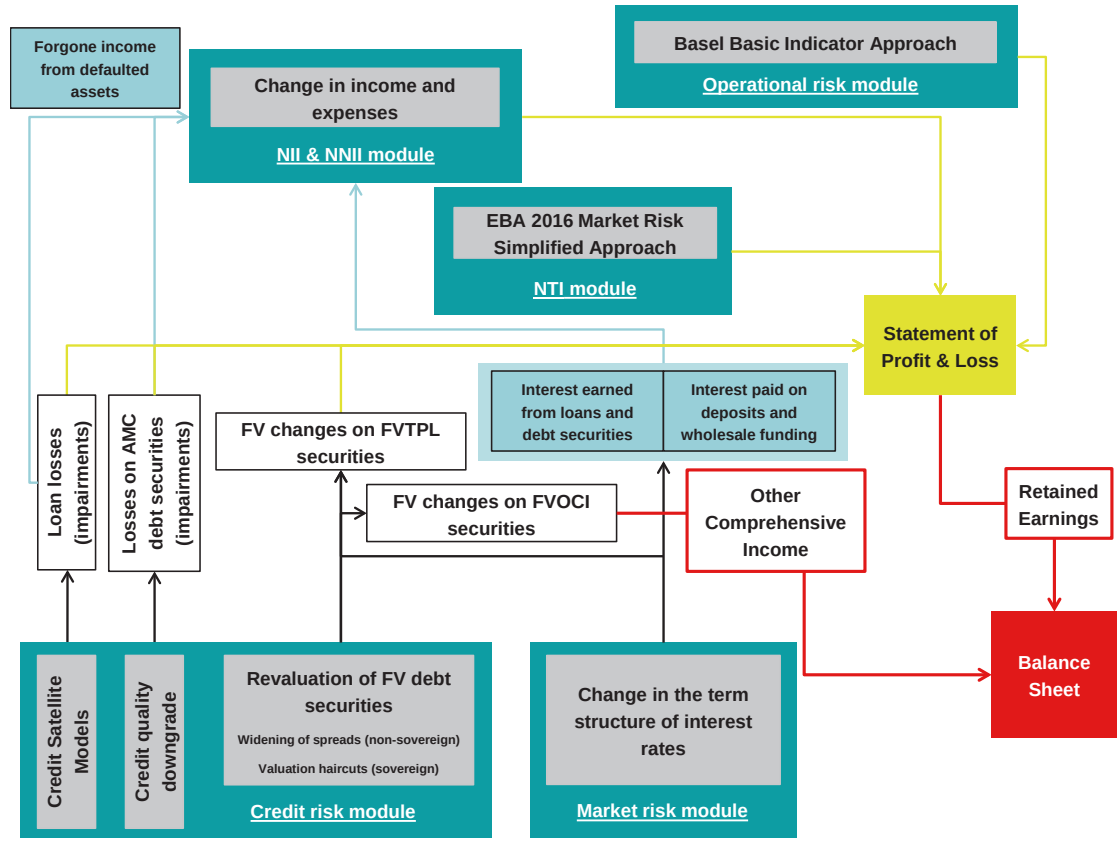
The first relates to a change in scope of the credit satellite models for NPLs as estimated in Box 3 of the Financial Stability Report 2018.[3] While the Box includes a satellite model also for internationally oriented NFCs, this model employs oil prices as a proxy for economic activity in oil producing countries, thereby NPLs increase as oil prices drop. Thus, for the climate-related adverse scenario, in which all NFCs are expected to face higher production costs and NPLs are expected to increase as oil prices increase, the modelling of NPLs is based on the domestically oriented NFC specification without fixed effects. No changes are made to the credit satellite model for household NPLs.

The second is an introduction of a risk weight add-on for NFC loans operating in sectors associated with relatively higher CO_2 emissions. The aim of such a measure would be to reflect the higher risks associated with high emitting sectors. Higher risk weights for high emitting sectors would also make new loans for low emitters more attractive. This is because exposures to high emitters would become more costly in terms of capital, both via higher risk weights as well as via higher provisions associated with lower asset quality. In practice, since the MST adopts a static balance sheet, banks would need to set aside more capital for high emitters due to the higher risk of NFC defaults when facing transition risk. The findings of Ciantar and Scerri (2021) are employed to determine a CO_2 factor as reflection of banks' share of loans to NFCs operating in low, mid or high CO_2 intensive sectors. The increase in the NFC risk-weight is calibrated at a maximum 25 percentage points for high CO_2 intensity, being the midpoint between the NFC risk weight of 100% prescribed under the standardized approach and the maximum 150% risk-weight that supervisors may apply in case of intensified risk. The increase is then applied proportionally to banks based on their respective CO_2 factor ranging between 1% and 60% for the banks in scope, with an average value of 45%. Indeed, since loans in sectors classified as low intensity would be exempt from the assumed increase in risk weights, in general risk-weighted assets (RWAs) for NFCs would increase by 11.25 percentage points (45% of the maximum 25 percentage points risk-weight add-on). At a bank specific level, the RWAs for NFCs increase within the range of 0.25 and 15 percentage points.

The third is an adaptation of the credit and market risk methodologies applied to debt securities. While typically climate scenarios penalise bonds issued by NFCs depending on the extent of CO_2 emissions, the banks in scope are mainly exposed to sovereign bonds (61%) and debt instruments issued by credit institutions (35%) which are typically classified as low CO_2 intensive sectors. Nevertheless, since such debt is used to finance activities in the respective jurisdiction, the approaches for credit and market risk now differentiate between shocks depending on the level of carbon-intensity in energy production of the country of origin. More details are provided in Box 3.

For the remaining parts of the methodology, these remain consistent with previous runs of the MST. In addition to dedicated modules for credit and market risk, refined as outlined above, the framework also has three additional modules for NII and net non-interest income (NNII), net trading income (NTI) and operational risk (see Figure 3.2). Moreover, it runs over a 3-year time horizon and assumes a static balance sheet for ease of comparison across the results of banks in scope. This entails retaining the same composition of assets

Figure 3.2
SCHEMATIC OVERVIEW OF THE MST FRAMEWORK



Source: Central Bank of Malta.

and liabilities throughout the test horizon by replacing instruments which mature between 2022 and 2024 with similar instruments in terms of type, credit quality and date of maturity as at the start of the exercise.

The static balance sheet assumption is particularly relevant for the NII & NNII module as income and expenses would not be based on historical trends, but generated directly from the same stock of assets and liabilities available at end-2021. The NII component affects income and expenses from interest-bearing assets (loans and debt securities) and liabilities (mainly deposits) by adjusting the effective interest rates according to the shock to interest rates assumed in the respective scenario. All variable and fixed rate assets and liabilities which mature during the time horizon are replaced with similar instruments at the new prevailing rates. Moreover, this module draws from the credit risk and market risk modules to reflect the impact of missed loan repayments, forgone coupons from defaulted debt securities, and coupons earned from both floating rate notes and debt securities which are rolled over upon maturity. The NNII part captures non-interest income and expenses, such as dividend income, fee and commissions income, administrative expenses, and staff wages. The impact arising from NNII is combined with the impact from NII and charged directly to the P&L.

The NTI module quantifies market risk on fair value (FV) securities, which represents a less important component of the banks' business model and includes derivatives and economic hedges. The historical variation of NTI obtained from these positions is used as a proxy for the banks' sensitivities to adverse market risk conditions. The module 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). The estimated changes in NTI are also included in the P&L account.

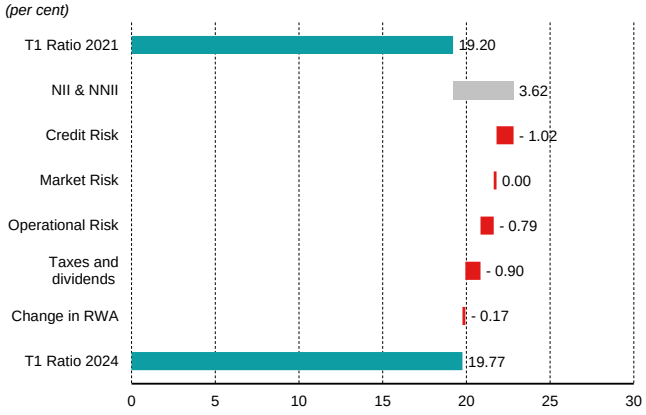
The final module quantifies operational risk on the basis of the Capital Requirements Directive (CRD)'s Basic Indicator Approach (BIA) which calculates a capital requirement for operational risk as 15% of the average over three years of the relevant indicator (RI). The RI is approximately equal to a 3-year average of net profits before tax. Losses are thus assumed at 40% of capital requirement under the baseline (equal to 6% of the RI) or 100% under the adverse scenario (15% of the RI), as per Box 32 of the EBA 2021 methodological note. Moreover, the module accounts for projected losses from pending court cases which are equally distributed over the 3-year stress test horizon under the adverse scenario as per paragraph 443 of the EBA 2021 methodology.

The impact arising from NII & NNII, NTI and operational risk are charged directly to the P&L, reflected in retained earnings and ultimately in capital.

Results

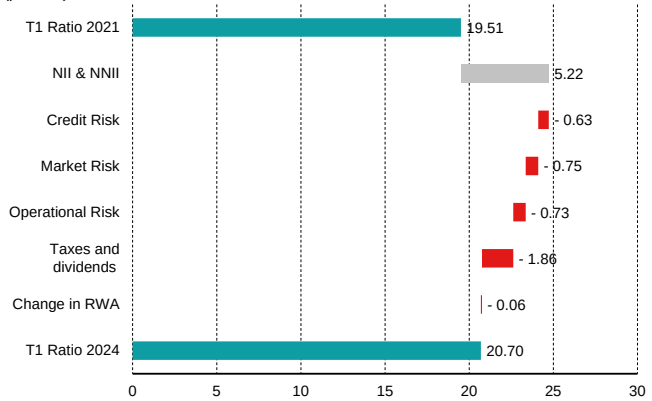
Charts 3.1 and 3.2 present the contributions from the various risk modules by depicting the evolution of the Tier 1 capital ratio for core and non-core domestic banks under the **baseline scenario** as a share of RWAs at the end of the test horizon. Despite inflationary pressures, the overall positive outlook in the baseline economic projections for the test horizon 2022-2024, allows banks to improve their capital ratio. This is mainly driven by the contribution of NII & NNII which, under a static balance sheet assumption, is estimated on banks' potential to generate income and pay expenses based on the composition of assets and liabilities as at the reference date and the scenario-specific disruptions from this potential. Overall, in the baseline, these disruptions are small, mainly in the form of missed repayments on newly classified NPLs and associated cost for loan-loss provisions. After offsetting the losses arising from the other risk factors, the positive contribution of NII & NNII allows for an accumulation of capital via retained earnings. As explained above, the income generated from interest-bearing assets and non-interest income, outweighs the costs on interest payable liabilities, such as deposits, and other non-interest expenses due. Overall, the Tier 1 capital ratio of core domestic banks increases by 0.57 percentage points from 19.20% to 19.77%, while that of non-core domestic banks increases by 1.19 percentage points from 19.51% to 20.70%. At an individual bank level, all banks surpass their overall capital requirement (OCR) which consists of a common 6% Pillar 1 requirement, an institution-specific Pillar 2 requirement and the combined buffers.

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.

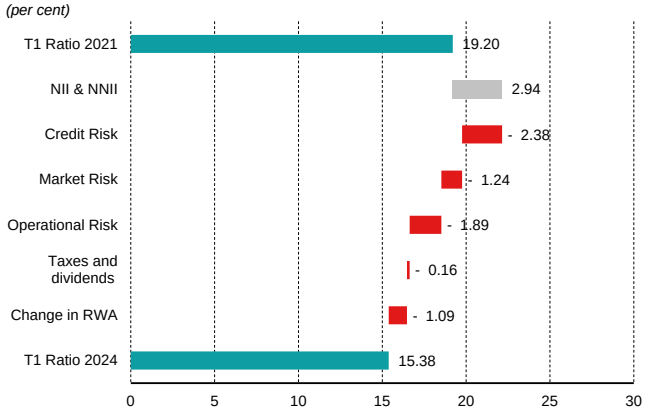
Chart 3.2
STRESS TEST RESULTS – MACRO STRESS TEST BASELINE SCENARIO – RELATIVE CONTRIBUTION OF THE IMPACT ON NON-CORE DOMESTIC BANKS' TIER 1 CAPITAL RATIO
(per cent)



Source: Central Bank of Malta calculations.

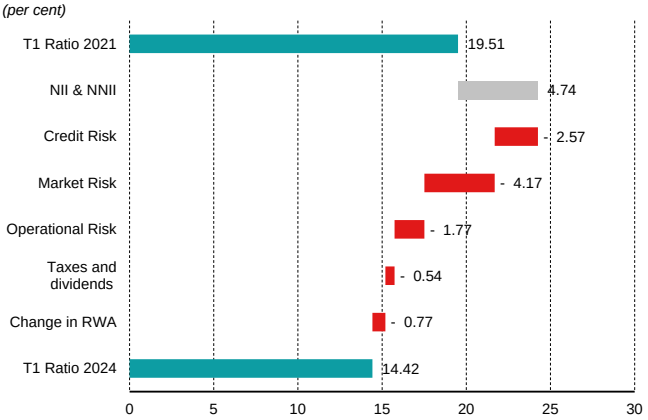
Charts 3.3 and 3.4 show that the aggregate Tier 1 capital ratios for both bank categories would drop under the **climate-related adverse scenario** following the materialisation of losses that would need to be offset by the release of capital. The Tier 1 capital ratio for core domestic banks falls by 3.82 percentage points to reach 15.38%, while that of non-core domestic banks falls by 5.09 percentage points to reach 14.42%.

Chart 3.3
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 3.4
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.

Under this scenario, the phase-out of fossil fuels translates into adverse conditions, leading to higher levels of NPLs and bond defaults as captured under credit risk. In addition to the new impairment requirements eroding profits, these assets also reduce the inflow of interest income via missed loan repayments and forgone coupon payments. Combined, these explain most of the less positive contribution of NII and NNII when compared to the baseline scenario. In the case of non-core domestic banks, losses mainly originate from market risk, particularly the assumed shock of 24% on the valuation of equity holdings given the significant equity holdings for this category of banks. To note that in addition to an increase in RWAs from higher risk-weights associated with new NPLs, this scenario also features an increase in RWAs from NFC loans depending on the respective CO_2 factor representing the overall composition of NFCs operating in low, mid or high CO_2 intensive sectors.

Despite the drops in the Tier 1 capital ratios, both bank categories remain well above the 6% minimum requirement. As per the SREP guidelines, the results of an adverse scenario should be assessed against the total SREP capital requirement (TSCR), which consists of the common Pillar 1 requirement and the individual bank Pillar 2 requirement set by the supervisor for December 2021. At an individual bank level, all banks surpass their TSCR in the 3-year horizon.

Overall, while the outcome of the scenario does not indicate any specific needs for recapitalisations, it highlights heterogeneity across banks in terms of the extent of exposure to specific sectors and countries which are more reliant on fossil fuels. Such exposures could put the respective banks' business model at risk in the near to medium-term. Nevertheless, the consequences could span over a longer period – particularly when paired with the implications arising from physical risks. Addressing data gaps, proper classification of instruments and assessments for build-up of risks are therefore key for banks to be better prepared and avoid the need to build up additional capital at times of heightened adverse market conditions.

BOX 3: TREATMENT OF DEBT SECURITIES IN THE MACRO STRESS TESTING'S CURRENT CLIMATE-RELATED ADVERSE SCENARIO

Within the MST framework, the approach applied on debt securities to quantify risk is differentiated according to the accounting treatment. Bonds held at amortised cost are subject to higher probabilities of default (PDs) consistent with a downgrade in the respective credit rating, while bonds at FV are subject to revaluation losses. While these approaches are applied to all bonds based on their respective characteristics (such as yield, coupon rate and maturity), for a climate-related adverse scenario, shocks should differentiate amongst the various levels of riskiness/exposure to climate risks.

In the 2022 SSM Climate Stress Test (CST), the exposures liable to market risk within the scope for the revaluation calculation include all corporate bonds and stocks in the **trading book** held at fair value through profit and loss (FVTPL). The scope of the market risk stress methodology covers all equity and NFC bond positions under full or partial FV measurement which are **held with a trading intent,** i.e. positions at FVTPL. Associated hedging positions also fall within the scope of the analysis.[4] Banks are asked to classify their bond and stock holdings under the NACE industries as determined by the ultimate parent company. For example, a bond issued by a finance subsidiary of a car manufacturer should not be classified as a bond issued by a financial institution but as an exposure to a manufacturer of motor vehicles.

Overview of Debt Securities Holdings in Malta

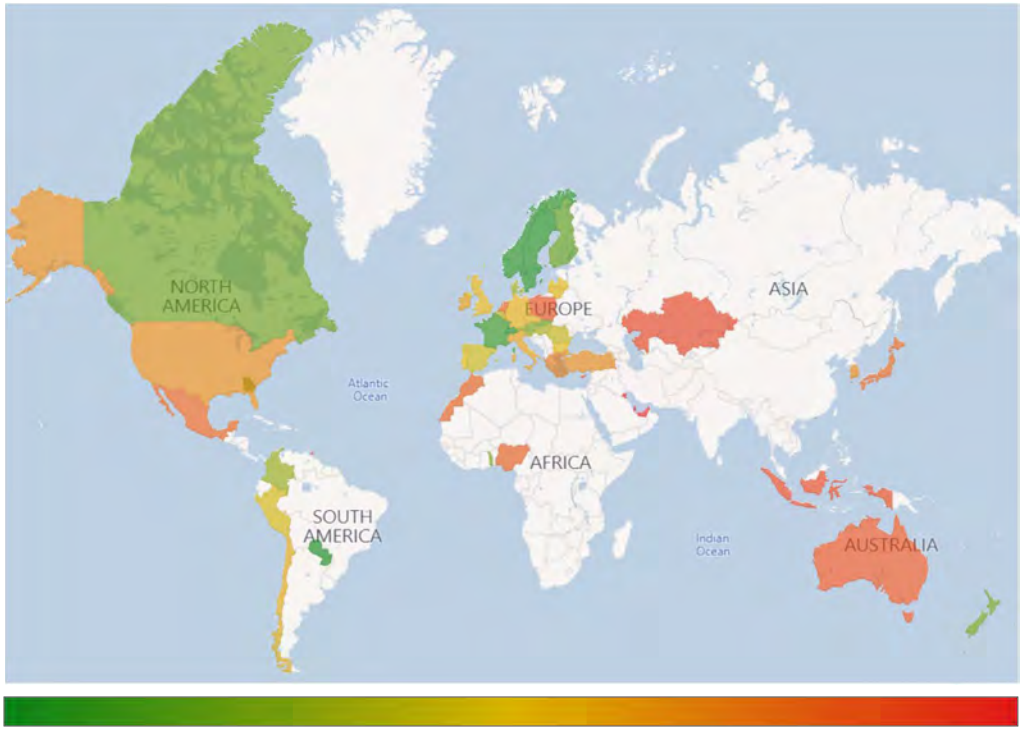
The bond portfolio of banks in scope of the MST is made up mostly of sovereign debt securities. Indeed, 61% of their debt securities are towards sovereign bonds. The second largest share is held by financial institutions which represent around a third of their portfolio (35%), with the remainder being NFC bonds. While many corporates have a financial holding company taking care of financing on behalf of the group, an assessment of the individual names of bonds held by banks reveals that most financial institutions are indeed credit institutions. Thus, for the vast majority of bonds held by the banks in scope, it is not possible to link their activities to sectors of economic activity (and associated CO_2 emissions) as done by the SSM for its 2022 CST.

