THIRTEENTH FINANCIAL STABILITY REPORT

2020
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<td>Alternative Investment Funds</td>
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<tr>
<td>AIFMD</td>
<td>Alternative Investment Funds Managers Directive</td>
</tr>
<tr>
<td>AMC</td>
<td>amortised cost (accounting treatment)</td>
</tr>
<tr>
<td>APP</td>
<td>asset purchase programme</td>
</tr>
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<td>AUM</td>
<td>Assets under Management</td>
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<td>BCBS</td>
<td>Basel Committee on Banking Supervision</td>
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<td>BLS</td>
<td>Bank Lending Survey</td>
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<td>BR</td>
<td>Banking Rule</td>
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<td>BRRD</td>
<td>Bank Recovery and Resolution Directive</td>
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<tr>
<td>CBC</td>
<td>counterbalancing capacity</td>
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<td>CBM</td>
<td>Central Bank of Malta</td>
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<td>CCR</td>
<td>Central Credit Register</td>
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<td>CCyB</td>
<td>Countercyclical Capital Buffer</td>
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<td>CFIML</td>
<td>captive financial institutions and money lenders</td>
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<td>CGS</td>
<td>Covid-19 Guarantee Scheme</td>
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<td>CIU</td>
<td>Collective Investment Undertakings</td>
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<td>COR</td>
<td>Cost of Risk</td>
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<td>CRR</td>
<td>Capital Requirements Regulation</td>
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<td>CTRM</td>
<td>Credit Risk Threshold Model</td>
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<td>DCS</td>
<td>Depositor Compensation Scheme</td>
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<td>DGS</td>
<td>deposit guarantee scheme</td>
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<tr>
<td>DSTI</td>
<td>debt-service-to-income</td>
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<tr>
<td>EBA</td>
<td>European Banking Authority</td>
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<td>ECAI</td>
<td>external credit assessment institutions</td>
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<td>ECB</td>
<td>European Central Bank</td>
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<tr>
<td>ECL</td>
<td>expected credit losses</td>
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<td>EDIS</td>
<td>European Deposit Insurance Scheme</td>
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<td>ESA</td>
<td>European Supervisory Authorities</td>
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<td>ESG</td>
<td>Environmental, Social and Governance</td>
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<td>ESM</td>
<td>European Stability Mechanism</td>
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<td>ESRB</td>
<td>European Systemic Risk Board</td>
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<tr>
<td>EU</td>
<td>European Union</td>
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<tr>
<td>EVE</td>
<td>economic value of equity</td>
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<td>FA</td>
<td>financial auxiliaries</td>
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<td>FSB</td>
<td>Financial Stability Board</td>
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<td>FSR</td>
<td>Financial Stability Report</td>
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<tr>
<td>FV</td>
<td>fair value</td>
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<tr>
<td>FVC</td>
<td>Financial Vehicle Corporation</td>
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<tr>
<td>FVOCI</td>
<td>fair value through other comprehensive income (accounting treatment)</td>
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<tr>
<td>FVTPL</td>
<td>fair value through profit and loss (accounting treatment)</td>
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<tr>
<td>FX</td>
<td>foreign exchange</td>
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<tr>
<td>GBP</td>
<td>British Pound Sterling</td>
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<tr>
<td>GDP</td>
<td>gross domestic product</td>
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<tr>
<td>G-SII</td>
<td>globally systemically important institutions</td>
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<tr>
<td>GVA</td>
<td>gross value added</td>
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<tr>
<td>HH</td>
<td>households</td>
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<tr>
<td>HHI</td>
<td>Herfindahl-Hirschman Index</td>
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<td>HQLA</td>
<td>high-quality liquid assets</td>
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<tr>
<td>ICPF</td>
<td>insurance corporations and pension funds</td>
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<tr>
<td>IFD/IFR</td>
<td>Investment Firms Regulation and Directive</td>
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<td>IFRS</td>
<td>International Financial Reporting Standards</td>
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<tr>
<td>Acronym</td>
<td>Description</td>
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<tr>
<td>SSM</td>
<td>Single Supervisory Mechanism</td>
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<td>STREAM</td>
<td>Structural Macro-Econometric Model of the Maltese Economy</td>
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<td>TLTRO</td>
<td>Targeted Longer-Term Refinancing Operations</td>
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<td>Total SREP Capital Requirement</td>
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<td>UCITS</td>
<td>Undertakings of the Collective Investment in Transferable Securities</td>
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<td>UK</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>US</td>
<td>United States of America</td>
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<tr>
<td>USD</td>
<td>United States Dollar</td>
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## THE DOMESTIC FINANCIAL SECTOR

### Banks

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<th>Non-Core Domestic Banks</th>
<th>International Banks</th>
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<tr>
<td>APS Bank plc</td>
<td>FCM Bank Limited</td>
<td>AgriBank plc</td>
</tr>
<tr>
<td>Bank of Valletta plc</td>
<td>FIMBank plc</td>
<td>Akbank T.A.S. (Branch)</td>
</tr>
<tr>
<td>BNF Bank plc</td>
<td>IIG Bank (Malta) Limited</td>
<td>CommerBank Europe Limited</td>
</tr>
<tr>
<td>HSBC Bank Malta plc</td>
<td>Izola Bank plc</td>
<td>Credit Europe Bank NV (Branch)</td>
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<tr>
<td>Lombard Bank Malta plc</td>
<td>Merkantii Bank Limited</td>
<td>Credorox Bank Limited</td>
</tr>
<tr>
<td>MeDirect Bank (Malta) plc</td>
<td>Sparkasse Bank Malta plc</td>
<td>European Depositary Bank SA (Malta Branch)</td>
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<tr>
<td></td>
<td></td>
<td>ECCM Bank plc</td>
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<tr>
<td></td>
<td></td>
<td>Ferratum Bank Limited</td>
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<tr>
<td></td>
<td></td>
<td>NBG Bank Malta Limited</td>
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<tr>
<td></td>
<td></td>
<td>Novum Bank Limited</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Turkiye Garanti Bankasi A S (Branch)</td>
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<td></td>
<td></td>
<td>Yapi Kredi Bank Malta Limited</td>
</tr>
</tbody>
</table>

### Domestic Investment Funds

<table>
<thead>
<tr>
<th>BOV Asset Management Limited</th>
<th>Calamatta Cuschieri Investment Management Limited</th>
<th>Reaps Asset Management Limited</th>
</tr>
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<tbody>
<tr>
<td>BOV Balanced Portfolio Fund</td>
<td>Emerging Market Bond Fund</td>
<td>APS Diversified Bond Fund</td>
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<td>BOV Conservative Portfolio Fund</td>
<td>Euro High Income Bond Fund</td>
<td>APS Income Fund</td>
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<td>BOV Growth Portfolio Fund</td>
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<td>Global Balanced Multi-Manager Fund</td>
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<td>Vilhena Broad Opportunities Fund</td>
<td>Global Opportunities Fund</td>
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<td>Vilhena Euro Income Fund</td>
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<td>Vilhena European Multi Manager Fund</td>
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<td>Vilhena Far East Opportunities</td>
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<td>Vilhena Malta Bond Fund</td>
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<td>Vilhena Malta Fund</td>
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<td>Vilhena Malta Government Bond Fund</td>
<td>Jesmond Mizzi Financial Advisor Limited</td>
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<td>Vilhena Maltese Equity Focus Fund</td>
<td>Merill Global Equity Income Fund</td>
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<td>Vilhena Maltese Opportunities Fund</td>
<td>Merill High Income Fund</td>
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<td>Vilhena Sterling Income Fund</td>
<td>Merill Total Return Income Fund</td>
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### Domestic Insurance Companies

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<th>Life Insurance Companies</th>
<th>Non-Life Insurance Companies</th>
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<td>HSBC Life Assurance (Malta) Limited</td>
<td>Atlas Insurance PCC Limited</td>
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<td>LifeStar Insurance plc</td>
<td>Citadel Insurance plc</td>
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<tr>
<td>MAPFRE MSV Life plc</td>
<td>Elmo Insurance Limited</td>
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<tr>
<td></td>
<td>GasanMamo Insurance Limited</td>
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<td>MAPFRE Middlesea plc</td>
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This edition of the Financial Stability Report is based on the above categorisation of banks, domestically-relevant insurance companies and investment funds.
PREFACE

The COVID-19 pandemic presented a tough test to the resilience of the Maltese financial system. Owing to its strong fundamentals, the domestic financial system was able to help affected households and businesses weather the unprecedented economic disruptions caused by the various containment measures to counter the medical crisis. This was complemented by the support of national fiscal policy, the Eurosystem monetary policy, and the measures taken by the relevant regulatory authorities. In testing times like these, the importance of financial stability as a pre-requisite for economic prosperity, particularly for post-pandemic recovery, becomes even more meaningful.

Financial stability is indeed one of the core mandates of the Central Bank of Malta. To achieve this, the Financial Stability & Statistics Division of the Central Bank of Malta carries a number of assessments of current and potential financial stability systemic risks, which feature in this Financial Stability Report. This edition focuses on the developments of key industry players, namely banks, domestically-relevant insurance firms and investment funds. The Report also carries a number of stress tests that gauge the resilience of the banking system, and sets out the policy actions that were taken during the year. This Report also carries a number of boxed articles, including an analysis of the uptake of moratoria, and a first glance at developments in financial intermediation within the non-bank financial sector.