Consequently, it was deemed appropriate to link the bonds to the exposure towards climate risks within the country of origin as the debt generated would be used to finance activities within the respective jurisdiction. Several sources and proxies were considered including the CO_2 emissions by country but ultimately, in line with the scenario narrative targeting the phase-out of fossil fuels, the country-specific exposure to climate risk is based on the World Bank's share of electricity production from oil, gas and coal sources to total energy production for each country.[5] For the few countries where data was unavailable, other data sources and publicly available information were considered to cross-fill the data.[6]

Figure 1 shows the world map with shaded countries representing the share of non-renewables in electricity production for the subset of countries to which banks' debt securities portfolio are exposed to. The shading ranges from dark green for the countries with the lowest share of fossil fuels energy production (e.g. Paraguay, Switzerland and Sweden with respective shares of non-renewables is below 1% of total), to dark red for the countries which are most reliant on fossil fuels (Kuwait, Qatar and Trinidad and Tobago with full reliance). The figure does not include information on the relative shares in nominal terms of exposure.

The country specific factors would then be used to determine the applicable magnitude of the shock commensurate to the level of fossil-fuel intensity.

Figure 1
GEOGRAPHIC DISTRIBUTION OF DEBT SECURITIES COLOURED BY SHARE OF ELECTRICITY PRODUCTION FROM OIL, GAS AND COAL SOURCES



Sources: Central Bank of Malta; World Bank (map generated in PowerBI).

For debt securities held at FV, revaluation losses would be incurred following a widening of credit spreads. According to a study by Morgan Stanley Capital International (MSCI) available on their Net-Zero Knowledge Hub, the worst-assumed spread for debt securities is equivalent to 416 basis points (bps) for investment-grade debt in Europe when considering a scenario limiting climate change to 1.5°C. Without the climate shock, the spread would be at 84 bps. Drawing from these magnitudes, given that the climate-related scenario narrative also features a target to limit climate change to 1.5°C, the applicable credit spread on FV non-sovereign bonds can vary proportionally based on the defined factors between 84 bps (no reliance on fossil fuels in energy production) and 416 bps (full reliance). Bond specific factors such as coupon rate, coupon frequency and term to maturity would be accounted for in the bond-pricing function.

For FV sovereign bonds, a set of market haircuts is estimated for 10-year bonds on the basis of the price difference consistent with the MSCI yields quoted above. Based on the instruments contained in banks' portfolios, prices of 10-year sovereign bonds would drop by 7.2% if yields increase by 84 bps, and by 30.5% if yields increase by 416 bps. These shocks are then apportioned according to tenure to determine haircuts for specific (lower) maturity buckets as shown in Table 1.

FV sovereign bonds would then be subject to a specific haircut within the range of haircuts applicable to the respective maturity, based on the country factor. For instance, a 2-year sovereign bond with a country factor of 50% would attract a valuation haircut of 2.85% as the midpoint between 1.1% and 4.6%.

Table 1
HAIRCUTS FOR SOVEREIGN FV BONDS

Term to maturity	Level of emission intensity (%)	
	Low	High
Up to 3 months	0.1	0.4
3 months to 1 year	0.5	1.9
1 year to 2 years	1.1	4.6
2 years to 3 years	1.8	7.6
3 years to 5 years	2.9	12.2
5 years to 10 years	5.4	22.9
10 years or more	7.2	30.5

Source: Central Bank of Malta.

Conversely, bonds held at amortised cost (AMC) are insulated from market movements as these bonds are retained until maturity to gain from the ultimate principal repayment and any coupon payments in the interim. Thus, these bonds are assessed against credit default risk with higher risk of insolvencies among activities in high CO_2 emission intensity. Such risk is reflected in higher probabilities of default which are assigned to AMC bonds on the basis of a downgrade between a single to 3-notch downgrade, depending on country specific factors. In other words, countries with 0% use of fossil fuels would attract a 1-notch downgrade while countries with a 100% reliance on fossil fuels would attract the full 3-notch downgrade, relative to the current rating.

Comparison of Results

Table 2 compares the results of the credit quality deterioration (CQD) sensitivity analysis based on the shocks presented in the previous Financial Stability Reports, and the results obtained under the adapted methodology for the climate-related adverse scenario contemplated for the MST.[7] Both tests use December 2021 as reference date.

Under the traditional CQD, the Tier 1 capital ratio declines by 1.07 and 2.05 percentage points for core domestic and non-core domestic banks, respectively. Under the fossil fuels in energy production approach used in the MST, Tier 1 capital ratio drops by 1.66 and 3.15 percentage points for the two respective bank categories. The latter approach has a higher impact, mainly from the wider range of FV credit spreads (84 to 416 bps) compared to the 132 bps applied in the traditional CQD. Although banks could benefit from lower credit spreads for countries with very low reliance on fossil fuels in their energy production, a shock of 132 bps corresponds to a country factor of 14.5% under this methodology. Conversely, banks have an average country factor of 60%, resulting in overall higher shocks being applied in the revised methodology. The additional severity is commensurate with the climate-related adverse scenario to phase-out reliance on fossil fuels in the medium term and ultimately reach the target of limiting climate change by 1.5°C by 2050.

Table 2
COMPARISON OF RESULTS UNDER STANDARD CQD AND CONTRIBUTION TO MST'S CLIMATE-RELATED ADVERSE

Bank category	Tier 1 Capital Ratio (%)		
	Dec. 2021	CQD	MST
Core domestic banks	19.20	18.13	17.54
Non-core domestic banks	20.17	18.12	17.02

Source: Central Bank of Malta.

Despite the reduction in the Tier 1 capital ratio, banks would be able to withstand the shocks under both approaches, tested here in isolation. Moreover, the impact from the climate-adapted methodology for bonds is combined with the other risk factors assessed under the MST framework and represent part of the impacts of credit risk and market risk on the capital ratio reported in Chart 3.3 and 3.4, respectively. Considering the overall larger impact on capital from the 3-year period of heightened transition risk reported in these charts, banks in both categories are able to absorb the losses and retain capital levels above the minimum requirements, at both an aggregate and individual bank basis.

3.2 Interest Rate Risk in the Banking Book

IRRBB refers to the potential risk posed by changes in the shape of the yield curve and its impact on the banks' interest-bearing assets and liabilities, and consequently, their capital. IRRBB can be measured in terms of its immediate-term impact on the banks' profitability via NII, or in terms of the economic value of equity (EVE), which involves revaluing both interest-bearing assets and liabilities held in the banking book through discounted future cash flows.

While retaining the focus on the immediate term impact from shocks to the yield curve, the IRRBB framework has been enhanced with granular data on banks' bond holdings to complement the impact on NII with the impact from revaluation of FV bonds. The discounted sum of future cashflows for the pricing of bonds depends on the market adjustments of the yield (as the discounting factor) and, in the case of floating rate notes, the adjusted coupon rate.

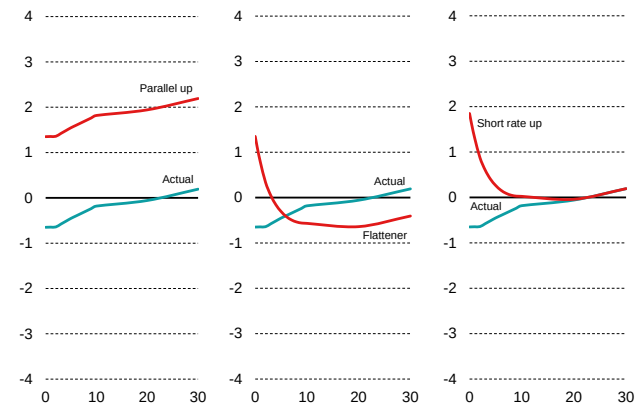
Following the ECB indication on 9 June 2022 that it will increase interest rates by 0.25 percentage points in its July Governing Council meeting and expects to increase rates further in September, scenarios assuming increases in the short end of the yield curve become more relevant. Drawing from the scenarios prescribed in Annex 2 of the 2016 Basel Committee on Banking Supervision (BCBS) standards, this section focuses on the *parallel up, flattener* and *short rate up* scenarios, although their respective short-term changes are larger than the ECB's indicated increase. Moreover, since traditional banks finance credit from deposits taken, such increases would only be reflected immediately in specific instruments, such as variable rate bonds pegged with the ECB rates. Most assets, specifically mortgages, would be repriced once banks change their respective reference rates (as a margin over the deposits used to finance such credit). The IRRBB framework thus applies the assumed shifts in the yield curve as changes in the bank-specific reference rates for NII together with the yield and coupon rates for the revaluation of bonds. To note that while all bonds at amortised cost are insulated from FV changes and thus excluded from the revaluation quantification, any changes in coupons for floating rate notes are captured under NII.

Chart 3.5 depicts the relative changes in the Euro (EUR) term structure under three scenarios as at December 2021. These scenarios are consistent with the ECB indication of short-term interest rate increases and provide further context in terms of the adjustments to the medium and longer-term rates.

In the case of NII, only EUR, Pound sterling (GBP) and US Dollar (USD) are considered as the material currencies in which the banking books are denominated, with these three currencies amounting to 99%, 97% and 93% of the banking book of core domestic, non-core domestic and international banks, respectively. Particularly, exposures denominated in EUR represent 94%, 75% and 89% of the banking book of these three bank categories, respectively. In the case of revaluations, while Annex 2 of the BCBS standards provides currency specific shocks for most of the denominations of bonds held by the banks in scope, EUR shocks are applied for 0.6% of the bonds denominated in the remaining currencies.

This framework measures the impact of IRRBB on NII over a 12-month period under a static balance sheet assumption. This means that any instruments that mature within the year are rolled over with similar instruments at the prevailing interest rates in the respective scenario.

Chart 3.5
STRESS TEST SCENARIOS – CHANGE IN THE EUR TERM STRUCTURE OF INTEREST RATES UNDER THE 6 BCBS SCENARIOS
(per cent; years)



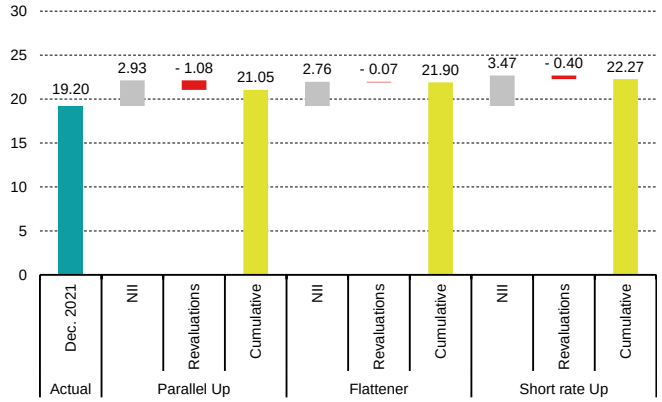
Sources: Central Bank of Malta calculations; BCBS.

Charts 3.6, 3.7 and 3.8 show the impact of the three scenarios on the Tier 1 capital ratio for core domestic, non-core domestic and international banks, respectively, following the application of the corporate tax rate of 35% on banks' profits when assessing the impact of NII and FV changes on bonds held at FVTPL. For bonds held at FV through other comprehensive income, FV changes are charged directly to capital.[8]

Since banks hold the majority of their interest-bearing assets in loans and advances which are repriced immediately, shifts in the short end of the curve would have the largest impact on interest income. Conversely, the interest expense is more stable as a large share of interest-bearing liabilities are in the form of deposits which have an open-ended maturity or, to a lesser extent, have a maturity of less than one year, which attract 0% or very low interest rates. Indeed, 94% of deposits held by both core and non-core domestic banks along with 72% of deposits held with international banks have open-ended maturities or mature within the year. In the case of bonds, the respective maturity date applies for the purposes of repricing, with a cap of 100 years for perpetual bonds. FV positions have an average maturity of four, eight and seven years, for the respective three bank categories.

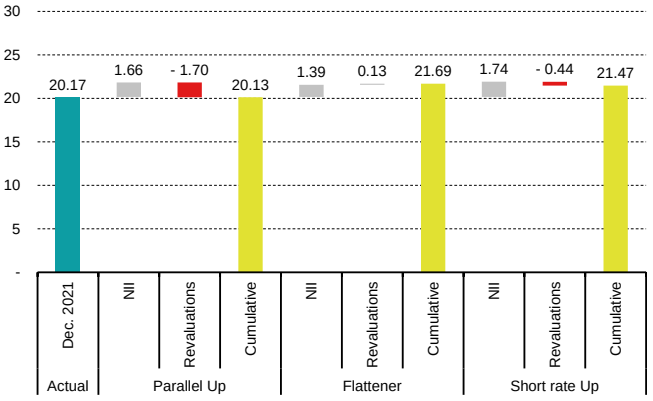
Based on the composition of interest-bearing assets and liabilities in December 2021, NII improves under all three scenarios, assuming increases in the short end of the yield curve. Conversely, banks would experience in most cases revaluation losses, given the inverse relationship between bond prices and yields (i.e. as interest rates increase, bond prices decrease). The major positive

Chart 3.6
STRESS TEST RESULTS – RELATIVE CONTRIBUTION OF THE CHANGE IN INTEREST RATES ON CORE DOMESTIC BANKS' TIER 1 CAPITAL RATIO
(per cent)



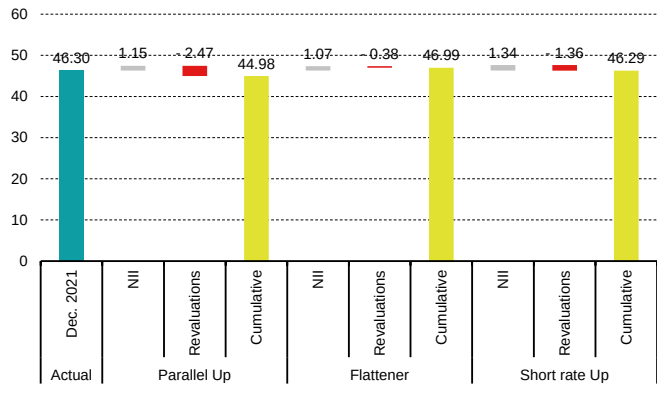
Source: Central Bank of Malta calculations.

Chart 3.7
STRESS TEST RESULTS – RELATIVE CONTRIBUTION OF THE CHANGE IN INTEREST RATES ON NON-CORE DOMESTIC BANKS' TIER 1 CAPITAL RATIO
(per cent)



Source: Central Bank of Malta calculations.

Chart 3.8
STRESS TEST RESULTS – RELATIVE CONTRIBUTION OF THE CHANGE IN INTEREST RATES ON INTERNATIONAL BANKS' TIER 1 CAPITAL RATIO
(per cent)



Source: Central Bank of Malta calculations.

impact of NII would be experienced under the *short rate up* scenario for all three bank categories. Under this scenario, revaluation losses would offset in part these gains for core and non-core domestic banks. In the case of international banks, revaluation losses would offset these gains entirely. The Tier 1 capital ratio would increase from 19.20% to 22.27% for core domestic banks, from 20.17% to 21.47% for non-core domestic banks, whilst remaining stable at around 46.3% for international banks.

For core domestic banks, the capital increase associated with the other two scenarios would be comparable albeit smaller. For non-core domestic and international banks, capital would increase under the *flattener* scenario and drop below the starting capital under the *parallel up* scenario. This is due to the longer-term maturity of bonds held by these banks and the corresponding shocks in the yield curve which, as shown in Figure 3.5, are most positive under the *parallel up*, and in negative territory under the *flattener*. Indeed, non-core domestic banks make unrealised revaluation gains under the *flattener* scenario.

Thus, changes in interest rates need to be assessed in the full context of the composition of interest-bearing assets and liabilities, including their term to maturity. A key finding is that for all the banks in scope, given the banks' balance sheet structure, interest income increases more than interest expenses when short-term interest rates rise, allowing for a positive impact from NII under all three scenarios considered. However, different investment strategies reflected in the banks' composition of bonds and their respective accounting treatment, result in heterogenous revaluation gains/losses depending on the overall assumed changes in interest rates. This is particularly relevant for the drops in the capital ratio of non-core domestic and international banks compared to December 2021 observed in the parallel up scenario, whereby revaluation losses from increases in the long-term rates would off-set the gains from increases in short-term rates.

SPECIAL FEATURE 2: NET STABLE FUNDING RATIO STRESS TEST

As part of the global efforts to limit liquidity risk in the banking sector, the BCBS introduced two new liquidity ratios in Basel III, which banks need to comply with. The ratios address both short-term liquidity needs and structural liquidity. The first is the liquidity coverage ratio (LCR) which assesses whether banks can survive through a month-long period of stress, hence short-term, involving high net cash outflows through their reserves of high-quality liquid assets (HQLA). The second is the NSFR which controls for liquidity risk on a structural basis by attempting to prevent a mismatch between long-term assets and short-term sources of finance on the liabilities side, thereby requiring banks to fund their activities with more stable sources of funding on an ongoing basis. The ratios have been included in EU legislation and have been rolled-out in stages, with the 100% LCR requirement applicable from January 2019 (phased-in gradually from 60% as of January 2015) and the 100% NSFR binding requirement applicable as of June 2021 (although monitored since 2018).

In the Financial Stability Report (FSR) 2018, the Central Bank of Malta introduced the LCR stress test framework which now forms part of the Bank's liquidity stress testing toolkit.[9] Nonetheless, the Central Bank of Malta also recognised the need to develop a NSFR stress test framework to complement the LCR framework, with the aim of assessing banks' long-term liquidity resilience. The Bank has since been using this framework to monitor the NSFR, and as of June 2021, when the ratio became a binding requirement, the framework was refined further to stress testing the ratio under a range of adverse scenarios.