The Financial Stability Report is prepared by the Financial Stability & Statistics Division of the Central Bank of Malta and is reviewed and endorsed by the Financial Stability Committee, which is an internal structure mandated to oversee the risk assessment and policy measures related to financial stability and the macro-prudential framework.1

1 The Financial Stability Committee is composed of Profs. Edward Scicluna (Governor and Chairperson); Oliver Bonello (Deputy Governor, Financial Stability); Alexander Demarco (Deputy Governor, Monetary Policy); Dr Aaron G. Grech (Chief Economist); Alan Cassar (Chief Officer Financial Stability & Statistics Division), Raymond Filletti (Chief Officer, Financial Control & Risk Division); Stephen Attard (Head, Policy, Crisis Management and Stress Testing) and Wendy Zammit (Head, Financial Stability Surveillance and Research, Secretary).
1. Macroprudential Risk Assessment
1. MACROPRUDENTIAL RISK ASSESSMENT

In 2020, the global economy was hit by the unprecedented shock of the COVID-19 pandemic, which has left many countries incurring significant losses as they grappled with the effects of the variety of containment measures. The IMF estimates that the global economy shrank by 3.3% in 2020, with such a decline being described as the worst since the Great Depression in the 1930s. Across Europe, restrictions were put in place as early as February 2020, with the aim to slow down the virus spread. Various measures were implemented including government guarantee schemes, wage supplements and loan moratoria for both households and non-financial firms. The ECB also implemented a number of additional accommodative monetary policy measures, with the introduction of the pandemic emergency purchase programme (PEPP) in March 2020, which was extended in June 2020 to bring the total of this programme to €1,850 billion.

As the number of COVID-19 cases across Europe started to stabilise in summer 2020, there were tentative signs of an economic recovery. However, as cases flared up and a second wave began in the latter part of 2020, a resurgence of restrictions led to heightened uncertainty on the magnitude and speed of the economic recovery. With the rollout of the vaccination programmes in early 2021, there was renewed hope that herd immunity will be achieved, and European economies can slowly re-open and move towards normality, although the pace of vaccination in Europe has been initially relatively slow. The IMF projects the global economy to grow at 6.0% in 2021, although this much depends on the evolution of the pandemic and the pace of the rollout of vaccination.

International Developments

The euro area real GDP declined by 6.6% during 2020, with a substantial dispersion across countries. Countries with a relatively large international tourism sector were the most impacted in terms of economic activity due to mobility restrictions across Member States (see Chart 1.1). The dispersion in economic performance in 2020 may also be explained by different pre-pandemic levels of public debt, as countries with a higher debt burden had less fiscal space to support the economy, and generally reported stronger contractions in economic activity.

As a result of the support measures, euro area government debt-to-GDP ratio increased substantially by more than 14 percentage points to 98% (see Chart 1.2). In turn, euro area consolidated private sector debt ratio rose by 12.1 percentage points to just above 150%.

Relief measures such as the moratoria compliant with the European Banking Authority (EBA) have given some respite to European borrowers that faced repayment difficulties. Evidence shows that by the end of 2020, most of these borrowers had resumed repayments of debt with only a fraction of such loans being in distress. Yet, the full impact of the pandemic may have to as yet feature on banks’ balance sheets as only a limited impact on asset quality was reported by end 2020. Indeed, as the number of active moratoria loans across the euro area decreased in the latter half of 2020, the euro area non-performing loans (NPL) ratio fell to 2.7%.1

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The resilience of non-financial corporations (NFC) and households will be particularly tested when moratoria schemes begin to expire, with highly-leveraged borrowers potentially risking default owing to the slowdown in consumer and business spending. In the euro area, interdependencies between sovereigns, NFCs and banks increased significantly through government-guaranteed corporate loans on banks’ balance sheets. Apart from higher contagion risks, this interdependence has a bearing on public debt sustainability, particularly for those countries with high public debt levels prior to the pandemic.

Apart from the COVID-19-driven volatility on financial markets, the reassessment of risk premia remained one of the most prominent risks, as the low interest rate environment has led investors to continue searching for yield. For example, the S&P500 index started to decline substantially around March 2020 on the onset of the pandemic crisis. However the index quickly rebounded and only fell briefly in September 2020, potentially signalling a decoupling of financial market performance from underlying economic activity, as market volatility also heightened. The S&P500 soared by 16% by year end, as equities were pricing in a recovery in 2021, driven by the various economic stimulus packages and the resumed hope of less need for containment measures as vaccines are rolled out (see Chart 1.3). Broadly similar developments were observed for the STOXX Europe 600, which continued its recovery in the first months of 2021.

The low interest rate environment continued to adversely affect the profitability of financial institutions. Apart from lower income on their investments, especially on bonds, the decline in operating income for euro area banks was also largely impacted by lower margins on their lending portfolio, largely in the second half of 2020. Such pressure on Net Interest Income (NII) is only expected to decline in 2022, with ongoing challenges such as increased competition from non-banks possibly further impacting profitability. Furthermore, higher loan loss provisions – particularly in the first half of 2020 – were reported as a result of the pandemic-driven recession, which also reduced substantially the profitability of euro area banks. Indeed, the ROE decreased by 4.0 percentage points to 1.3%.