Article 428 of the Regulation (EU) 2019/876 (hereafter, the CRR2 Regulation) establishes the rules for the net stable funding requirement to apply from 28 June 2021. Consequently, the European Banking Authority (EBA) issued Implementing Technical Standards (ITS) framework 3.0 which amend the regulation for Supervisory Reporting (COREP and FINREP) to take into account the new reporting requirements.[10]

The NSFR is defined as the ratio of the banks' holdings of available stable funding (ASF) to their required stable funding (RSF), calculated in the reporting currency for all their transactions, and should be at a minimum of 100%, as follows:

$$\frac{Available\ Stable\ Funding\ (ASF)}{Required\ Stable\ Funding\ (RSF)} \geq 100\%$$

The ASF is the portion of a bank's capital and liabilities estimated to remain with the institution for more than one year. In particular, it factors in the extent of liabilities that are bound to mature within the year. An ASF factor is assigned to the carrying value of each element of funding as prescribed in Chapter 3 of Article 428 of the CRR2 Regulation. Institutions shall consider the residual contractual maturity of their liabilities and own funds to determine the ASF factor. ASF factors range from 0% – meaning that funding from a given source is unreliable – to 100% – meaning that funding is expected to be still fully available beyond one year.

The RSF is the amount of stable funding that the bank is required to hold given the liquidity characteristics and residual maturities of its assets and the possible strains on liquidity arising from the sudden materialisation of off-balance sheet exposures. An RSF factor is assigned to the carrying value of each element of funding as prescribed in Chapter 4 of Article 428 of the CRR Regulation, taking into consideration the residual contractual maturity of the assets and off-balance sheet transactions. Institutions must also keep in mind any encumbrance on their assets when applying the RSF factor. RSF factors range from 0% – applicable to fully liquid and unencumbered assets – to 100% – for illiquid assets such as those encumbered for a residual maturity of at least one year.

The CRR2 Regulation also established a simplified version of the NSFR for small and non-complex institutions, whereby, with the prior approval of their competent authority (CA), such banks may use a simplified list of ASF and RSF factors as prescribed in Chapters 6 and 7 of Article 428 in the CRR2 Regulation.[11]

As per Article 428b (3) of the CRR2 Regulation, if, at any time, the NSFR of an institution falls below the 100% minimum requirement, or is expected to fall below it, the institution will have to immediately notify the CA and submit without undue delay a plan for the timely restoration of the NSFR to the minimum level of 100%. CAs are expected to assess the reasons for the institution's failure to maintain the minimum level before taking any supervisory measures.

Data Overview

Chart 1 shows the distribution of the ASF held by the three bank categories as at December 2021.

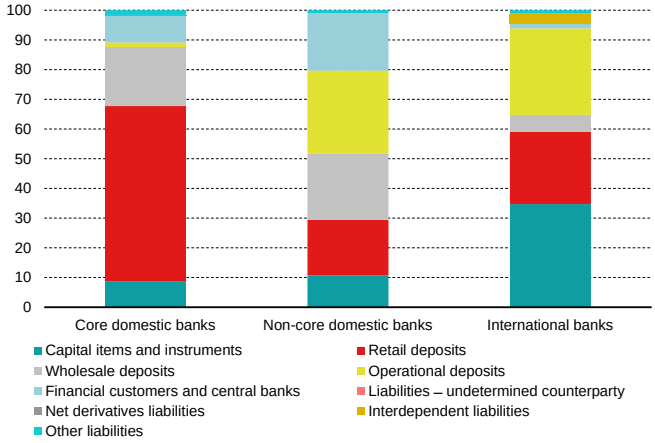
A large share of banks' ASF is in the form of retail and wholesale deposits. Retail deposits make up 59%, 19% and 24% of the ASF held by core domestic, non-core domestic and international banks, respectively. Retail deposits with a residual maturity of less than one year attract a 95% or 90% ASF factor depending on whether they classify as stable or other retail deposits, respectively. Both stable and other retail deposits with a residual maturity greater than one year attract a 100% ASF factor since they are expected to be still fully available beyond one year. Wholesale deposits also represent a significant portion of their ASF, with non-operational wholesale deposits making up 20%, 22% and 6% of the ASF held by the three respective bank categories. To note that while operational deposits are presented separately from non-operational deposits in Chart 1, these are reported at the aggregate as operational deposits from wholesale, financial customers and central banks. Wholesale deposits (both operational and non-operational) with a residual maturity of less than one year attract a 50% ASF factor, while those with a residual maturity of greater than one year, similar to retail deposits, attract a 100% ASF factor.

On average, the overall ASF factor as at December 2021 for retail and wholesale deposits is equivalent to 82% for the total banking system, meaning that banks are assuming that 82% of their retail and wholesale deposits will still be available at the end of the 1-year horizon. On an individual bank level, the average ASF factor for retail and wholesale deposits ranges from 50% to 92%, the lowest average ASF factors being applicable to banks which are more reliant on short-term funding. Indeed, for both retail and wholesale deposits, it can be noted that deposits maturing within the year attract a lower ASF factor since they will not be available at the end of the 1-year horizon unless rolled-over. Therefore, an overreliance of the domestic banking system on short-term funding can pose a potential threat when considering such longer-term scenarios, unless the sources of these funds are stable. As at December 2021, the share of retail and wholesale deposits maturing within the year is equivalent to 95%, 88% and 87% for core domestic, non-core domestic and international banks, respectively. In this regard, since the NSFR is more geared towards long-term funding, any stress test impact stemming from the reliance of banks on short-term funding would be more contained when compared to the LCR stress test which specifically targets a 30-day horizon.

On the other hand, Chart 2 presents the distribution of the RSF held by the three bank categories as at December 2021.

For all three bank categories, loans represent the largest portion of banks' assets and off-balance sheet instruments. Indeed, loans make up 43%, 38% and 50% of the RSF held by core domestic, non-core domestic and international banks, respectively. The RSF factors for

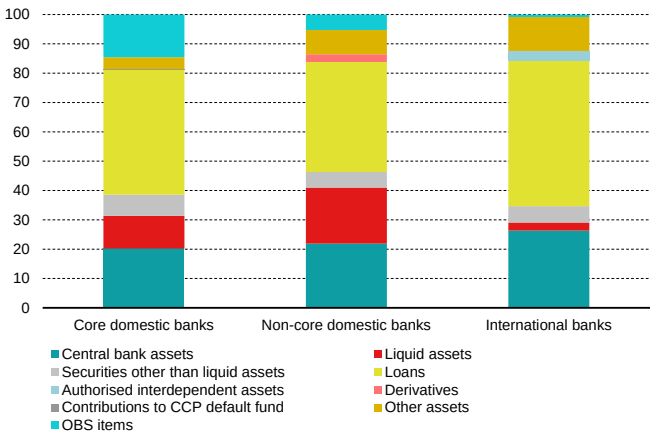
Chart 1
DISTRIBUTION OF ASF (DECEMBER 2021)
(per cent)



Source: Central Bank of Malta calculations.

loans vary depending on the credit risk associated with the different types of loans. Table 1 below presents the RSF factors prescribed for the different classes of loans in the CRR2 Regulation by encumbrance and residual maturity of the loans. The average resulting RSF factor for December 2021 is equivalent to around 63%, meaning that the banking system is expected to hold stable funding to cover 63% of the total outstanding loans by the end of the 1-year horizon. On an individual bank level, the average RSF factor for loans ranges from 24% to 81%, with banks holding short-term loans to financial customers and trade finance products attracting lower RSF factors.

Chart 2
DISTRIBUTION OF RSF (DECEMBER 2021)
(per cent)



Source: Central Bank of Malta calculations.

Central bank assets are the second largest component accounting for 20%, 22% and 26% of the RSF for the respective three bank categories. Such assets attract three different risk factors (0%, 50% or 100%) depending on the residual maturity of the assets and the term of encumbrance. These are followed by liquid assets which represent 11%, 19% and 3% of their RSF, respectively. Liquid assets which are unencumbered or encumbered for a residual maturity of less than six months attract an RSF factor ranging from 0% to 55% as prescribed by the European Commission Delegated Regulation (EU) 2015/61 for the LCR. Liquid assets encumbered for a residual maturity of at least six months but less than one year attract a 50% RSF factor, while those encumbered for a residual maturity of one year or more attract a 100% RSF factor.

Table 1
RSF FACTORS FOR LOANS PRESCRIBED IN THE CRR2 REGULATION

Loan Type	Maturity		
	Up to 6 months	6 months to 1 year	Over 1 year
Operational deposits	50%	50%	100%
Securities financing transactions with financial customers			
Collateralized by level 1 assets eligible for 0% LCR haircut			
Unencumbered or encumbered for a residual maturity of less than six months	0%	50%	100%
Encumbered for a residual maturity of at least six months but less than one year	50%	50%	100%
Encumbered for a residual maturity of one year or more	100%	100%	100%
Collateralized by other assets			
Unencumbered or encumbered for a residual maturity of less than six months	5%	50%	100%
Encumbered for a residual maturity of at least six months but less than one year	50%	50%	100%
Encumbered for a residual maturity of one year or more	100%	100%	100%
Other loans and advances to financial customers	10%	50%	100%
Loans to NFCs (other than central banks) eligible for a risk weight of 35% or less			
Unencumbered or encumbered for a residual maturity of less than one year	50%	50%	65%
Encumbered for a residual maturity of one year or more	100%	100%	100%
Other loans to NFCs (other than central banks) eligible for a risk weight higher than 35%			
Unencumbered or encumbered for a residual maturity of less than one year	50%	50%	85%
Encumbered for a residual maturity of one year or more	100%	100%	100%

Source: Central Bank of Malta.

Given that the NSFR is reported on a quarterly basis, as at the reference date (December 2021) only three submissions are available. In the first reporting cycle since becoming a binding requirement, the NSFR stood at 167%, 175% and 153% for core domestic, non-core domestic and international banks, respectively. The NSFR remained almost stable throughout the following two submissions, with a NSFR of 168%, 180% and 153% as at September 2021 and 174%, 178% and 163% as at December 2021 for the three respective bank categories.

NSFR Stress Testing Framework

Stress tests applied to the NSFR can determine potential structural long-term liquidity risks. Shocks can be applied to both the ASF and RSF factors. By applying shocks to the ASF factors, i.e., assuming lower ASF factors, banks would face reductions in the availability of stable funding due to potential run-offs, leading to a decline in their capital and liabilities. On the other hand, increasing the RSF factors would mean that banks suffer impairments in the quality of their assets and off-balance sheet instruments, hence requiring more stable funding to support them.

The Bank's new liquidity stress test draws from the methodology developed during the International Monetary Fund (IMF)'s Financial Sector Assessment Programme for Malta in 2018. The risk factors applied by the IMF were based on those prescribed in the BCBS standards that form part of Basel III. This new framework further addresses the recommendation included in the IMF's Financial System Stability Assessment for the Bank to "strengthen the risk analysis by incorporating new dimensions in liquidity stress testing."

The framework is based on a baseline and three adverse scenarios. In the baseline scenario, the ASF and RSF factors applied are those prescribed in the CRR2 Regulation. While the latter provides the magnitude of the risk factors to be applied to the respective class of instruments, it also allows banks to be more conservative in the risk factors they apply on their own instruments. This results in a possible divergence in the degree of conservatism across banks. To counter for this, in order to ensure a level playing field, the baseline scenario applies a common set of risk factors based on those prescribed in the CRR2 Regulation. However, while the baseline scenario is calculated using an internal set of risk factors, the resulting NSFR ratio remains more or less comparable to the NSFR reported by banks in their COREP submissions. The first adverse scenario targets the ASF by considering a higher run-off for retail and wholesale deposits, impacting the banks' availability of stable funding. The second adverse scenario keeps the same assumptions to the first adverse scenario but also considers that some loans become non-performing and require more stable funding to support them. The third adverse scenario keeps both considerations applied in the second adverse scenario and also accounts for increased pressure in the market which reduces the value of liquid assets, mainly bonds and equities, implying the need for more stable funding. The instruments targeted in these shocks were chosen to represent the majority of banks' assets and liabilities as shown in Charts 1 and 2 above, hence assessing any vulnerabilities arising from these relative concentrations in banks' balance sheets. The scenarios are summarised in Table 2 below.

In the first adverse scenario, by targeting retail and wholesale deposits as the main components of the ASF, a highly significant portion of the banks' ASF is impacted by this shock. Indeed, by applying shocks to the

Table 2
DESCRIPTION OF BASELINE AND ADVERSE SCENARIOS

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

Source: Central Bank of Malta.

retail and wholesale deposits by banks, 82%, 50% and 54% of the ASF held by core domestic, non-core domestic and international banks as at December 2021 is captured by this adverse scenario. Under this scenario, stable retail deposits are assumed to contribute less to the NSFR following a contraction of 5 percentage points in the applicable ASF factor prescribed in the CRR2 Regulation, while the ASF factors for other retail deposits and wholesale deposits experience a contraction of 10 percentage points. The magnitudes of the shocks under adverse scenario 1 are summarised in Table 3 below.

The second adverse scenario targets loans as the largest component of the RSF for the three bank categories, assuming higher rates for banks' RSF for loans due to an increase in credit risk. The increment in shocks applied to the RSF factors for loans range between 5 to 15 percentage points, depending on the risk level associated with the type of loans. Loans that attract a 100% RSF factor are not impacted by this shock given that they already attract the highest applicable RSF factor.

The third adverse scenario further stresses banks' RSF by also reducing the value of banks' holding of bonds and equities due to pressure in the market. The impact on the banks' HQLA is lower given the higher liquidity level of such assets. Level 1 assets eligible for a 7% LCR haircut (representing level 1 extremely high-quality covered bonds) receive an increase in the baseline shock ranging between 3 to 5 percentage points. The shock on assets eligible as level 2A increases by between 5 to 10 percentage points, while the impact on level 2B assets, namely corporate debt securities and common equity, attract a shock that is 10 percentage points higher. Finally, the RSF factors for securities other than liquid assets increases further by between 10 to 15 percentage points. All assets which attract a 100% RSF factor, namely those which are encumbered for a residual maturity of one year or more, are not impacted by the shock. The magnitudes of the shocks applied in adverse scenarios 2 and 3 are presented in Table 4 below.

Table 3
SHOCKS TO ASF FACTORS IN ADVERSE SCENARIO 1

Description	CRR2 Regulation	CBM stress test for NSFR
Stable retail deposits	95%-100%	90%-95%
Other retail deposits	90%-100%	80%-90%
Wholesale deposits	50%-100%	40%-90%

Source: Central Bank of Malta.

Table 4
SHOCKS TO RSF FACTORS IN ADVERSE SCENARIOS 2 AND 3

	Description	CRR2 Regulation	CBM stress test for NSFR
Adverse Scenarios 2 and 3	Securities financing transactions to financial customers collateralized by level 1 assets eligible for 0% LCR haircut	0%-50%	5%-60%
	Securities financing transactions to financial customers collateralized by other assets	5%-50%	10%-60%
	Other loans and advances to financial customers	10%-50%	20%-60%
	Loans to NFCs (other than central banks) eligible for a risk weight of 35% or less	50%-65%	60%-75%
	Other loans to NFCs (other than central banks) eligible for a risk weight higher than 35%	50%-85%	65%-100%
Adverse Scenario 3	Level 1 assets eligible for 7% LCR haircut	7%-50%	10%-55%
	Level 2A assets eligible for 15% LCR haircut	15%-50%	20%-55%
	Level 2B assets eligible for 50% LCR haircut	50%	60%
	Securities other than liquid assets	50%-85%	60%-100%

Source: Central Bank of Malta.

Stress Test Results

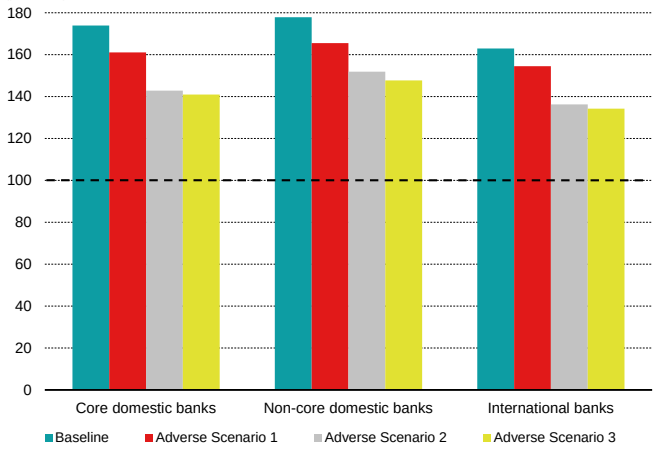
Overall, in all three reference dates available, the NSFR ratio for the three bank categories remain well-above the 100% minimum requirement in the three adverse scenarios. Nonetheless, given that the improvements in the NSFR ratio over the past three reference dates was marginal, the impact of the three adverse scenarios is comparable in all three periods, both at the individual bank and aggregate bank category level.

Chart 3 presents the results of the NSFR framework for the core domestic, non-core domestic and international banks (excluding foreign branches) as at December 2021.

As at December 2021, the baseline NSFR stood at 174%, 178% and 163% for core domestic, non-core domestic and international banks, respectively. On an individual bank level, all banks hold a NSFR above the 100% minimum requirement under the baseline scenario, ranging between 107% to 454%.

Under the first adverse scenario, the NSFR drops to 161%, 166% and 154% for the three respective bank categories. The impact is mainly driven by the banks' high exposures to retail, and to a lesser extent, wholesale deposits, particularly short-term deposits which already attract lower ASF factors. The second adverse scenario leads to a further decline of the NSFR for the three bank categories to 143%, 152% and 136%, respectively. This adverse scenario has a larger significant impact on the three bank categories due to the large concentration of loans for banks in their asset portfolio. Under the third adverse scenario, the NSFR for core domestic, non-core domestic and international banks is equal to 141%, 148% and 134%. The impact is quite marginal due to the lower concentration in banks of these asset classes, and since they are also considered to be fairly liquid and thus even with the assumed shocks, the RSF factors for these assets are still rather low.

Chart 3
STRESS TEST RESULTS – NSFR FRAMEWORK (DECEMBER 2021)
(per cent)

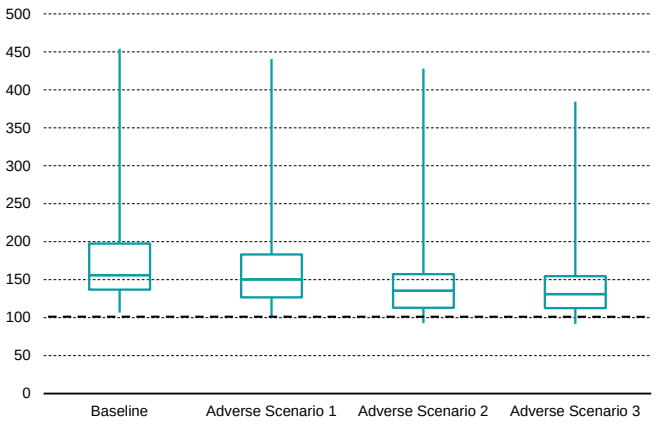


Source: Central Bank of Malta calculations.

Nonetheless, despite an overall positive result at the bank category level, the stress tests revealed some weaknesses in a couple of individual banks. Although banks are operating with ample liquidity, the severity of the test assumptions lead to some vulnerabilities being detected in a couple of banks which fall below the 100% minimum requirement under adverse scenario 2.

Chart 4 shows the interquartile ranges and the maximum and minimum for all banks in the sample under the baseline and the three respective adverse scenarios.

Chart 4
STRESS TEST RESULTS – BOX PLOT OF NSFR STRESS TEST FOR ALL BANKS (DECEMBER 2021)
(per cent)



Source: Central Bank of Malta calculations.

The median baseline NSFR for all banks is 156% with lower and upper quartiles of 137% and 197%, respectively. The whiskers in the box plot show the range of NSFR values that are between the minimum and lower quartile (25th percentile) or between the upper quartile (75th percentile) and the maximum value of the ratios observed. Under adverse scenario 3, the median NSFR goes down to 113% with lower and upper quartiles of 113% and 155% respectively. The box plot also shows the slight dip below the 100% for a couple of banks in the minimum of the whiskers.

Due to the high reliance of the domestic banking system on retail and wholesale deposits as a source of funding, as well as their high exposure to the loan market, reverse stress tests are also carried out to assess the endurance of long-term funding for banks in the case of severe adverse shocks to these particular components of the banks' liabilities and assets. These can also serve as a benchmark to adverse scenarios 1 and 2, by comparing the most severe magnitude of the shocks applied in these two adverse scenarios with break-point shocks that banks can withstand before dipping below the 100% minimum requirement.

Under adverse scenario 1, which targets retail and wholesale deposits by applying lower ASF factors as presented in Table 3, the average ASF factor applied by the total banking system for retail and wholesale deposits declines from 82% to 74%. From the results of the reverse stress test, the average lowest ASF factor that the total banking system could withstand until the 100% minimum requirement is breached is 37%. This means that, at the aggregate level, banks can withstand a contraction of 45 percentage points in the applicable ASF factors prescribed in the CRR2 Regulation. Moreover, five banks would be able to withstand a full withdrawal of their retail and wholesale deposits as these are not their primary sources of funding. For the remaining banks, the minimum ASF factor must range between 22% to 68% of their retail and wholesale deposit to be able to maintain their NSFR above the minimum requirement.

On the other hand, under adverse scenario 2 which targets loans by applying higher RSF factors as presented in Table 4, the average RSF factor applied by the total banking system for loans increases from 63% to 75%. In simpler terms, banks are required to hold, on average, an additional stable funding of 12% of the value of loans under adverse scenario 2. Based on reverse stress test results, the total banking system could maintain stable funding for the entire value of their loans and satisfy the NSFR's minimum requirement due to having sufficient excess ASF holdings to cater for the remaining portion of loans for which the regulation does not require stable funding. However, at the individual bank level, six banks do not have enough excess ASF to cover entirely this remaining portion of loans. This particularly holds for those banks whose loans consist mainly of loans to financials and trade finance instruments, given that these do not attract high RSF factors. Nevertheless, five of these six banks would have enough stable funding at their disposal to cover at least 75% of their total loans. The remaining bank, due to its specific business model, would be able to cater for around half of its loan holdings, thereby effectively being able to withstand a doubling of its current RSF requirements. By design, the reverse stress tests apply severe shocks to reach the break point at which banks breach the 100% minimum requirement. Indeed, the magnitude of shocks required for banks to reach this level is quite severe, reflecting the adequacy of banks' longer-term funding to withstand shocks and thus to still maintain the necessary liquidity.

Conclusion

The NSFR stress testing framework presented in this box has been designed to assess banks' long-term funding. The framework will continue to form part of the Bank's stress testing toolkit, with results being published regularly in Chapter 3 of the FSR. In addition to the adverse scenarios presented which target the current sources of funding and reverse stress tests, the framework is flexible in a way that new scenarios can be considered to target any other components of the banks' ASF and RSF, as deemed necessary, to assess any potential risks stemming from other components of the banks' balance sheets. Although the aim of the framework is to assess resilience against systemic risk, its results can also signal potential vulnerabilities at the individual bank level which, if addressed at the early stages, could prevent the build-up of systemic risks.

Based on December 2021 data, the NSFR framework finds that the domestic banking system has stable sources of funding and concludes that it is in a position to withstand severe funding shocks. Under the adverse scenarios contemplated in the framework, the three bank categories maintain a NSFR well-above the minimum requirement of 100%.

Notes

[1] Specifically, branches from foreign banks are excluded from the stress testing sample given that these branches do not hold capital locally. Stress testing exercises are carried out with the intention of assessing banks' capital adequacy. Moreover, the sample coverage of frameworks may vary with some banks falling out of scope as they do not hold the specific classes of instruments being assessed in any given framework.

[2] The Bank does not comment on individual bank results for its stress tests given that these are designed to test the overall resilience of the system. Individual findings are discussed with the supervisory authorities.

[3] While the Box includes a satellite model also for internationally oriented NFCs, this model employs oil prices as a proxy for productivity in oil producing countries with NPLs increasing as oil prices drop. Thus, for the climate-related adverse scenario, in which all NFCs are expected to face higher production costs and NPLs are expected to increase as oil prices increase, reference is made to the domestically oriented NFC specification without fixed effects.

[4] Similar to the EBA methodology for the 2021 EU-wide stress test, banks can request the trading exemption provided that neither of the following conditions hold: the institution has at least one VaR model in place, approved by the competent authority under the CRR; the bank's total market risk capital requirement is greater than 5% of the total capital requirement.

[5] Data downloaded from: https://data.worldbank.org/indicator/EG.ELC.FOSL.ZS. Latest observation is for 2015.

[6] For instance, Jersey was proxied by France since it sources most of its energy via three interconnectors with mainland France. Similarly, San Marino was proxied by Italy due to its proximity.

[7] While international banks are included in the CQD, these fall out of scope of the MST framework and are not included in this comparison.

[8] Banks may apply a lower tax rate if in previous years they have accumulated deferred tax assets; however, for the purpose of this stress test, deferred tax assets are not being considered.

[9] Refer to Box 4 of the FSR 2018 for further information on the LCR stress test.

[10] Refer to Annex 12 (Reporting on NSFR) and Annex 13 (Instructions for Reporting on Stable Funding) in the ITS on supervisory reporting.

[11] The simplified version of the NSFR reporting does not apply to any bank within the domestic banking system.

4. Insurance Companies and Investment Funds

4. INSURANCE COMPANIES AND INVESTMENT FUNDS

4.1 The Domestic Insurance Companies

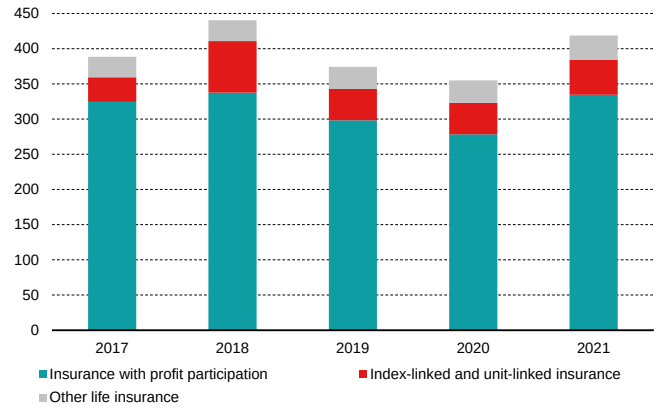
By the end of 2021, nine out of the 72 licensed insurance companies insured risks located in Malta. The assets of these domestically-relevant insurance corporations grew by 6.1% to €4.1 billion, equivalent to 28.0% of GDP. Four of these nine insurance companies carry out the business of life insurance while the other five specialise in non-life insurance.[1]

Domestic insurance companies ceded to foreign reinsurance companies a median of 19.4% of their written premia, an increase of 1.3 percentage points over a year ago. Ceding business to reinsurers transfers part of the risks to a third party, allowing the ceding entity to withstand higher losses while at the same time, preserve capital. Nonetheless, this reinforces their cross-border links with ensuing, albeit limited, potential contagion risks. This is especially the case for non-life insurance companies, which at 35.8% re-insured a larger share of their premia. In the life sector, the median reinsurance share of the premia is limited to 6.6%.

4.1.1 The Domestic Life Insurance Companies

The activities of domestic life insurers increased steadily throughout the year, with assets expanding by 5.8% to €3.5 billion, equivalent to 24.4% of GDP. Gross written premia climbed by 17.9% with 'insurance with profit sharing' products accounting for most of the rise (see Chart 4.1). These policies accounted for almost 80% of total written premia, a 1.5 percentage point increase from the previous year. Meanwhile 'index and unit-linked policies' and 'other life insurance' products accounted for 11.9% and 8.2% of gross written premia, respectively, marginally lower than a year earlier.

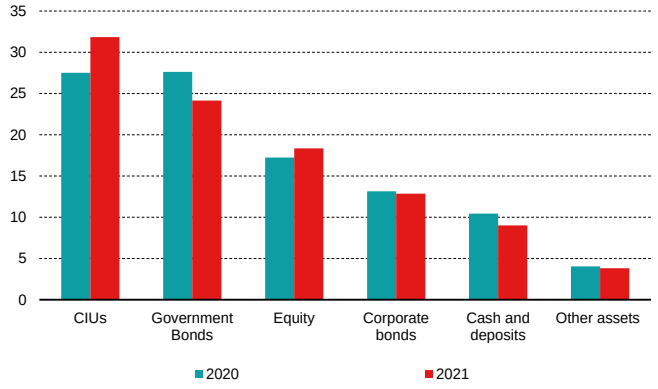
Chart 4.1
GROSS WRITTEN PREMIUM OF THE DOMESTIC LIFE INSURANCE SECTOR BY LINE OF BUSINESS
(EUR millions)



Source: Central Bank of Malta.

In 2021, life insurers expanded their participation in collective investment undertakings (CIUs) by 22.4%, representing 31.8% of their overall assets (see Chart 4.2). The key driver for this was increased exposure to other euro area equity funds, while holdings in money market funds (MMFs) and infrastructure funds also rose. This could reflect strategies to reduce volatility in their investment portfolio, while at the same time ensure constant returns. Life insurers also raised their equity holdings by 12.6%, as equities continued to outperform despite supply-chain issues and rising commodity prices.

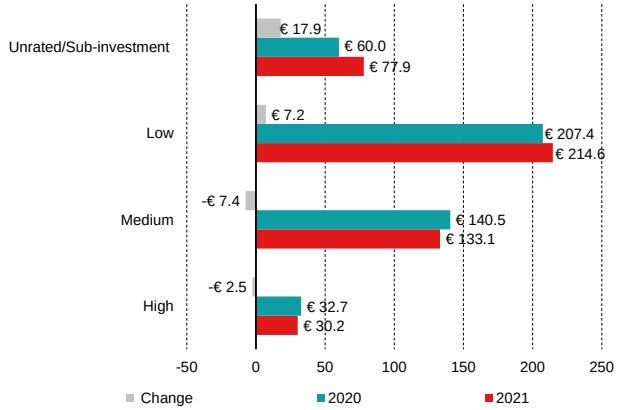
Chart 4.2
COMPOSITION OF ASSETS HELD BY THE DOMESTIC LIFE INSURANCE SECTOR
(per cent of total assets)



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

Most of the equities of these insurance companies comprised those of US and euro area corporates, whilst domestic equities accounted for only 16% of the equity portfolio. The latter were mainly related to equities of companies operating in the financial, insurance and real estate sectors.

Chart 4.3
CORPORATE BOND PORTFOLIO – INVESTMENT RATINGS – LIFE INSURANCE SECTOR
(EUR millions)



Source: Central Bank of Malta.

Due to global inflationary pressures and the expectations for an increase in interest rates by the central banks, prices of fixed income securities declined, and life insurers increased their corporate bond holdings by 3.4%. However, when expressed as a share of their overall balance sheet, such bond holdings decreased marginally. The credit rating of some corporate bond holdings deteriorated somewhat, in part driven by downgrades. Indeed, around 7% of the increase in sub-investment bonds reflected downgrades from low-rated bonds and around half of the increase in low-rated bonds was due to downgrades of corporate bonds from medium-rated to a lower investment grade.[2] This contributed to sub-investment grade and low-rated bonds to grow by 29.9% and 3.5%, respectively, such that together these accounted for almost two-thirds of the overall corporate bond portfolio (see Chart 4.3). Meanwhile the share of medium-rated bonds fell by 5.3 percentage points to 29.2% of the corporate bond portfolio. Downgrades also contributed to a 7.6% decrease in high-rated bonds.

Moreover, despite the recovery in long-term yields in the latter half of the year, the narrative of a low interest rate environment remained relevant during the period under review. Insurers have to some extent resorted to less liquid or riskier assets in their search for yield due to the consistently low interest rate environment. Corporate bond holdings remained nearly evenly split between euro area and non-euro area corporates, with exposure to Maltese companies accounting for only 6.5% of the corporate bond portfolio.

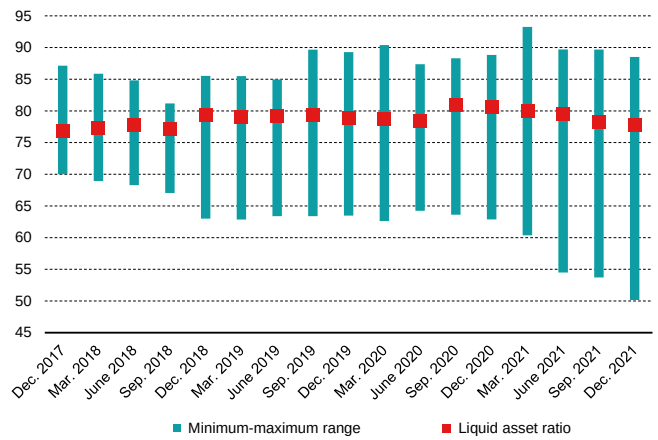
On the other hand, the life-insurance sector lowered its government bond holdings by 7.6%. Higher inflation expectations coupled with an anticipated tightening in monetary policy led to a leap in sovereign bond yields in the fourth quarter. This rebound reversed a short drop in the third quarter, which was linked to concerns about the pandemic's progression and future path of growth. Considering these developments, life insurers may have resorted to generating capital gains and reinvested the proceeds into higher-yielding securities, such as CIUs, equities, and even corporate bonds, as observed previously. Notwithstanding, sovereign bonds continued to be the preferred asset class, accounting for 65.1% of the bond portfolio. Most of the sovereign bond holdings comprised of euro area paper, with Malta Government Stocks (MGS) accounting for one-fourth of the overall. Cash and cash equivalents, which were largely kept with local banks, made up some 10% of total assets, down by 8.8% from the previous year.[3]

These changes, especially the reduction in sovereign bonds and cash and equivalents, resulted in a 2.82 percentage point drop in the liquid asset ratio to 77.8% in 2021 (see Chart 4.4). While this remained in line with the average reported throughout the years, a wider distribution was observed, especially towards the lower quantile, as some companies reported a more pronounced drop in holdings of cash and equivalents in favour of more investments.

In December 2021, the life insurance sector reported a profit before tax of €12.4 million, up by 160.9% compared to the previous year. The ongoing economic recovery from the pandemic caused a higher demand

for life insurance policies, with net written premia increasing by €60.0 million in 2021, or 18.2%, even exceeding pre-pandemic levels (see Chart 4.5). On the other hand, the domestic life insurance sector recorded a further increase of 15.3% increase in net claims paid, amounting to €47.6 million, mainly due to a continuing trend of maturing medium-term single premium contracts. This notwithstanding, in view of the significant increase in net premia, the loss ratio, which represents the ratio of claims paid out relative to earned premia, fell to 92.3%, a decrease of 2.4 percentage points compared to the previous year.

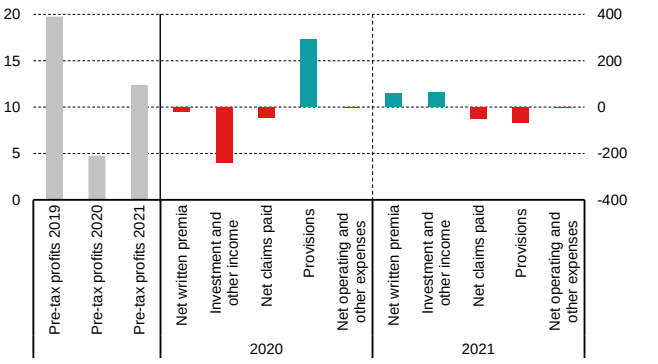
Chart 4.4
LIQUID ASSET RATIO OF THE DOMESTIC LIFE INSURANCE SECTOR
(per cent)



Source: Central Bank of Malta.

Investment income increased by €63.3 million, or 112.8%, due to the solid performance of financial markets, following brief spells of sell-offs, aided by a robust economic recovery post the pandemic shock. This was however more than offset by higher provisions set aside for unearned premia and claims which rose by €66.5 million or 226.9% but remained below the pre-pandemic levels. Operational expenses also went up, but by a more contained 4.1%. As a result, the expense ratio, which considers the expenses incurred to acquire, insure and service premia as a percentage of net written premia, decreased by 1.5 percentage points to 10.4% in December 2021. These developments led to the pre-tax ROE and ROA to double and stand at 4% and 0.4%, respectively as at end 2021.

Chart 4.5
MAIN CONTRIBUTORS TO PROFITS – DOMESTIC LIFE INSURANCE SECTOR
(EUR millions)



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

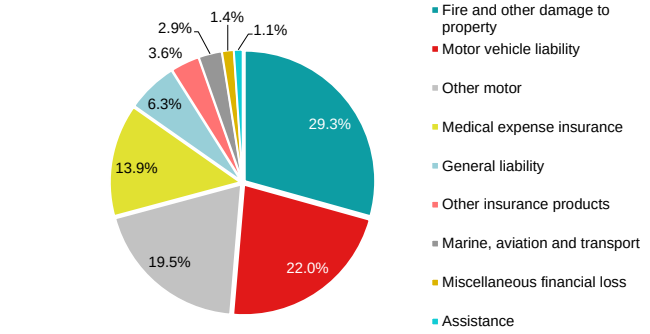
The solvency position of domestically-relevant life insurers improved, with the Solvency Capital Requirement (SCR) increasing from 186.8% to 218.1% in December 2021, driven by a rise in eligible own funds. The sub-sector maintained a robust capital position, nearly entirely made up of Tier 1 capital, which also increased by €69.3 million.