3 Ibid.
From a geopolitical perspective, the transition period for Brexit ended in 2020, with a deal struck between the UK and the EU. This agreement enabled the two parties to continue trading, following the resolution of major stumbling blocks, such as the issues concerning UK fishing rights and the borders between the Republic of Ireland and Northern Ireland, among others. In addition, a new president was elected in the US, with the transition of power being concluded, despite some adversities. This has led geopolitical uncertainties to decrease somewhat, though renewed tensions stemming from the strained relations with China and some vaccine hesitance in the take up or slow rollout may represent downside risks to the growth outlook.

**Domestic Developments**

Similar to other euro area countries, the impact of the pandemic has been concentrated in some sectors of the Maltese economy. Indeed, the services sector was more adversely affected by the social restrictions. Malta's economy swung from a real GDP growth of 5.5% in 2019, to a contraction of 7.8% in 2020. Tourism is a significant contributor to the Maltese economy and as several restrictions on international travel were implemented both in Malta and source markets, the number of air passengers arriving in Malta decreased substantially by 77% over 2019.4 Similarly, the closure of maritime ports also restricted some trading and passenger activities. In line with other European countries, the Maltese Government implemented support measures also targeting NFCs operating in the most impacted sectors of the economy.

The Maltese Government had ample fiscal space to finance support measures to counteract the effects brought about by the pandemic. However, these resulted in sovereign debt increasing significantly, up by 12.3 percentage points to 54.3% of GDP. According to the Central Bank of Malta projections, this is expected to rise further, but remain well positioned thanks to the benign pre-pandemic levels. The consolidated private debt-to-GDP ratio also rose, reaching around 135%, driven by both higher indebtedness and a contraction in GDP. These increasing debt levels were mainly driven by higher corporate debt, which rose by 8.9 percentage points to almost 82% of GDP, while household debt-to-GDP increased by 5.8 percentage points to reach almost 55%. Despite the increase, private sector indebtedness remained below the euro area average, indicating a more contained level of risk.

The Malta Development Bank (MDB) COVID-19 Guarantee Scheme (CGS) was crucial in keeping credit flowing into the economy providing the necessary liquidity support for private corporations, as banks increased their resident customer loans by 7.3% in 2020. The total loans disbursed under the scheme amounted to €287.1 million by the end of 2020, contributing to 5.9 percentage points of the 9.6% growth registered in resident customer loans (see Chart 1.4).5 While necessary for the sustainability of the economy in the face of such kind of shock, the scheme inevitably contributed to strengthen the links between the Government, banks and NFCs given that the Government provides partial guarantees on loans granted under the scheme. However, the CGS covers 90% of each facility, capped at half of the loan portfolio volume, thus providing a level of risk-sharing.

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4 Source: Malta International Airport.
5 Source: Economic Update 2/2021, Central Bank of Malta. As at March 2021, the total sanctioned amount stood at €439.6 million while the disbursed amount stood at €354.9 million. Source: Economic Update 5/2021, Central Bank of Malta.
A complementary measure that helped borrowers in their liquidity management was the introduction of loan moratoria, with resident loans captured under such measures reaching a peak of €1.8 billion in July 2020. Since then, outstanding moratoria embarked on a declining trend, ending the year at €695.6 million or almost 6% of overall resident customer loans. Outstanding moratoria continued to decrease during the start of 2021. The accommodation and food services activities sector remained one of the sectors that benefitted the most from the moratoria, reflecting the impact of the containment measures (see Box 6).

Meanwhile, mortgage lending growth moderated to 6.7%. Property price growth also decelerated to 2.4%, the slowest rate in the past six years. Property price growth started to decelerate prior to the pandemic but the uncertainty surrounding the COVID-19 pandemic added further downward pressure. Nonetheless, a consistent positive trend in property sales during the first months of 2021 implies more positive expectations with regards to the property market. Lending standards for property-related loans also tightened somewhat, as banks maintained a conservative approach to this lending segment. In this regard, risks stemming from the real estate market are seen to be somewhat limited despite lending to the property market remaining an important share of the domestic lending.

The policy response to the pandemic, particularly the wage supplement scheme and the guaranteed loans and moratoria, managed to contain the impact on asset quality for the year under review. In fact, the NPL ratio increased by just half a percentage point to 3.5%. Despite the timing issue related to existing loans still under moratoria during 2020, the decline observed past the peak of July 2020 indicates that certain sectors, such as households, were resilient enough for most of them to resume payments with limited detriment to asset quality. A number of banks were nevertheless proactive by reviewing their loan portfolios. This resulted in loans classified as IFRS Stage 2 to grow by about 80% to represent 10.6% of the total loan book. This also brought about with it an increase in provisions, which overall rose by around 35%, largely driven by higher Stage 3 provisions. Although this points to an expected deterioration in asset quality as moratoria continue to expire, the coverage ratio strengthened further to around 57%.

Nonetheless, such developments have significantly impacted banks’ profitability, where the increase in net impairment charges, together with lower gross income, resulted in the post-tax return on equity (ROE) of banks to decrease by 6.4 percentage points to 0.4%. Capital and liquidity were largely unaffected with the total and Common Equity Tier 1 (CET1) capital ratios increasing to reach 25.7% and 21.8% respectively, while the liquidity coverage ratio (LCR) ratio stood at 332.8%. Chart 1.5 shows the distribution between the 10th and 90th percentile, and the median for selected key risk indicators.

The pandemic also had implications on the insurance and investment funds sectors, with the former reporting a significant drop in profitability, driven by lower investment income particularly in the first quarter of 2020. The drop was significant in the life insurance sector, as underwriting performance was also negatively impacted through lower premia and higher claims. Meanwhile, in the case of the non-life sector, the drop in profitability was less pronounced, as lower claims and higher premia were reported.

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6 IFRS Stage 1 loans refer to loans where no significant increase in credit risk has been reported since their initial recognition. Stage 2 loans are loans which have reported a significant increase in credit risk since initial recognition, but are still not considered as credit-impaired. Stage 3 loans refer to loans whose credit risk increased to the extent that they are considered credit-impaired.
The volatility in global financial markets highlighted above also took its toll on the domestic investment funds sector, especially on equity funds, whose assets decreased markedly. However, the low leverage of domestically-relevant investment funds, together with their relatively high liquidity, made them resilient to such external shocks, with no major redemptions reported.

Looking ahead, pressures on profitability are expected to persist, as medium-term challenges from the low-interest rate environment will be complemented by continued pressure stemming from the pandemic. This will particularly be the case if the economic recovery is delayed. Another source of risk in this regard could be the further deterioration in asset quality despite the observed increase in provisioning by banks. This indicates the importance for banks to consistently monitor their viability assessment of their loan portfolio. New shocks which are currently not accounted for in the market could also result in the reassessment of risk. This could also negatively impact investment income, not only related to banks, but also the wider financial system including insurance companies and investment firms.

Table 1.1
SUMMARY OF RISKS

<table>
<thead>
<tr>
<th>Main vulnerabilities and risks for the financial system</th>
<th>Type of risk</th>
<th>Nature of risk</th>
<th>Change in risk level since FSR 2019</th>
<th>Risk assessment one year ahead</th>
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<tr>
<td>Vulnerabilities within the financial system</td>
<td></td>
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<tr>
<td>Credit quality of the loan portfolio</td>
<td>Credit/Profitability</td>
<td>Cyclical/ Structural</td>
<td>↑</td>
<td>↑</td>
</tr>
<tr>
<td>Concentration in sectoral lending</td>
<td>Credit</td>
<td>Structural</td>
<td>↔</td>
<td>↔</td>
</tr>
<tr>
<td>Developments in bank credit growth</td>
<td>Credit</td>
<td>Cyclical/ Structural</td>
<td>↔</td>
<td>↑</td>
</tr>
<tr>
<td>Interlinkages between banks and the non-bank financial sector</td>
<td>Contagion</td>
<td>Structural</td>
<td>↑</td>
<td>↔</td>
</tr>
<tr>
<td>Operational risk</td>
<td>Contagion</td>
<td>Structural</td>
<td>↑</td>
<td>↔</td>
</tr>
<tr>
<td>Developments related to net income</td>
<td>Profitability</td>
<td>Cyclical</td>
<td>↑</td>
<td>↑</td>
</tr>
<tr>
<td>Domestically-relevant Insurances</td>
<td>Liquidity/Solvency/ Profitability</td>
<td>Cyclical/ Structural</td>
<td>↑</td>
<td>↔</td>
</tr>
<tr>
<td>Domestically-relevant Investment funds</td>
<td>Credit/Solvency/ Profitability</td>
<td>Cyclical/ Structural</td>
<td>↑</td>
<td>↑</td>
</tr>
<tr>
<td>Vulnerabilities outside the financial system</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domestic macroeconomic developments</td>
<td>Credit/Profitability</td>
<td>Cyclical</td>
<td>↑</td>
<td>↔</td>
</tr>
<tr>
<td>Real estate market developments</td>
<td>Credit/Contagion</td>
<td>Cyclical</td>
<td>↑</td>
<td>↔</td>
</tr>
<tr>
<td>Exposures of the financial sector to domestic sovereign</td>
<td>Profitability/Contagion</td>
<td>Structural</td>
<td>↑</td>
<td>↑</td>
</tr>
<tr>
<td>Economic conditions in the euro area and public debt sustainability</td>
<td>Credit/Profitability</td>
<td>Cyclical</td>
<td>↑</td>
<td>↔</td>
</tr>
<tr>
<td>Geopolitical uncertainties</td>
<td>Contagion</td>
<td>Structural</td>
<td>↓</td>
<td>↔</td>
</tr>
<tr>
<td>Prolonged low interest rate environment</td>
<td>Profitability</td>
<td>Cyclical</td>
<td>↔</td>
<td>↔</td>
</tr>
<tr>
<td>Reassessment in risk premia</td>
<td>Profitability</td>
<td>Cyclical</td>
<td>↑</td>
<td>↔</td>
</tr>
<tr>
<td>Risk position</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate</td>
<td></td>
<td>Increased risk</td>
<td>↑</td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td></td>
<td>Stable risk</td>
<td>↔</td>
<td></td>
</tr>
<tr>
<td>Elevated</td>
<td></td>
<td>Decreased risk</td>
<td>↓</td>
<td></td>
</tr>
</tbody>
</table>
Progress in digitalisation, which was accelerated as a result of the pandemic, brought with it additional operational risks as the possibilities of cyber-attacks increased. This required additional investment to ensure that the materialisation of such risks is mitigated as much as possible. Other operational challenges include those related to correspondent banking, where de-risking by foreign international banks led to a reassessment of their business strategy, particularly towards smaller jurisdictions such as Malta given that the low volumes do not justify risk-adjusted returns.