4.1.2 The Domestic Non-Life Insurance Companies

The assets of the domestic non-life insurers grew by 8.1% to €524 million at the end of 2021, equivalent to 3.6% of GDP. The non-life gross written premia increased further by 8.9% to just over €261 million in 2021. All lines of business grew, apart from medical insurance which declined by 1.8%, resulting in its share in the overall written premia to drop by 1.5 percentage points to 13.9%. The largest increase was reported in the property damage and general liability business lines, which grew by 18.8% due to increased property purchases. General liability written premia rose by almost half. Nevertheless, motor-related insurance policies remained the leading business segment, with written premia going up by 3.5%, although their overall share

of written premia fell by 2.2 percentage points to 41.5%. Other business segments accounted for the remaining share of the overall premia (see Chart 4.6).

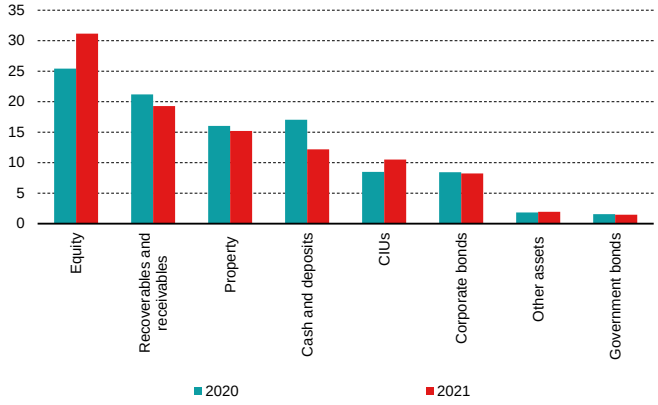
Chart 4.6
GROSS WRITTEN PREMIUM OF THE DOMESTIC NON-LIFE INSURANCE SECTOR BY LINE OF BUSINESS
(per cent of total gross written premia)



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

In 2021, the exposure of non-life insurers to equities rose by 32.5% to €163 million, owing primarily to an increase in intragroup investments. As a result, the share of equities climbed by 5.7 percentage points to 31.2% of assets (see Chart 4.7). Similarly, the overall exposure to CIUs increased by 33.8% to 10.5% of assets. In contrast, recoverables and receivables declined by 1.6%, so as to represent 19.3% of assets.

Chart 4.7
COMPOSITION OF ASSETS HELD BY THE DOMESTIC NON-LIFE INSURANCE SECTOR
(per cent of total assets)



Source: Central Bank of Malta.
Note: Other assets mainly include mortgages and loans.

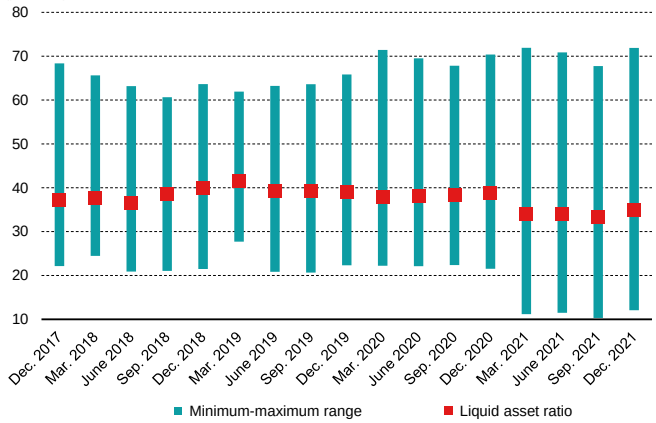
Non-life insurers increased their holdings in corporate and government bonds by 5.3%. Despite this increase, the bond portfolio represented just 9.7% of assets, marginally below the level in the previous year. Corporate bond holdings rose by 6%, with around three-fourths of such investments held in sub-investment grade and low-rated categories. This, in part, reflected downgrades of corporate bond holdings, resulting in a shift from high- and medium-rated bonds to low- and sub-investment bond holdings. Indeed, around 70% of the growth in low-rated bonds is due to downgrades from medium-rated bonds, with around 9% of all medium-rated bonds due to downgrading from the high-rated bonds category. Like life insurers, non-life insurers also seem to have resorted to riskier assets in their search-for-yield behaviour due to the persistently low interest rate environment.

Non-life insurers, unlike their life-insurance counterparts, increased their government bond holdings by 1.5% but are limited to just 15% of the overall bond portfolio and 1.5% of overall assets. Most of the sovereign bonds comprised of euro area government paper, which doubled over the year to account to 48.6% of total government bonds. As a result, the share of MGS holdings fell to 38.4% of the overall sovereign portfolio. It is also worth noting that sovereign risk in Europe remained contained, with individual country spreads over the risk-free rate remaining relatively stable in the second half of the year.

Moreover, non-life insurers reported a 22.6% drop in their cash and cash equivalents to just 12.2% of assets in December 2021, in part due to the increased investment activity. Furthermore, non-life insurers' exposure to the domestic real estate market decreased marginally to 15.2% of total assets in December 2021.[4]

The non-life sector's liquid assets ratio fell by 3.8 percentage points to 35% in December 2021, due to a rise in intragroup equity holdings, which are deemed illiquid, coupled with a decline in cash holdings (see Chart 4.8).

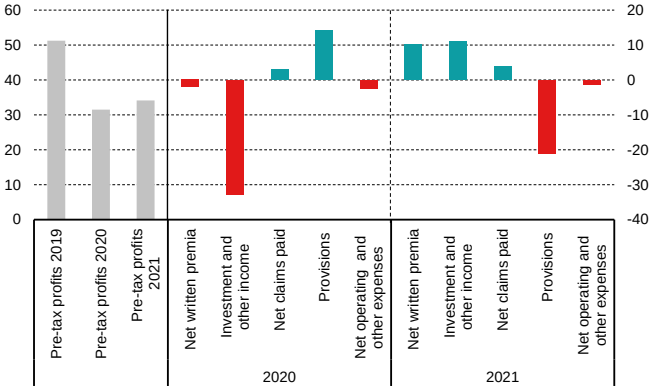
Chart 4.8
LIQUID ASSET RATIO OF THE DOMESTIC NON-LIFE INSURANCE SECTOR
(per cent)



Source: Central Bank of Malta.

On aggregate, the non-life insurance sector generated a profit before tax of €34 million as at December 2021, up by 8.3% over the previous year (see Chart 4.9). However, profitability is still below pre-pandemic levels as the degree of recovery was not even across the board. Net written premia increased by roughly €10.0 million, or 6.3%, thus contributing positively to pre-tax returns. Moreover, net claims paid declined by €3.9 million, or 5.1%, to €72.2 million. This had a positive impact on the sector's performance resulting in a decline of 5.1 percentage points in the loss ratio to 42.3%. On the other hand, provisions for unearned premia and claims rose by €21.0 million, or more than threefold, to €14.3 million, possibly indicating that insurers expect higher claim pay-outs in the future as economic activity ramps up.

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



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

Meanwhile, as capital markets rebounded, the industry registered a remarkable recovery in investment income which rose by nearly €11.0 million, to €11.9 million, reversing the previous year's decline, but still remaining below pre-pandemic levels. Operational expenses climbed by 2.2% and as a result, the expense ratio, which is the expenses associated with acquiring, underwriting and servicing premia as a share of net premia earned, dropped by 1.4 percentage points to 34.1%. The combined ratio, which is another measure of profitability and takes into consideration the underwriting loss ratio and the expense ratio, dropped by 6.5 percentage points to 76.4%. However, the growth in profits fell short of the increase in equity and assets resulting in the pre-tax ROE and ROA to fall by 0.3 and 0.1 percentage point, respectively, to 16% and 6.6% in December 2021.

In terms of the sector's aggregate solvency position, as at December 2021, the SCR stood at 245.5%, which although slightly lower than in the previous year, it is still significantly above the regulatory requirements. The non-life sector retains a healthy capital position, with Tier 1 Capital accounting for nearly all of the own funds, which climbed by over €19 million year-on-year.

4.1.3 Domestic Insurance Risk Outlook

The outlook for the domestic insurance sector continues to be cautiously optimistic. The industry's recovery, which began in 2021, is expected to continue through 2022, amid relatively improved global economic conditions and renewed optimism about the pandemic's end. Nonetheless, downside risks exist in the form of inflationary pressures, and most crucially, the uncertainty due to geopolitical implications posed by Russia's invasion of Ukraine. If the economic recovery turns out to be slower than predicted, capital markets volatility could intensify. Indeed, the CBOE Market Volatility Index (VIX) rose to a 15-month high in February 2022, signalling short-term uncertainty in financial markets.

Inflation is expected to remain elevated which could pose a significant risk to non-life insurers, as they may be exposed to costlier claims than they initially projected when calculating their reserves, thereby eroding their profitability. Inflation could have a positive effect on assets through higher bond yields, which can help mitigate the negative effects of more costly claims on the liabilities side. In the life sector, if inflation risk leads to higher long-term yields, the sector may gain from lower liability valuations, as liabilities tend to have longer durations than assets. Notwithstanding, demand for general and life insurance products is expected to expand further, albeit at a possible slower pace than that of the years preceding the pandemic, as real disposable income could be impacted adversely by a more adverse economic scenario.

At the same time, changing consumer behaviour, digitalization-related risks and environmental, social, and governance (ESG) risks will all force the industry to adapt, so as to take advantage of new opportunities in this regard.

4.2 Domestic Investment Funds

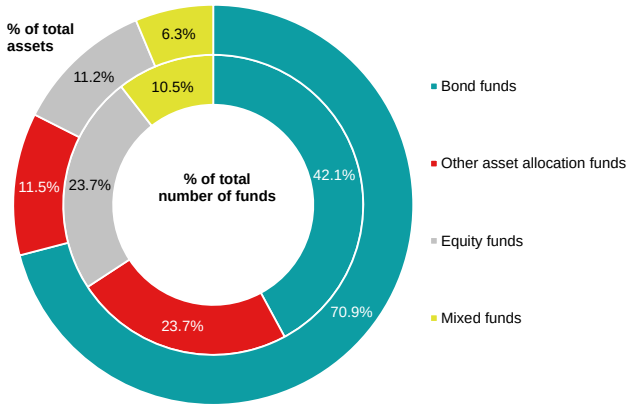
By the end of December 2021, 38 sub-funds were classified as domestically-relevant, an increase of two new sub-funds compared to a year ago.[5] Assets grew by 2.6% to €1.9 billion, representing 12.8% of GDP. While a sub-fund is a Professional Investor Fund (PIF), the rest are all licensed as retail Undertakings for the Collective Investment in Transferable Securities (UCITS).[6]

In terms of investment strategies, bond funds remained the most common type, with 16 sub-funds capturing almost 71% of the domestically-relevant sub-funds' assets (see Chart 4.10). Compared to a year ago, such share declined by 2.0 percentage points, though their total assets declined only marginally. At the same time, equity funds and other asset allocation funds registered an increase in their asset holdings of 20.4% and 4.6% respectively, collectively making up about 23% of overall assets. Although assets of mixed funds rose by 5%, their share in terms of units and assets, remained limited.

4.2.1 Asset Composition

As in previous years, the asset composition of the domestically-relevant investment funds remained dominated by bond holdings (see Chart 4.11). Notwithstanding, their share in total assets declined by 2.0 percentage points to 68.1%, while equity holdings increased by 2.7 percentage points to 24.3% in December 2021. The share of assets pertaining to cash and deposits declined to 6.8% following a drop of 12.1% in deposits.

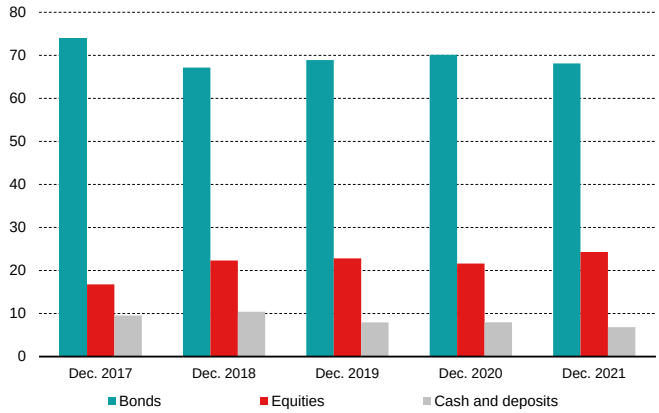
Chart 4.10
DOMESTIC INVESTMENT FUNDS BY MAIN STRATEGY AS AT DECEMBER 2021
(per cent of total assets; number of funds)



Source: Central Bank of Malta.

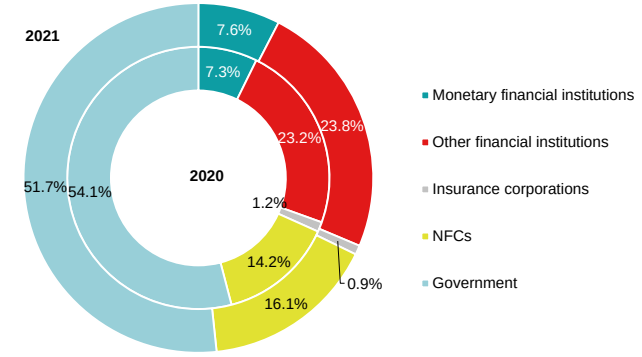
Over the year, bond holdings declined by a marginal 0.3% to represent 68.1% of overall asset holdings. A large part of the bond portfolio remained invested in sovereign bonds, though over the year these have declined by 3.6% to 51.7% of the overall bond holdings (see Chart 4.12). At around 89%, most of the sovereign bonds are issued by the Maltese government, which albeit dropping by 5.4% continued to reflect a significant home bias. Empirical evidence suggests that investors tend to hold a large share of their portfolio in domestic assets, yet funds have a tendency to spread their investments across jurisdictions and investment type, limiting risks. As the capital markets in Europe integrate further, cross border risk sharing should aid in reducing home bias. Foreign sovereign bond holdings increased by 13.1% to represent just above 11% of sovereign bonds. This was driven mainly by an increase in US sovereign bond holdings possibly triggered by the increase in US Treasury yields throughout the year.

Chart 4.11
ASSETS COMPOSITION OF THE DOMESTICALLY-RELEVANT INVESTMENT FUNDS
(per cent of assets)



Source: Central Bank of Malta.

Chart 4.12
BOND HOLDINGS COMPOSITION OF DOMESTICALLY-RELEVANT INVESTMENT FUNDS
(per cent of debt portfolio)



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

Holdings of bonds issued by financial corporations rose by 2.4%, pushing up their share to 32.2% of overall bond holdings. Such holdings mainly consisted of bonds issued by other financial institutions, which represents 23.8% of the overall bond holdings, primarily from Captive Financial Institutions and Money Lenders (CFIML), which rose by almost 14%, mainly related to entities located in the Netherlands. Similarly, bond holdings of financial auxiliaries grew by 8.7%, whereas bonds of OFIs declined by 15.1%, mainly the result of lower holdings of entities located in the United Kingdom.

Holdings of bank bonds increased by 5.0% and accounted for 7.6% of the overall bond holdings. About 42% of such holdings were issued by Maltese banks, with the rest mainly related to credit institutions in other euro area countries. In contrast, holdings of bonds issued by insurance companies mainly located in other euro area countries declined by 28.7%, to represent less than 1% of the bond holdings.

Holdings of corporate bonds grew by 14.4% with their share rising by 1.9 percentage points to 16.1% of bond holdings. More than a quarter of this portfolio related to Maltese NFCs, with the rest almost equally shared between corporate bonds of entities in other euro area countries and those located outside the euro area, primarily in the United States.

During 2021, equity holdings rose at double-digit rates, driving the growth in overall assets. This was due to both higher investments and, to a lower extent, price changes. During the year, the equity rally continued with the main indices such as the S&P 500 rising by around 27%, while the Stoxx Europe 600 returned a positive of approximately 22%. Indeed, market players discounted any additional restrictive measures given that hospital admissions were lower despite the more contagious Omicron variant. Furthermore, the opening of economies and stimulus packages by Governments boosted investor optimism further.

Equities increased across all segments, although holdings in other non-MMF investment funds rose at a more pronounced rate of 24.6%, largely due to higher exposures in funds located in Ireland and Luxembourg. This led to their share in the overall holdings of equities to increase by 2.6 percentage points to account for almost half of the equities (see Chart 4.13).

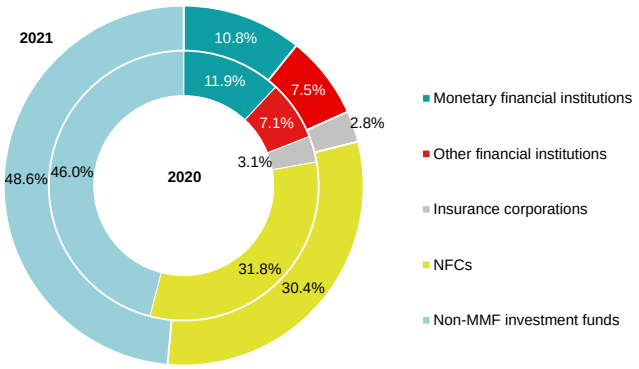
Equity holdings in NFCs increased by 12.5% and made up just over 30% of overall equities. Exposures towards Maltese firms increased by 1.6% and accounted for a sizeable 57.1% of equity holdings. The rest of the equities were of entities in other euro area countries and in the US, which together increased by a significant 67.8% to make up a third of these corporates equities. The main driver behind such equity holdings was also higher investment, as domestically-relevant investment funds sought alternative ways of potentially making higher returns from the securities market, also in view of the potential interest rate hikes during 2022.

The rest of the equities were related to financial corporates, which together accounted for slightly more than a fifth of the equity holdings by the end of 2021. Domestic banks constituted the highest share, followed by equities of other domestic financial institutions, and, to a lesser extent, of domestic insurance companies.