Internationally, focus on climate risk has revved up, highlighting possible challenges to the financial system should one fail to address such risks. These risks vary from physical risks related to the occurrence of more frequent natural disasters, to transition risks should policies, technology or public acceptance change significantly to the extent that ‘brown’ high-carbon sectors become less desirable, impacting the value of such exposure. While a harmonised taxonomy is still being developed at the European level and more transparency is being called for, financial services entities need to keep abreast of such developments to ensure that the necessary frameworks and policies are in place.
2. Developments in the Banking Sector
2. DEVELOPMENTS IN THE BANKING SECTOR

The banks domiciled in Malta remained generally well-capitalised and highly liquid. The crisis brought about by the pandemic has significantly affected their profitability, with some reporting losses as a result. Nonetheless, the level of lending remained generally stable, as the drop in non-resident loans was largely offset by higher resident lending, in part aided by the MDB CGS. Concurrently, the spread of the pandemic resulted in some weakening in asset quality which triggered a significant increase in provisions and a strengthening in the coverage ratio. Government support measures including government-guaranteed loans and bank moratoria have been an important source of liquidity for businesses. Banks’ balance sheets expanded mainly owing to a large increase in deposits. As demonstrated in Chapter 3, in general, banks remained resilient to potential severe shocks including those which could be triggered by the pandemic. Chapter 5 highlights the policies implemented by the Bank in its role of macroprudential authority, with specific references to COVID-19 related measures. Going forward, it is key that banks’ balance sheets remain healthy.

BOX 1: THE CATEGORISATION OF BANKS ACCORDING TO DOMESTIC RELEVANCE

Background
The categorisation of banks according to domestic relevance was first introduced in the Financial Stability Report 2011 with the classification of such banks last updated in the 2014 edition of the Report. Since then, although the classification of banks has been monitored regularly using the same methodology, no reclassifications of banks were warranted. More recently, the methodology was slightly updated to better reflect the domestic relevance of banks in the financial system. Following this change in methodology, the classification exercise was conducted again to compare and analyse any changes resulting from this review in the methodology.

Main changes in the Central Bank of Malta’s methodology for classifying banks
The current methodology is an indicator-based exercise that classifies banks according to their linkages with the domestic economy, and hence their possible systemic impact on the financial system, should an institution-specific adverse event occur. It incorporates five indicators with respective weightings, reflecting the importance of such indicators to determine domestic relevance (see Figure 1).

Figure 1
CATEGORISATION OF BANKS – INDICATORS AND WEIGHTING

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit to residents</td>
<td>30%</td>
</tr>
<tr>
<td>Resident deposits</td>
<td>30%</td>
</tr>
<tr>
<td>Holdings of domestic bonds</td>
<td>13.3%</td>
</tr>
<tr>
<td>Resident contingent liabilities</td>
<td>13.3%</td>
</tr>
<tr>
<td>Market capitalisation</td>
<td>13.3%</td>
</tr>
</tbody>
</table>

1 This Box was prepared by Christian Mamo, a Senior Economist within the Financial Stability Surveillance and Research Department of the Central Bank of Malta.
3 Since the last update, some banks closed down, while another bank started operations.
### Table 1
**BUSINESS MODEL AND COVERED DEPOSITS CRITERIA**

<table>
<thead>
<tr>
<th></th>
<th>Core Domestic Banks</th>
<th>Non-Core Domestic Banks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Business Model Criteria</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resident Lending bank (x)/Total Loans bank (x)</td>
<td>≥ 50%</td>
<td>≥ 25%</td>
</tr>
<tr>
<td>and/or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resident Deposits bank (x)/Total Deposits bank (x)</td>
<td>≥ 50%</td>
<td>≥ 25%</td>
</tr>
<tr>
<td>and</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Covered Deposits Criteria</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Covered Deposits bank (x)/Total DCS fund</td>
<td>≥ 100%</td>
<td>≥ 50%</td>
</tr>
</tbody>
</table>

The revised methodology is more sensitive to the holdings of capital instruments listed on the Malta Stock Exchange (MSE). The previous methodology took into consideration all the banks’ bonds and shares issued on the MSE, without distinguishing between resident and non-resident holders of such securities. In this regard, it also captured non-resident investors. However, given that the aim of this exercise is to classify banks according to their linkages with the domestic economy and potential propagation of risk on the domestic financial system and economy, the indicator was updated to capture solely domestic investors, such as resident corporates, households’ and other domestic financial institutions. The indicator-based exercise is then executed on the basis of the above-mentioned five indicators, arriving to a domestic systemic score used to classify banks into the respective categories.

A major aspect of the updated methodology is the inclusion of a second step that focuses on business models in borderline cases, where the extent of the banks’ domestic relevance is assessed. This is of utmost importance for a borderline bank, which is classified in between categories of banks and may have increased its systemic relevance but its main business is still predominately carried out with non-residents, and therefore its domestic relevance remains limited. Thus, for the business model indicators, the updated methodology considers two variables, namely, the extent of resident lending and deposits. As indicated in Table 1, specific thresholds are set, conditional to at least one of the variables meeting the set criteria. In addition, the entity must also meet a criterion related to its relative importance in terms of covered deposits under the Depositor Compensation Scheme (DCS).

The methodology also caters for banks that fall in between categories. For a bank to be classified as a core domestic bank, it should have at least one of the two business model indicators exceeding 50% while covered deposits must be at least equal to the overall fund (100%). On the other hand, for a bank to be considered as a non-core domestic bank, at least one of the two business model indicators should exceed 25%, with the covered deposits to be at least 50% of the fund (see Table 1). Any updates to the classification shall be backdated to the time when the relevant bank had started its operations.

### Results
Based on the updated methodology, the current six core domestic banks were re-confirmed. These banks have the most significant linkages with the domestic economy, and hence are the most systemically relevant. In addition, Merkanti bank, which to date was classified as an international bank, will be categorised as a non-core domestic bank (see Table 2). This reclassification was due to increased links with the domestic economy, mainly through the bonds listed on the MSE, which are mostly held by residents. The €25 million bond was issued in 2019 by Merkanti Holdings plc, of which €4.5 million were earmarked to be utilised as a subordinated loan to Merkanti Bank to qualify as Tier 2 capital. Additionally, €10.5 million of these bonds were deposited with Merkanti Bank, contributing in part to the increase in its resident deposits. 4 Resident loans also increased significantly since end

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4 Out of the total €25 million issued, only €4.5 million are considered within the market capitalisation indicator. The €10.5 million deposited within the bank are not considered within this indicator, as these are included together with other resident deposits. Meanwhile the remaining funds are not related to Merkanti Bank, and thus not considered for classification purposes.
2.1 Core Domestic Banks
Despite the economic downturn and uncertainties generated by the pandemic, the balance sheet of core domestic banks expanded by 4.2% to €25.7 billion, or just over 200% of GDP in 2020. Such growth was primarily driven by higher holdings of government debt securities which rose by almost a fifth to represent 14.5% of total assets (see Chart 2.1). This reflected opportunities for banks to employ excess liquidity to purchase debt issued by Government as it sought to finance COVID-19 support measures (see securities portfolio section). Meanwhile, holdings of other securities predominately of corporates, and to a lesser extent of banks, fell, despite remaining an important element in their securities portfolio. Customer loans

<table>
<thead>
<tr>
<th>Core domestic banks</th>
<th>Non-core domestic banks</th>
<th>International banks</th>
</tr>
</thead>
<tbody>
<tr>
<td>APS Bank plc</td>
<td>FCM Bank Limited</td>
<td>AgriBank plc</td>
</tr>
<tr>
<td>Bank of Valletta plc</td>
<td>FIMBank plc</td>
<td>Akbank T.A.S (Branch)</td>
</tr>
<tr>
<td>BNF Bank plc</td>
<td>IIIG Bank (Malta) Limited</td>
<td>CommBank Europe Limited</td>
</tr>
<tr>
<td>HSBC Bank Malta plc</td>
<td>Izola Bank plc</td>
<td>Credit Europe Bank NV (Branch)</td>
</tr>
<tr>
<td>Lombard Bank Malta plc</td>
<td>Merkanti Bank Limited</td>
<td>Credorax Bank Limited</td>
</tr>
<tr>
<td>Medirect Bank (Malta) plc</td>
<td>Sparkasse Bank Malta plc</td>
<td>European Depositary Bank SA (Malta Branch)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ECCM Bank plc</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ferratum Bank plc</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NBG Bank Malta Limited</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Novum Bank Limited</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Turkiye Garanti Bankasi A S (Branch)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yapi Kredi Bank Malta Limited</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total assets (EUR millions) December 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>25,726</td>
</tr>
<tr>
<td>3,053</td>
</tr>
<tr>
<td>11,579</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total assets (% share of GDP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>200.6</td>
</tr>
<tr>
<td>23.8</td>
</tr>
<tr>
<td>90.3</td>
</tr>
</tbody>
</table>

Sources: Central Bank of Malta; NSO.
continued to grow, supported by the MDB’s CGS. This asset component accounted for almost half of the balance sheet of these banks, reflecting the predominant retail banking model within this category.