Despite the increase in equity holdings and MFI debt securities, the decline in sovereign bond holdings and deposits led to the liquid assets ratio to narrow marginally to 71.6%.[7]

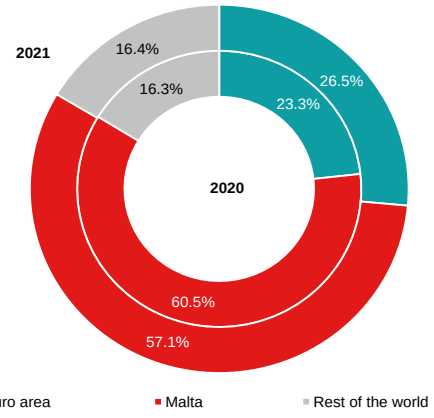
The above-mentioned developments in the securities portfolio meant that the level of home bias declined by 3.3 percentage points over the year under review, although at around 57%, domestic securities holdings still represented the largest share in the overall portfolio (see Chart 4.14). On the other hand, the share of exposures towards entities located in other euro area countries increased by

Chart 4.13
EQUITY HOLDINGS COMPOSITION OF DOMESTICALLY-RELEVANT INVESTMENT FUNDS
(per cent of equity portfolio)



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

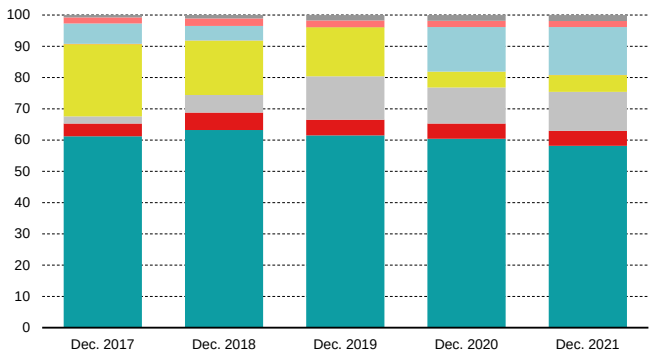
Chart 4.14
COUNTRY EXPOSURE OF THE SECURITIES PORTFOLIO OF DOMESTICALLY-RELEVANT INVESTMENT FUNDS
(per cent of securities portfolio)



Source: Central Bank of Malta.

3.2 percentage points, while the share of exposures towards other non-euro area countries remained largely unchanged. Overall, investments in domestic sovereign paper, while declining, still represented almost 47% of all the securities holdings. Such concentration of assets can be a source of vulnerability and could transmit risks to the financial system, though concerns of home biasedness are somewhat mitigated by the resilience of the Maltese economy.

Chart 4.15
DOMESTIC INVESTMENT FUNDS' NAV BY COUNTERPARTY
(% of NAV)



Source: Central Bank of Malta.

4.2.2 Investors

Maltese households and Non-Profit Institutions Serving Households, continued to be the principal investors in the domestically-relevant sub-funds, even though their share dropped by 2.3 percentage points to 58.2% as at end-2021 (see Chart 4.15).[8] In absolute terms, their Net Asset Value (NAV) dropped by 1.2%. Meanwhile, the largest increase in investments originated from other resident financial institutions which rose by 10.3% to represent 15.3% of the overall NAV.[9] Investments by Maltese banks also rose, up by 10.8%, to consolidate their position as the third largest holders, accounting for 12.5% of overall NAV. Maltese NFCs and insurance companies also raised their exposure, up by 8.0% and 1.7%, respectively, over December 2020. They however continued to represent a more contained investment in domestically-relevant investment funds, representing 5.3% and 4.8% of the overall NAV, respectively.[10]

The share of NAV pertaining to non-residents remained limited, accounting for just 3.8% as at December 2021. This was equally split between those residing in other euro area countries, and those residing elsewhere.

The overall NAV of the domestically-relevant sub-funds represented 99.3% of their total liabilities, with the remaining reflecting leverage. Indeed, the leverage ratio rose by 0.4 percentage point to 100.7% in December 2021.[11] Leverage is somewhat limited because almost all of the domestically-relevant funds are licenced under the UCITS Directive which restricts borrowing for retail UCITS to up to 10% of their assets and on a temporary basis. In addition, investment managers may be exercising prudence as they may prefer to trade-off higher returns for safety and stability especially during uncertain times which had resulted in significant market volatility.[12]

4.2.3 Risk Outlook

The decline in sovereign bond holdings and the increase in equity holdings suggest an element of a search-for-yield behaviour among domestic sub-funds, especially when considering that this occurred during a period of uncertainty amid the pandemic, and the prevailing low-interest environment. Notwithstanding, prospects about the pandemic have been improving throughout the year, especially with the continuous roll-out of vaccines and the declining hospitalisation and mortality rates. Moreover, the rotation from debt securities to equities could also be related to rising inflationary expectations and impending interest rate hikes by central banks. Furthermore, the geopolitical uncertainty caused by the Russia-Ukraine war spilled over into the stock markets extending the volatility in most asset classes. While the reaction in the bond market was subdued, equities recorded significant declines in the initial stages of the war, though the direct impact on the domestically-relevant investment funds is likely to be somewhat limited given that their exposures to these two countries are insignificant. However, the effects from increased market volatility cannot be excluded.

Domestically-relevant investment funds benefitted from a relatively healthy liquid assets ratio and limited leverage, which serve well during periods of stress. Furthermore, according to the MFSA stress tests results for retail investment funds there has been an improvement in their liquidity risk during 2021 when compared to a year earlier, also in view of the net inflows recorded during the year.[13]

Structural risks continued to emanate from the sub-funds' interconnectedness with the core domestic banks. In fact, almost 82% of the domestic sub-funds' NAV is managed by asset management companies owned by core domestic banks. However, such companies are set up as separate legal entities, subject to the provisions of the Maltese Companies Act and the Investment Services Act to safeguard against any potential step-in risks. Additionally, several liquidity management tools such as redemption gates and redemption fees employed by funds contribute to mitigate against any potential risks emanating from excessive redemption requests.

Notes

[1] Although two of these non-life insurance companies are also licensed to sell life insurance, the life business only accounts for 5.4% of their total gross written premiums.

[2] 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- or are unrated.

[3] Other assets include real estate holdings and loans made up only 4.4% of total assets, and thus showed no significant changes over the previous year. Around 85% of the entire real estate exposure of life insurance firms is kept for investment purposes.

[4] Other assets remained contained representing just 1.9% of their balance sheet holdings. These include loans granted which remained unchanged from the previous year, accounting a marginal 0.3% of their total assets.

[5] Two further sub-funds were included as domestically-relevant during the annual exercise carried out using data as at December 2021. One of these sub-funds was included as domestically-relevant as from December 2020 given it started operating in 2020, while the second new sub-fund was newly licensed in 2021. Excluding such sub-fund total assets would have increased by 2.5%.

[6] Five of the sub-funds licensed as UCITS during December 2021 had their license changed from that of an Alternative Investment Funds during the year under review.

[7] The liquid assets ratio is calculated as the sum of cash, deposits with banks, debt securities issued by MFIs, sovereign bonds, equity and investment fund shares, as a proportion of total assets.

[8] In the case of Maltese households, this represented just 3.2% of their total financial wealth.

[9] Other financial institutions include OFIs, financial auxiliaries and CFIML.

[10] For Maltese NFCs, this represented a mere 0.2% of their total financial wealth.

[11] The leverage ratio is calculated as the Assets Under Management in proportion to the NAV.

[12] UCITS Directive can be found at https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:302:0032:0096:en:PDF.

[13] Source: https://www.mfsa.mt/wp-content/uploads/2021/12/Liquidity-Stress-Testing-for-Maltese-Retail-Investment-Funds-2021-Update.pdf. To note that the sample of retail investment fund captures a wider population of sub-funds.

5. Macroprudential Policy Developments

5. MACROPRUDENTIAL POLICY DEVELOPMENTS

This section reports the main macroprudential policy measures implemented by the Bank throughout the course of 2021. It also provides an overview of the measures and regulatory developments undertaken by other authorities at a domestic and European level.

5.1 Main Central Bank of Malta Developments

Countercyclical capital buffer

On the basis of the assessment of the adequacy of the countercyclical capital buffer (CCyB) rate carried out by the Bank for the third quarter of 2022, domestic cyclical risk remained contained. This is reflected in the Bank notification.[1] While the deviation of credit-to-GDP from its long-term trend is the main indicator used, the analysis is further supplemented by additional indicators and expert judgment. The Bank is also currently enhancing its risk analysis tool kit by developing error correction models at a sectoral level that estimate the deviation of credit from long-term fundamentals, with the deviation translated as an alternative indicator to the credit gap.

The relevant credit-to-GDP ratio stood at 77.3% with its deviation from the long-term trend recorded at -6.0 percentage points. Other quantitative indicators, including annual credit growth (incorporating NFC, households and consumer credit), annual growth in house prices, median property price-to-income ratio, household and corporate debt to GDP ratio, current account balance to GDP, banking sector capital ratios, bank profitability indicators, bank liquidity indicators and the loan-to-deposit ratio, further supplemented this analysis. The above-mentioned quantitative indicators and the standardised bank credit-to-GDP gap (which is still below the reference threshold of positive 2 percentage points as indicated in the BCBS guidance) convey indications that at the current juncture, a CCyB rate of 0% is adequate for the domestic financial system.

Voluntary reciprocation of macroprudential measures

In accordance with the ESRB Recommendation on voluntary reciprocation of macroprudential measures, during 2021 the Bank analysed newly implemented measures recommended for reciprocation by Member States. In 2021, there were two such measures, one implemented by Luxembourg and another by Norway. After analysing the two policy measures, the Bank decided not to reciprocate on the basis of immateriality of exposures and/or inapplicability of the policy measure to the domestic system. For further information on these two policy measures, refer to the Interim Financial Stability Report of 2021.[2] In addition, the Bank also maintained its non-reciprocation stance unchanged in relation to the previously activated measures recommended for reciprocation by the Belgian, Swedish and French authorities.[3]

Material third countries

As per the ESRB Recommendation ESRB/2015/1 on recognizing and setting countercyclical buffer rates for exposures to third countries, the CBM conducts an annual exercise to identify those third countries which are material to the Maltese banking sector.[4] The extent of materiality is based on three exposure metrics as outlined in the ESRB Decision 2015/3 namely; original exposures, risk-weighted assets and defaulted exposures for the Maltese banking sector in relation to third countries.[5,6] In line with the methodology stipulated in Article 4 of the ESRB Decision 2015/3, the material third countries for the domestic sector for the period Q2 2022 till Q2 2023 remain unchanged from those identified last year and these are the United States, United Kingdom and United Arab Emirates.

Borrower-based measures

The Bank updated the CBM Directive No. 16 on borrower-based measures (BBM) so as to reflect changes emanating from the transitional provisions, as well as to address the feedback received from the banks including requests for further clarification on certain provisions in the Directive.[7] The main amendments introduced in Directive No. 16 included changes to the definitions for both Category I (for the purchase of

primary residence) and Category II borrowers (for the purchase of secondary or buy-to-let residence). This to clarify that these two categories are not only limited to those borrowers purchasing Residential Real Estate (RRE) properties but they also include loans for the purpose of construction, restoration, improvement and/or finishing of an RRE.[8]

In line with one of the amendments in the Directive, loans taken on the same primary residence with an outstanding RRE loan, would be classified under Category I, i.e. under the provision that the loan is granted for the purpose of construction, restoration, improvement and/or finishing of the RRE property on which the original loan was granted. This is also conditional on the obligor not having any other outstanding loans falling under Category II. Other amendments include, amongst others, a new paragraph which adds more flexibility to lenders to grant loans to persons beyond retirement age, subject to a number of specific conditions as well as a clarification on the submission of the internal and external audit reports. For a comprehensive overview of the changes effected in Directive No.16 reference should be made to the press release and the respective documentation.

Identification of other systemically important institutions

On the basis of the other systemically important institutions (O-SIIs) identification methodology developed by the Bank in conjunction with the MFSA (hereinafter referred to as 'the Authorities'), the same four credit institutions identified as O-SIIs during the 2020 exercise have been reconfirmed as O-SIIs based on the 2021 iteration.[9] Consequently, the Authorities confirmed APS Bank plc, MDB Group Limited, HSBC Bank Malta p.l.c. and Bank of Valletta plc as O-SIIs with a buffer ranging from 0.25% to 2%.

In view of the negative repercussions brought about by the COVID-19 pandemic, the Authorities decided to postpone, by one year, any phasing-in arrangements for institutions building up their O-SII buffer rate. As a result, during 2021, institutions were requested to maintain their level of O-SII buffer commensurate with the buffer rate held in 2020. In the latest statement of decision, the Authorities confirmed that the transitory provisions applicable to specific O-SIIs (APS Bank plc and MDB Group Limited) are to resume in 2022. Those institutions which already meet their O-SII buffer rate on a fully loaded basis (Bank of Valletta plc and HSBC Bank Malta p.l.c.) are still requested to continue meeting their fully loaded O-SII buffer rate during 2022. The O-SII buffer requirement for each identified bank and the applicable transitory provisions are outlined in Appendix A, applicable as from the date of publication of the Authorities O-SII statement of decision.[10]

5.2 Other Developments

5.2.1 Changes to the Malta Development Bank COVID-19 Guarantee Scheme

On 17 January 2022, the application period for new loans under the MDB CGS scheme was extended until 30 June 2022.[11] In addition, the maximum maturity of loans under the scheme was extended from 6 to 8 years, subject to certain terms and conditions. This was enacted to reduce borrowers' monthly repayments in view of the prolonged adverse conditions brought about by the COVID-19 pandemic. Moreover, the maximum allowable aid under the MDB COVID-19 interest rate subsidy scheme was increased from €1.8 million to €2.3 million per beneficiary in line with the 6th amendment of the European Commission temporary framework for state aid rules.[12] Data until end-December 2021 reveals that domestic commercial banks have granted approximately €505.9 million worth of loans in line with the MDB CGS, out of which €453 million have been disbursed.

BOX 4: INSIGHTS FROM THE CENTRAL BANK OF MALTA SURVEY ON BUFFER USABILITY

This box presents the results of a survey conducted by the Bank amongst a sample of Maltese banks which included both core and non-core banks.[13] The survey sought the views and strategies of banks related to buffer usability, including the effectiveness of macroprudential buffers, as well as impediments to buffer usability. The box attempts to unearth the policy implications underlying the survey results.

Introduction

An important relationship, particularly from a macroprudential policy perspective, relates to the link between management buffers and lending growth rates. In economic downturns, banks with high management buffers may be in a better position to continue providing key services to the real economy, particularly financing both households and domestic NFCs. Management buffers act as a first line of defence against unexpected losses and/or adverse economic shocks. Based on the findings of Berrospide et al. (2021), the threat of significant losses during the pandemic appears to have heightened banks' uncertainty and risk aversion, which increases disproportionately as banks edge closer to the Maximum Distributable Amount (MDA) trigger.[14]

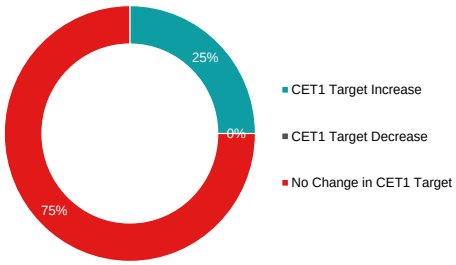
Therefore, from a macroprudential perspective, of concern would be the behaviour of banks with low management buffers, more so if such kind of banks are widespread within the financial system. Despite the Combined Buffer Requirement (CBR) being intended for use in periods of distress, literature shows that banks with low management buffers tend to be less willing to provide additional lending due to their increased proximity to the CBR.[15] Unwillingness to use the allocated capital in the CBR is a result of banks' perceived impediments to buffer usability. In fact, in the aftermath of the COVID-19 pandemic, policy makers and researchers raised concerns on banks' willingness to use capital buffers, and hence, questioning the effectiveness of the capital buffer framework.

CBM survey on buffer usability: insights and policy implications

With a view of understanding any perceived impediments to buffer usability faced by MT banks, the CBM carried out an ad-hoc survey to investigate this behaviour. In January 2022, the CBM circulated a survey amongst domestic banks on buffer usability intended to (i) analyse the effectiveness of the domestic macroprudential capital buffer framework, (ii) assess banks' willingness to use freed up capital to finance the real economy and (iii) investigate the main impediments to buffer usability.

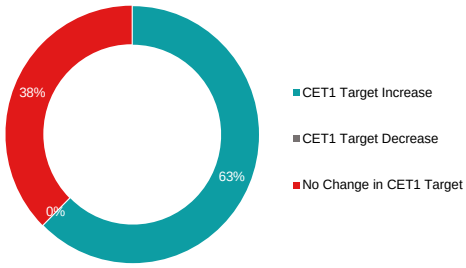
Banks were asked to disclose their preferred internal CET1 management buffer target, with 75% of respondents indicating that their preferred internal target level of CET1 management buffer lies between 0 and 3 percentage points. Furthermore, 75% of respondents indicated that, in reaction to a decrease in their OCR, they would not change their internal target level of CET1 management buffer, as shown in Chart 1(a). Banks therefore appear to set-up their internal target level of CET1 management buffer as a 'mark-up' over and above their OCR, in line with the findings of Couaillier (2021). Banks' responses suggest that when faced with a surplus over their internal CET1 target level, they are willing to use this surplus, which would increase the probability of effective buffer releases. Conversely, when management buffers dip below the desired levels, banks engage in corrective action to restore these buffers to target levels. This is relevant especially if such corrective actions take place in periods of economic uncertainty. In fact, as shown in Chart 1(b) below, 63% of respondents indicated that they would increase their CET1 target level in the wake of an uncertain economic outlook.

Chart 1(a)
DECREASE IN BANKS' OCR
(per cent)



Source: CBM Survey on Buffer Usability.

Chart 1(b)
HIGHER UNCERTAINTY IN DOMESTIC ECONOMIC OUTLOOK
(per cent)



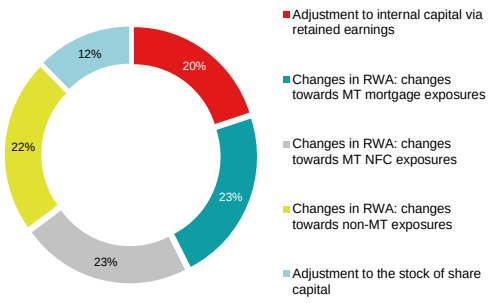
Source: CBM Survey on Buffer Usability.

When questioned on their preferred adjustment strategies in response to different scenarios, banks' responses were heterogenous, as outlined in Charts 2(a) and 2(b). Survey results indicate preference to adjusting their balance sheet to lower RWA. This is achieved by re-focusing on bank core operations such as NFC and mortgage lending. The noted sensitivity in favour of changes in risk weights to achieve the required capital targets has implications on the impact that certain types of macroprudential policies could have on bank behaviour. For example, the use of a broad-based tool, where a more focused alternative would have been more adequate, might ultimately result in banks loading up on exposures which attract relatively lower risk weights, even though these same exposures could have been the prime source of systemic risks.

Moreover, in periods of economic distress, macroprudential authorities can increase banks' management buffers by releasing certain parts of the CBR. In doing so, banks may find their actual management buffers to be in excess of their internal targets, thus having surplus capital. Such releases must be accompanied by adequate guidance and incentives to ensure that the surplus capital is used to finance the real economy rather than distributed in the form of dividends and share buybacks. This is in order to ensure the resilience of the domestic financial system is safeguarded.

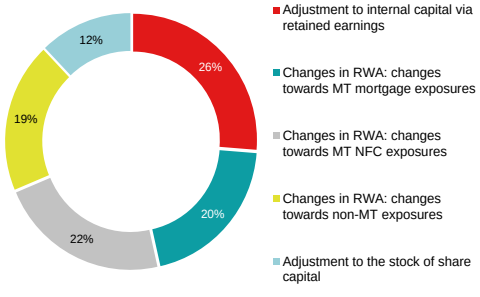
The CBM also asked about the banks' willingness to dip into their Pillar 2 Guidance (P2G) levels to assess the effectiveness of the ECB's COVID-19 temporary capital relief measures amongst others.[16] Survey replies indicate that only 25% of respondents would be willing to dip into their P2G level. The survey also investigated banks' willingness to utilise capital buffers to absorb higher unexpected losses, with only 25% of respondents indicating willingness to use the additional loss-absorbency provided in the CBR.[17]

Chart 2(a)
BANKS PREFERRED ADJUSTMENT STRATEGIES WHEN FACED WITH A DECREASE IN OCR
(per cent)



Source: CBM Survey on Buffer Usability.

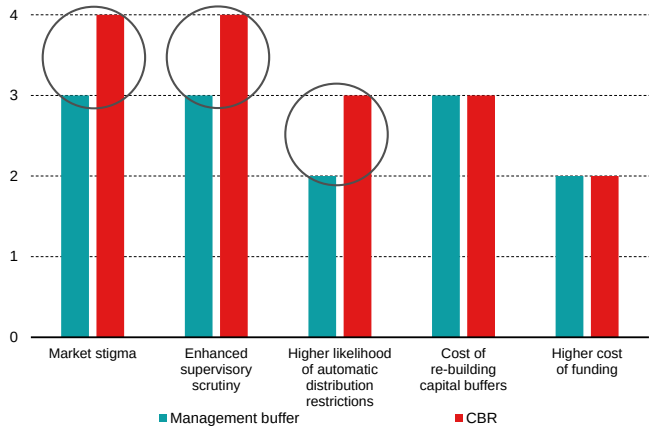
Chart 2(b)
BANKS PREFERRED ADJUSTMENT STRATEGIES WHEN FACED WITH HIGHER UNCERTAINTY IN DOMESTIC ECONOMIC OUTLOOK
(per cent)



Source: CBM Survey on Buffer Usability.

These two findings imply that despite the fact that both the P2G and CBR are intended to be used in periods of distress, banks are unwilling to dip into these buffers. On one hand, banks treat the P2G as binding, and on the other, banks perceive that dipping into the CBR carries costs that outweigh the intended benefits. These responses are also corroborated by the findings in Andreeva et al. (2020). Moreover, based on the findings of Couaillier (2021), banks do not appear to differentiate between the different forms of capital requirements when setting their internal capital targets. This implies that banks are apprehensive to reduce their capital ratios and draw down their buffers, which raises some concerns on buffer usability.

Chart 3
MAIN IMPEDIMENTS TO BUFFER USABILITY
(degree of impediment)



Source: Central Bank of Malta.

In view of the above, the CBM asked participants on the perceived impediments to using capital allocated for both the bank's own management buffer and also towards capital allocated for the CBR. As highlighted in Chart 3, 'market stigma' and 'enhanced supervisory scrutiny' where seen as the main impediments to buffer usability and the degree of impediment for these buffers is higher in the event that banks need to utilise capital allocated towards the CBR.[18]

Furthermore, respondents indicated that supervisory expectations towards buffer replenishment should mainly be guided by banks' ability to issue new equity and pressures by stakeholders for dividend pay-outs. Respondents contend that these impediments can potentially be major obstacles to buffer usability and as such they should be studied further at a European level to ascertain a concerted effort in tackling them in the most effective manner. In response to the Call for Advice by the European Commission on the review of the EU macroprudential framework, the ESRB suggested enhancing buffer usability by increasing the amount of releasable capital. This could be achieved by:

i. allowing for earlier and more active use of the CCyB;
ii. enabling authorities to establish a positive neutral rate for the CCyB;
iii. enabling authorities to establish a positive neutral rate for the systemic risk buffer (SyRB).

Concluding remarks and policy implications

The need to monitor at all times the system-wide levels of management buffers, which are a precondition for continued financing support in periods of uncertainty, should not be underestimated. The findings emerging from the survey replies corroborate with trends observed from data, and together they highlight the important role management buffers play during periods of economic distress. The interaction between releasable buffers and management buffers as well as banks' perception on impediments to buffer usability, are also informative from a policy perspective. For releases to be effective, the resultant management buffers must exceed banks' internal targets.

Releases must also be accompanied by the right incentives to ensure that once released, this surplus capital is directed towards more lending and not be treated as a windfall. Finally, to provide clarity and reduce uncertainty, buffer releases should not be communicated as temporary; and the authorities should engage in active communication to guide the industry on expected buffer replenishment.

5.2.2 Malta Financial Services Authority Circulars

Circular to credit institutions on the lifting of the restriction on dividend distributions or share buy-backs

The MFSA lifted the dividend restrictions that were imposed on banks as part of the COVID-19 pandemic's financial system management measures. The aim of the restrictions was to support the financial resilience of the banks to continue supporting lending to the real economy. These limitations were lifted on October 1, 2021.

Credit risk management in Malta's banks

During 2021, the MFSA assessed credit risk management practices for a number of banks. To ensure that expected standards are met, the MFSA identified areas which should be reviewed such as improving the quality of data used to support credit decisions, improving systems to facilitate the early identification of credit problems, and correctly recording the granting of concession/forbearance measures to borrowers.

Circular to credit institutions in relation to amendments to the Banking Act and subsidiary legislation transposing the CRDV and the IFD

The aim of this Circular was to inform credit institutions of changes made to the Banking Act which was amended further to transpose the amendments made to the CRD which came into effect at the end of the year 2020. The main amendments pursuant to CRDV relate to (i) (mixed) financial holding companies, whereby applicants are required to obtain approval or an exemption from approval to act as a (mixed) financial company, (ii) intermediate EU parent undertaking, which necessitates the establishment of a single intermediate EU parent undertaking, and (iii) annual reporting requirement for branches having their head office outside the EU.

Amendments pursuant to the Investment Fund Directive

The main amendment requires larger licensed investment firms, having average monthly total assets of over EUR 30 billion, to apply for a licence as a credit institution in terms of the Banking Act.

Circular to credit institutions on the amendments to Banking Rules BR/01, BR/12, BR/14, BR/15 and BR/21, and the introduction of BR/24

MFSA issued a revised version of Banking Rules BR/01, BR/12, BR/14, BR/15 and BR/21 and a new Banking Rule BR/24 in early 2022 (see Table 5.1).

Table 5.1
AMENDMENTS TO BANKING RULES

Banking Rule	Description
BR/01 – Application Procedures and Requirements for Authorisation of Licences for Banking Activities Under The Banking Act 1994	The list of entities exempt from CRD's requirements, as well as Form 3 (Personal Questionnaire), have been removed from BR/01.
BR/12 – The Supervisory Review Process of Credit Institutions Authorised Under The Banking Act 1994	The supervisory review process of credit institutions is covered under BR/12. This has been updated to reflect the changes brought about by CRD V.
BR/14 – Outsourcing by Credit Institution Authorised Under The Banking Act 1994	BR/14 has been slightly revised to clarify the assessment period and the outsourcing policy.
BR/15 – Capital Buffers of Credit Institutions Authorised Under The Banking Act 1994	BR/15 has been amended to transpose the CRD V provisions related to the restrictions on the composition of the CBR. The identification methodology for G-SIIs and the changes of the implementation of an O-SII buffer were also included.
BR/21 – Remuneration Policies and Practices	The term 'gender neutral remuneration policy' was introduced, together with various principles on remuneration. The changes made reflect the CRD V amendments.
BR/24 – Internal Governance of Credit Institutions Licensed Under The Banking Act	This is a new banking rule which introduces new requirements to internal governance in line with amendments made to CRD V.

Source: Malta Financial Services Authority.

Circular to credit institutions and foreign branches on COVID-19 related reporting

The Authority notified credit institutions and foreign branches on developments with respect to COVID-19 related reporting requirements.[19] On 17 January 2022, the EBA issued Guidelines to provide competent authorities with the information they need to monitor the credit quality of loans that received government assistance.[20] By means of this extension, domestic credit institutions are expected to continue to report and disclose COVID-19 related data beyond December 2021. NCAs have been provided with the flexibility embedded in the EBA Guidelines to reduce or stop some specific reporting and disclosure requirements, in line with domestic economic outlook. This information was reflected in MFSA Banking Rule BR/23.

5.2.3 European Regulatory Developments

The crisis management and deposit insurance framework: towards completion of the banking union

During 2021, work on the completion of the banking union mainly focused on the review of the crisis management and deposit insurance (CMDI) framework, in line with the European Commission's 2021 work programme.

In early 2021, the Commission held two public consultations to gather feedback from stakeholders on their experience with the CMDI framework.

The Council of the EU, during the Slovenian Presidency, continued to build on the work conducted by the Commission with the review of the CMDI framework being on top of the agenda. In this regard, discussions focused on the banks' capacity to issue MREL instruments, the provision of industry-provided resolution financing to prevent that eligible non-covered deposits are bailed-in, the possible harmonisation of winding-up procedures for banks and the revision of the Public Interest Assessment (PIA) framework. The Central Bank of Malta, given its role as macro-prudential Authority, has also contributed to these discussions and will continue following further developments.

Proposal for a new Insurance Recovery and Resolution Directive

On 22 September 2021, the European Commission adopted a proposal for an Insurance Recovery and Resolution Directive (IRRD) as part of a comprehensive package involving the review of the EU rules on insurance and reinsurance. The proposal aims to provide insurers and relevant authorities with the necessary means to be adequately prepared in case of a crisis situation and to be able to act in a timely manner. The three key elements of the proposal are:

i. prevention and preparation by insurers, who are required to pre-emptively draw up recovery plans, and resolution authorities, who are required to draw up resolution plans;
ii. granting powers to the supervisory authorities to intervene at an early stage;
iii. providing the national authorities with resolution tools that could be applied where appropriate.

EBA Opinion on the treatment of client funds under the Deposit Guarantee Schemes Directive[21]

In this Opinion, the EBA analysed existing mechanisms for protecting funds deposited with credit institutions on behalf of clients by financial entities who are not themselves covered by the Depositor Guarantee Scheme (DGS). These include payments institutions, e-money institutions, investment firms and other fintech companies. The EBA found that client fund protection is heterogenous across the EU and within Member States, depending on the type of financial entity depositing funds on behalf of its clients. In this regard, the EBA suggests that the Commission adds clarification in the Deposit Guarantee Schemes Directive (DGSD) to ensure that funds deposited on behalf of clients are protected uniformly across the EU. This clarification shall ensure that client funds are treated consistently, regardless of the type of entity that deposited them with a credit institution and shall be covered by a deposit guarantee scheme. The Opinion also recommends ways to limit the risk of contagion extending from a failed credit institution to the financial entities that had client funds with that credit institution, and to ensure that credit institutions contribute to the DGS funds in proportion to the amount of protected client funds they hold.

EBA Guidelines on recovery plan indicators

On 9 November 2021, the EBA published Guidelines on recovery plan indicators based on the experience gained in recovery planning since the guidelines were first published back in 2015. Recovery plan indicators are one of the main elements of recovery plans. Their objective is to identify potential stressed or crisis situations at an early stage so that the appropriate recovery measures can be implemented in a timely manner before the situation deteriorates further. Specifically, the revised guidelines introduced three new indicators which have been added to the minimum list of recovery plan indicators as well as further insights on the calibration of recovery plan indicators.

EBA Guidelines on cooperation and information exchange between prudential supervisors, AML/CFT supervisors and financial intelligence units

These Guidelines aim to establish a formal framework to ensure effective cooperation and information exchange among prudential supervisors, AML/CFT supervisors and financial intelligence units, thus enabling and facilitating the efficient and effective supervision and coordinated supervisory actions where necessary. Specifically, the guidelines focus on the way these authorities should cooperate with each other and exchange available information, gathered or created as part of their respective tasks.

European Commission's Review of the EU Macroprudential Framework[22]

In 2021, the European Commission initiated an assessment of the effectiveness, efficiency, and transparency of the EU macroprudential framework, as mandated by Article 513 CRR.

The Commission embarked on a process of gathering feedback on the *Review* by means of a Call for Advice (CfA) and targeted Consultation process. The Commission will then submit a legislative proposal to the European Parliament and European Council for an update of the macroprudential framework. The CBM together with other relevant national authorities and European authorities, is actively involved in the discussions and is representing the domestic stance at various fora. The below is a list of the main proposals being put forward, especially those having domestic relevance.

Borrower-based measures

A minimum common set of BBMs is being proposed in the EU macroprudential framework in order to make BBMs available and useable to all EU authorities. This set would also be subject to reciprocation for harmonisation purposes. The introduction of a minimum set of BBMs would allow for a more effective mitigation of systemic risks related to the residential real estate market. The proposal allows for national discretion in various key areas such as activation, release, calibration, design (including definition) and application.

Leverage ratio framework

Banks are requested to meet prudential requirements under both the risk-weighted and the leverage ratio framework. To address any impediments from any overlaps between the two frameworks, the proposal is suggesting the introduction of a leverage ratio buffer that sits on top of the leverage ratio requirements. This buffer would be a conversion of the CBR in terms of the leverage ratio. This would address impediments to buffer usability and provide a complementary safeguard to the minimum risk-weighted capital requirements.

O-SII buffer

One of the proposals in the macroprudential review is to define an EU-wide harmonised O-SII floor methodology, that in addition to the identification process, would also cover the buffer calibration process. It is being suggested that these proposed changes would need to maintain a degree of flexibility for national authorities to better calibrate the instrument to each country's specificities.

Dividend distribution policies

The EU macroprudential review will also be covering the possibility of including system-wide binding restriction powers as part of the macroprudential toolkit available to national authorities. At this current juncture, it is being proposed not to enshrine system-wide binding restriction powers in the EU legal framework. This means that the ECB/ESRB would maintain their power to issue a recommendation to national authorities to restrict pay-outs under very adverse conditions, similar to what was done during the COVID-19 pandemic, whereby the procedure adopted at the time was deemed as being appropriate and sufficient.

Streamlining the reciprocation framework

Proposals are being put forward for (i) harmonizing and simplifying provisions on reciprocation and (ii) removing the cap for mandatory reciprocation for the CCyB which is currently being capped at 2.5%. At the current juncture, automatic recognition applies only to the CCyB in the CRD and risk weight measures in Articles 124 and 164 in the CRR. Subject to materiality thresholds, the reciprocation of Article 458 measures should also become mandatory.

Bank-like activities of non-banks

In order to regulate this sector more effectively from a macroprudential point of view, the review is proposing the introduction of the following concepts:

i. complementing entity-specific tools with activity-based tools;
ii. applying either consistent rules across all financial institutions when they perform the same activities, or adjusting activities accordingly;
iii. implementing anti-procyclicality measures in margin and haircut requirements;
iv. including a consistent definition of HQLA;
v. including a dedicated macroprudential code that includes a framework for the whole financial system.

The introduction of such tools would better address systemic risks as well as prevent regulatory arbitrage.

Systemic cyber risks and climate-related financial risks

Macroprudential measures to address climate-related risks have been proposed as part of the review discussions. However, the proposal puts macroprudential policy in this field as a next step following the finalisation of work on the identification and quantification of risks and taxonomy regulation. The latter relates to a classification system which sets out criteria for recognising economic activities as environmentally sustainable. This will ensure a consistent and comprehensive set of environmental objectives.[23]

Sustainable Finance – Commission puts forward new strategy to make the EU's financial system more sustainable and proposed new European Green Bond Standard

On 6 July 2021, the European Commission adopted a comprehensive package of measures aimed at improving the flow of money towards financing the transition to a sustainable economy. The package comprises of:

1. A *new Sustainable Finance Strategy*. This strategy lays out a number of initiatives to address climate change and other environmental concerns while increasing investment in the EU's shift to a more sustainable economy. Four main areas were identified as needing additional actions, namely financing the transition to sustainability, inclusiveness, financial sector resilience and contribution, and global ambition.
2. A *European Green Bond Standard proposal*. This proposal will establish a high-quality voluntary standard for bonds that fund long-term investments. The four main elements under the proposed framework are taxonomy-alignment, transparency, external review, and supervision by the European Securities Market Authority (ESMA) or reviewers.

3. A *Delegated Act* on the reporting requirements of financial and non-financial organizations related to sustainability of their activities. Non-financial companies will now be disclosing the share of their turnover, capital and operational expenditure associated with environmentally sustainable economic activities. On the other hand, financial institutions will now be disclosing the share of environmentally sustainable economic activities financing or investing in.

Recommendation of the ESRB on a pan-European systemic cyber incident coordination framework

On 2nd December 2021, the ESRB published its Recommendation on a pan-European systemic cyber incident coordination framework. This consists of three main recommendations, namely:

1. Recommendation A – Establishment of a pan-European systemic cyber incident coordination framework (EU-SCICF);
2. Recommendation B – Establishment of points of contact of the EU-SCICF;
3. Recommendation C – Appropriate measures at Union level on the basis of the analysis undertaken in Recommendation A.

Recommendation of the ESRB on identifying legal entities

On the 24th of September 2020 the ESRB issued a Recommendation on identifying legal entities (ESRB/2020/12) to address the existing gaps in the adoption of LEI. The Recommendation includes two sub-recommendations, namely: *Recommendation A – Introduction of a Union framework on the use of the legal entity identifier*, paying due regard to the principle of proportionality, and *Recommendation B – Use of the legal entity identifier until the possible introduction of Union legislation*, inviting relevant authorities to continue requiring entities under their supervision to have a LEI code.

ECB press release on the suspension of capital and leverage relief for banks

On 10 February 2022, the ECB communicated that the capital and leverage relief measures that were communicated by the ECB back in March 2020, will be gradually suspended during the year.[24] The ECB communicated that there is no further need to allow banks to operate below their P2G beyond December 2022 and thus banks will be expected to operate above their P2G levels as from 1 January 2023.

In June 2021, the ECB extended the measure relating to the exclusion of certain central bank exposures from the denominator of their leverage ratios until the end of March 2022 to allow more breathing space for banks. Although acknowledging that there is still some uncertainty regarding the impact of the pandemic, the ECB highlighted that banks have, on average, ample headroom above their capital and leverage ratio requirements.

EBA publishes sample of banks participating in the December 2021 mandatory Basel III monitoring exercise

On 1 December 2021, the EBA published the sample of banks in scope for the mandatory Basel III monitoring exercise.[25] This exercise was launched at the end of January 2022 with the results expected to be published at the end of September 2022. The sample of EU banks will be determined by the relevant NCAs in line with Articles 4 and 8 of the EBA Decision on the mandatory Basel III monitoring exercise. This monitoring exercise will be carried out at the highest level of consolidation on a sample of 157 banks, of which 114 are either G-SIIs or O-SIIs, with MT O-SIIs also forming part of the sample for the forthcoming Basel III monitoring exercise.

The ESAs recommend actions to ensure the EU's regulatory and supervisory framework remains fit-for-purpose in the digital age

As part of the review of the financial services' legislative framework, the European Commission issued a request to the three European Supervisory Authorities (ESAs) for technical advice on digital finance and related issues. On 7 February 2022, the ESAs published a joint report in response to the Commission's call for advice.[26] The ESAs note that the use of innovative technologies in the EU financial industry is facilitating value chain transformations that lead to higher dependency on digital platforms. These developments

present a number of opportunities for consumers and institutions, but also pose new risks. Thus, the recommendations ensure that the EU's financial services regulatory and supervisory framework remains fit-for-purpose in the digital age.

EBA Methodology for investment firms to be reclassified as credit institutions

On 20 December 2021, the EBA published a package consisting of two final draft regulatory technical standards (RTS) which relate to the reclassification of investment firms as credit institutions. According to the RTS, the identification of large investment firms takes into account the size of the investment firms and the groups they belong to.[27]

The Standards also provide more guidance in the calculation of the €30 bn threshold for investment firms and whether and how this threshold will apply for authorisation as a credit institution. The Standards are also intended to assist competent authorities in having guidelines for monitoring the investment firms' financial position and what would trigger a reclassification to credit institution.

Other technical aspects covered in the EBA publication include accounting standards for the determination of asset values, the methodology for implementing the solo and group test, the calculation of total assets on a monthly basis and treatment of assets falling under European branches of third-country groups.

EBA Publication of binding standards on Pillar 3 disclosures on ESG risks

The EBA published on 24 January 2022 the final draft implementing technical standards (ITS) on Pillar 3 disclosures on Environmental, Social and Governance (ESG) risks. In this final draft, the EBA ITS put forward instructions in line with the requirement in Art. 449a of CRR, to disclose prudential information on ESG risks, including transition and physical risk; and to address shortcomings of institutions' current ESG disclosures at EU level. The ITS includes tables and granular templates, with quantitative information and key performance indicators (KPIs), on climate change mitigating measures, including the Green Asset Ratio (GAR) on Taxonomy-aligned activities,[28] consistent with the Paris agreement goals.

These standards have been developed in line with other initiatives at EU and international level,[29] but in the case of EBA Pillar 3, the package goes further as it establishes mandatory and consistent information standards. This ITS will help address the shortcomings of current non-financial information, at the EU and international level, by establishing best practices.

Notes

[1] CCyB-assessment-for-2022-Q3 (centralbankmalta.org)

[2] Central Bank of Malta Interim Financial Stability Report 2021. Source: Interim-FSR-2021.pdf (centralbankmalta.org)

[3] For further information on these measures kindly refer to the reciprocity on the CBM website. Link: https://www.centralbankmalta.org/reciprocity

[4] ESRB 2015/1: Recommendation of the ESRB of 11 December 2015 on recognising and setting countercyclical buffer rates for exposures to third countries. Source: https://www.esrb.europa.eu/pub/pdf/recommendations/2016/Recommendation_ESRB_2015_1.pdf?100d9df2fa5a1a305da61fdc4a2dd053

[5] ESRB/2015/3: Decision of the ESRB of 11 December 2015 on the assessment of materiality of third countries for the Union's banking system in relation to the recognition and setting of countercyclical buffer rates. Source: https://www.esrb.europa.eu/pub/pdf/other/Decision_ESRB_2015_3.pdf

[6] A third country is identified as material, when exposures of the Maltese banking system to that third country are at least 1% for at least one of the above three metrics for a set period of time, and for both steps, as prescribed by the ESRB Decision 2015/3.

[7] The Central Bank of Malta publishes amended text of CBM Directive No. 16 on 29/11/2021. Source: https://www.centralbankmalta.org/site/About-Us/Legislation/Proposed-Amendments-Directive16-track-changes.pdf

[8] For the definitions of Category I and II borrowers refer to paragraphs 6 f) and 6 g) of Directive no.16: https://www.centralbankmalta.org/site/About-Us/Legislation/Directive-16-2021.pdf

[9] CBM-MFSA Policy Document on the revised methodology for the identification of other systemically important institutions (O-SIIs) and the related capital buffer calibration: https://www.centralbankmalta.org/site/Financial-Stability/O-SII/o-sii-policy-document.pdf

[10] The CBM-MFSA O-SII statement of decision was published on 17 January 2022 and is accessible as per following link: https://www.centralbankmalta.org/site/Financial-Stability/O-SII/Statement-of-Decision.pdf

[11] The MDB CGS is intended to provide guarantees on loans granted by domestic banks to assist businesses facing liquidity shortages as a result of the COVID-19 pandemic. A Guarantee Fund of €350 million has been allocated by the Maltese Government which would then enable domestic banks to leverage this Government guarantee up to a maximum portfolio volume of €777.8 million.

[12] Under the MDB COVID-19 interest rate subsidy scheme (CIRSS), all beneficiaries under the MDB CGS scheme will automatically be benefitting from a subsidy of up to 2.5% of the interest rate charged by commercial banks during the first two years of the loan.

[13] The survey has been circulated amongst core and non-core domestic banks which cover 75% of domestic total assets. The replies of the survey are unweighted in the reported outcomes and conclusions presented.

[14] The MDA trigger is the level at which regulators automatically restrict earnings distribution. This is a level at which banks' total capital falls below the sum of its Pillar 1, Pillar 2 and CRD buffer requirements.

[15] The CBR is made up of loss absorbing capital buffers such as the Capital Conservation Buffer (CCoB) and (where applicable) the O-SII buffer, CCyB and the SyRB. By design, these buffers are also intended to be used in times of need for loss absorption, thereby avoiding dips into minimum regulatory requirements such as P2R.

[16] The ECB allowed banks to temporarily operate below the P2G level during the COVID-19 pandemic in order for banks to continue financing households and corporates experiencing temporary difficulties.

[17] In their replies, larger banks indicated a greater willingness to dip into the CBR and P2G.

[18] For the purposes of the survey, the CBM limited itself to 5 major impediments consisting of 'market stigma', 'enhanced supervisory scrutiny', 'dividend restrictions', 'cost of re-building capital buffers' and 'higher cost of funding'.

[19] Circular to Credit Institutions on the issuance of a new Banking Rule, and Circular to Credit Institutions on Developments in Supervisory Reporting, mainly on Reporting Pursuant to Banking Rule 23

[20] EBA Guidelines on reporting and disclosure of exposures subject to measures applied in response to the COVID-19 crisis

[21] https://www.eba.europa.eu/eba-observes-discrepancies-relation-protection-client-funds-deposit-guarantee-schemes-and-makes

[22] The European Commission Call for Advice on the review of the EU Macroprudential Framework may be retrieved from the following link.

[23] The EU Taxonomy Regulation establishes six environmental objectives: climate change mitigation, climate change adaptation, sustainable use and protection of water and marine resources, transition to a circular economy, pollution prevention and control, and protection and restoration of biodiversity and ecosystems.

[24] The ECB's press release on the suspension of capital and leverage relief can be found in the following link: ECB will not extend capital and leverage relief for banks (europa.eu)

[25] The Basel III monitoring exercise aims to assess the impact of the latest regulatory developments at BCBS level with regard to: i) the global regulatory framework to enhance resilience for banks and banking systems; ii) leverage ratios; iii) liquidity ratios; iv) the Net Stable Funding Ratio (NSFR); v) the post-crisis reforms.

[26] The joint ESAs response to the European Commission's Call for Advice on digital finance can be accessed from the following link: ESA 2022 01 ESA Final Report on Digital Finance (europa.eu)

[27] Final report on draft RTS on EUR 30bn threshold methodology.pdf (europa.eu)

[28] Regulation (EU) 2020/852 on the establishment of a framework to facilitate sustainable investment (Taxonomy Regulation): https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32020R0852

[29] Recommendations put forward by the Financial Stability Board Task Force on Climate-related Financial Disclosures (FSB-TCFD), and the classifications specified in the Taxonomy Regulation and in Regulation (EU) 2019/2089 amending Regulation (EU) 2016/1011 as regards EU Climate Transition Benchmarks, EU Paris-aligned Benchmarks, and sustainability-related disclosures for benchmarks (Climate Benchmark Regulation). Sources: https://www.tcfdhub.org/Downloads/pdfs/E20%20More%20information%20on%20supplemental%20guidance%20for%20the%20financial%20sector.pdf; https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32019R2089

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Box 4: Insights from the CBM Survey on Buffer Usability

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Appendices

Appendix A
IMPLEMENTED POLICY MEASURES[1]

Capital buffer for other systemically important institutions (O-SII)	2019	2020	2021	2022	Implementation date
MDB Group Ltd*	0.500%	0.500%	0.500%	0.625%	
HSBC Bank Malta plc	1.500%	1.500%	1.500%	1.500%	1 January 2016 Revised on 1 January 2020
Bank of Valletta plc	2.000%	2.000%	2.000%	2.000%	
APS Bank plc**	-	0.0625%	0.0625%	0.125%	

* The 0.500% increase in MDB Group Ltd's O-SII buffer rate is subject to the following transitory period for the build-up of its fully-loaded O-SII buffer rate: 2021 – 0.500%; 2022 – 0.625%; 2023 – 0.750%; 2024 –1.000%.

**APS Bank plc's transitory period for the build-up of its fully-loaded O-SII buffer rate is as follows: 2021 – 0.0625%; 2022 – 0.125%; 2023 – 0.1875%; 2024 – 0.250%.

Countercyclical capital buffer (CCyB)	2019				2020				2021				2022			Implementation date
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	
All credit institutions	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1 January 2016

Macroprudential policy: Reciprocity	2018	2019	2020	Implementation/ withdrawal date
Reciprocity of the systemic risk buffer implemented by Estonia	1.0% for risk exposures exceeding €200 million	1.0% for risk exposures exceeding €200 million	Withdrawn by Estonia as of 1 May 2020 in response to the COVID-19 pandemic	24 October 2016/ 1 May 2020

Macroprudential policy: Material third countries	2019	2020	2021	Implementation date
Identification of material third countries	United States of America, Republic of Turkey, Russian Federation, United Arab Emirates	United States of America, Republic of Turkey, United Arab Emirates	United States of America, United Kingdom, United Arab Emirates	June 2016

Measures addressing credit risk	2019	2020	2021	2022	Implementation date
Borrower-based measures	Publication of feedback statement on outcome of the public consultation and Directive No.16	Issuance of notice to amend Directive No.16 in response to the COVID-19 pandemic	Issuance of amended Directive No.16	No changes occurred	1 July 2019 (amended 29 November 2021)
All credit institutions (BR/09/2019)	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	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	2 January 2017 Revised in 2019
Moratoria on Credit Facilities in Exceptional Circumstances		Publication of Directive No.18 in response to the COVID-19 pandemic	Re-activation of Directive No.18 in response to the protracted impact of the COVID-19 pandemic	No changes occurred	13 April 2020 (amended 23 April and 30 June 2020); re-activated 14 January 2021

[1] Cut-off date refers to 2022 Q1.

Appendix B
FINANCIAL SOUNDNESS INDICATORS

	Core Domestic Banks					Non-Core Domestic Banks					International Banks[1]					Total Banks[1]				
	2017	2018	2019	2020	2021	2017	2018	2019	2020	2021	2017	2018	2019	2020	2021	2017	2018	2019	2020	2021
Capital[2]																				
Regulatory capital to risk-weighted assets	17.3	18.1	20.1	21.7	22.7	17.4	17.9	19.2	20.2	20.4	47.7	52.1	46.6	52.5	46.4	21.7	22.6	23.7	25.8	25.6
Regulatory Tier 1 capital to risk-weighted assets	15.2	16.0	17.6	18.6	19.4	14.1	17.6	18.9	19.9	20.1	45.0	49.5	46.5	52.4	46.4	19.4	20.6	21.7	23.4	23.1
Leverage ratio	7.0	7.3	7.8	7.6	7.3	7.7	10.8	11.0	9.5	10.0	26.3	35.1	38.7	42.4	34.2	9.4	10.2	10.6	10.5	9.6
Large exposures to total own funds	88.4	84.1	75.9	69.6	67.7	264.7	200.6	140.7	175.8	170.6	119.6	79.1	84.3	83.3	68.8	111.1	92.6	84.3	81.8	77.5
Risk-weighted assets to total assets	48.2	48.5	46.2	42.9	39.1	59.5	63.9	61.1	49.0	50.6	65.4	80.3	88.3	82.8	74.8	51.0	52.7	51.1	46.6	43.0
Profitability																				
Return-on-assets[3]	0.8	0.5	0.6	0.0	0.3	0.3	0.2	1.3	-1.5	0.2	1.5	1.4	1.1	2.2	1.5	1.0	0.9	0.8	0.6	0.7
Return-on-equity[2,3]	10.8	6.5	6.7	-0.3	4.3	3.2	1.7	11.0	-12.7	2.4	4.9	5.2	5.8	6.2	11.6	7.3	5.7	6.8	0.4	6.0
Operational cost-to-income ratio	56.1	62.8	66.3	68.1	75.3	77.1	62.2	47.0	95.8	82.2	27.8	32.3	43.0	35.3	47.3	43.4	48.3	55.2	51.8	61.8
Interest margin to gross income	69.2	62.3	63.7	73.2	72.3	30.0	36.6	31.4	48.9	40.9	78.9	79.9	56.1	64.6	54.0	72.3	69.3	58.1	67.7	61.5
Non-interest expense to gross income	57.7	64.3	67.8	70.0	77.0	78.0	62.6	47.1	97.5	83.3	27.8	32.3	43.0	35.4	47.3	44.2	49.1	56.0	52.8	62.6
Personnel expenses to non-interest expenses	48.2	37.8	43.8	45.6	41.1	45.8	50.4	50.2	48.3	48.5	15.8	13.9	13.5	12.7	10.8	38.3	31.2	34.6	34.1	30.2
Non-interest income to gross income	30.8	37.7	36.3	26.8	27.7	70.0	63.4	68.6	51.1	59.1	21.1	20.1	43.9	35.4	46.0	27.7	30.7	41.9	32.3	38.5
Net impairment charges to gross income	0.5	9.0	0.1	29.1	-0.1	1.1	29.0	12.8	79.5	6.3	15.3	21.8	24.2	18.6	17.0	7.6	16.1	11.0	25.5	8.8
Asset Quality																				
Non-performing loans to total own funds[2]	35.1	27.8	25.1	28.9	29.2	15.0	26.4	34.8	53.1	34.6	13.8	13.3	8.0	9.7	10.6	26.9	23.2	21.3	25.4	25.2
Non-performing loans to total gross loans	4.1	3.4	3.2	3.7	3.4	2.2	4.2	5.4	7.1	5.1	1.5	2.4	1.8	1.9	1.4	3.0	3.1	3.0	3.5	3.1
Non-performing exposures to total gross exposures	3.0	2.6	2.5	2.8	2.7	1.8	3.4	4.6	5.6	3.8	0.9	1.6	1.3	1.3	1.0	2.0	2.2	2.2	2.6	2.3
Total coverage ratio[4]	43.7	43.5	42.9	52.5	46.6	65.9	56.1	41.0	47.6	58.1	57.5	61.8	78.5	91.4	137.7	45.2	49.6	49.2	57.2	58.8
Unsecured loans to total lending	27.7	28.6	26.3	23.2	20.1	67.2	73.5	77.6	80.8	71.9	16.2	17.1	22.5	19.7	21.5	25.0	26.8	27.9	25.6	23.8
Share of Stage 3 provisions to total provisions	85.1	71.7	71.9	66.7	69.2	86.2	91.5	91.4	93.0	92.9	84.0	59.2	48.3	44.6	29.7	84.9	69.3	67.0	65.2	60.9
Forborne loans to gross loans	3.1	2.5	2.4	3.0	4.4	2.5	1.5	0.9	0.5	0.8	2.4	2.0	3.8	3.3	7.4	2.8	2.2	2.7	2.9	4.9
Liquidity																				
Liquidity Coverage Ratio[2]	276.0	417.6	343.7	328.2	359.6	265.2	422.3	374.7	325.4	357.0	278.1	572.9	364.9	686.6	2469.6	275.3	420.7	347.5	332.7	378.7
Liquid assets to total assets[2]	29.4	27.8	31.0	33.3	35.6	28.5	32.0	36.2	40.3	33.2	20.6	6.9	7.6	11.8	27.3	28.3	26.3	29.6	32.3	34.7
Customer loans to customer deposits	58.9	60.9	59.5	58.4	55.1	47.2	50.5	46.6	46.5	52.2	111.6	208.7	341.6	462.3	266.9	70.3	79.0	78.8	75.4	67.4
Counterbalancing capacity on net cash outflows		187.7	139.0	169.9	189.3		248.2	245.4	238.1	300.8		87.9	78.5	326.3	601.9		192.7	149.5	180.2	204.0
Net Stable Funding Ratio[2]					174.0					178.4					155.3					172.8
Balance Sheet																				
Assets-to-GDP	192.3	186.1	175.9	197.1	189.1	18.5	20.9	20.9	23.3	23.0	191.0	132.5	96.2	88.6	77.8	401.7	339.5	293.0	309.0	290.0
Domestic debt securities to total assets	7.0	6.5	6.4	8.3	8.8	3.3	2.1	2.9	7.2	7.9	0.1	0.1	0.1	0.1	0.2	3.6	3.7	4.1	5.9	6.4
Foreign debt securities to total assets	16.8	15.8	15.4	13.8	12.4	11.8	14.0	10.7	12.2	15.9	42.7	29.7	26.6	25.2	24.0	28.9	21.2	18.8	16.9	15.8
Customer loans to total assets	46.7	48.5	48.0	48.2	45.4	32.2	34.8	33.1	33.2	34.5	29.0	37.6	43.4	43.9	36.9	37.6	43.4	45.4	45.8	42.3
Interbank exposures to total assets	8.0	7.8	6.2	5.3	4.9	20.2	21.6	14.7	9.7	9.4	15.2	13.0	13.8	12.3	17.8	12.0	10.7	9.3	7.6	8.7

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

[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 Banking Rule 09/2019.