Similar to previous years, the growth in placements with the Central Bank of Malta remained strong, despite the negative interest rate on the ECB’s deposit facility and increased issuance of government bonds, reflecting banks’ ample liquidity (see Chart 2.2).1 For the second consecutive year, interbank activity declined, largely driven by one bank’s reduced placements with UK entities. Other assets, including fixed and intangible assets, fell for the first time in years, down by 14% to account for a relatively minor share of the balance sheet.

2.1.1 Profitability
Despite exhibiting declining profitability rates for several years, largely as a result of the prolonged low interest rate environment and flat yield curves, core domestic banks have managed to contain the pandemic-related shock by maintaining relatively healthy net interest rate margins, while concurrently exploiting the volume effect stemming from the expansionary phase of the economy. The onset of the pandemic caused lower credit demand, and hence slower loan growth, coupled with an increasing share of government bonds, and a higher savings rate has led to higher placements with the Bank, which are charged at a negative rate. Heightened economic uncertainties and market volatility also led to lower investment returns, as well as higher expected credit losses for banks owing to the pandemic, which in turn, were reflected in higher provisioning. All these factors contributed to a significant drop in the core domestic banks’ profitability, with one bank even registering a loss. As a result, aggregate pre-tax profits recorded during the previous year were almost completely wiped out, to stand at just €5.5 million, down from almost €200 million. Further to this, the loss reported by the same-mentioned bank pushed the aggregate post-tax ROE and return on assets (ROA) into negative territory for the first time to stand at -0.27% and -0.02%, respectively (see Chart 2.3). Excluding this bank, the profitability levels of the remaining core domestic banks would be in line with European

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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.
banks, which also registered weaker profitability with the ROE and ROA standing on average at 2.0% and 0.13%, respectively, by the end of the year.²

A significant increase in net impairment charges was the primary contributor to the plummeting profits, as these rose from as little as half a million euro in 2019 to over €150 million by end-2020 (see Chart 2.4). This crucial development is predominantly related to the economic uncertainty brought about by the COVID-19 outbreak, with banks prudentially factoring in such concerns in terms of the substantially higher-than-expected credit losses (ECL) (see Section 2.1.3).³

Adverse developments were reported for all the remaining components of profits, except for non-interest expenses which decreased by about 12%. This was partly due to a reversal of a one-off litigation provision which had been allocated by one bank in 2019 as, otherwise, the drop would have been limited to 6.7%. Overall staff expenses declined on account of lower headcount, mainly reflecting the one-off retirement scheme offered by one bank. Fees and commissions payable also fell along with other administrative expenses.

Operating income declined largely due to the increased placements with the Eurosystem, as these are charged a negative rate. Although holdings of bonds increased, banks reported lower NII from their securities portfolio, with such income retreating by almost a fifth. Other NII from intermediation, excluding placements with the Eurosystem, rose by 3.5%, reflecting both higher NII from corporates, as well as from households, although to a lower extent. Despite the narrower interest rate margins, largely from lower interest rates on corporate loans, lending volumes grew. On aggregate, the weighted average interest rate on loans fell at a faster pace than that on deposits, standing at 3.4% and 0.2%, respectively, from 3.6% and 0.3% in 2019. In light of these developments, total NII decreased by 2.5% for the first time in three years, although it still accounted for the main source of income, representing almost three-fourths of the banks’ gross income.

Dividend income from subsidiaries and other associated companies suffered a significant drop. This was in part affected by the decision of supervisory authorities to postpone dividend payments, and also due to revaluation losses suffered by both subsidiary insurance companies and investment funds, following some adverse market movements. The lower spending on consumer goods driven by the economic uncertainty, coupled with the partial lockdown, also meant lower card use and payment business. This, in turn, negatively affected fees and commissions income. Nonetheless, the latter remained an important source of revenue, accounting for more than three-fourths of non-interest income. Market volatility – particularly during the first months of the pandemic – affected banks’ trading profits. This was reflected in unfavourable fair value (FV) movements on their financial assets and lower gains on foreign exchange dealings.

In terms of cost efficiency, lower operating income more than outpaced the improvement in operating expenses, resulting in a deterioration of the operational cost-to-income ratio by 2.0 percentage points to 68.2% in 2020, somewhat higher than the EU average of about 65%.⁴

³ The fact that ECL are estimates based on expert opinions and assumptions, implies that deterioration in the profitability relating to higher impairments is still not a materialised loss.
⁴ See footnote 2.
2.1.2 Credit Dynamics

The spread of the pandemic also changed the dynamics in the banks’ resident loan book. Despite rising by 6.6%, the growth in resident mortgages slowed down during the year to a more sustainable growth compared to the 10.3% recorded in 2019 (see Chart 2.5). Such developments were triggered by an initial slower demand for house purchases, in part driven by the partial lockdown and increased economic uncertainty. Consumer credit fell by 7.4%, following the short positive bout at the end of 2019. Indeed, during lockdown, banks reported a significant increase in deposits, as households were partly forced to save more due to the containment measures and were also more cautious with their spending owing to the heightened uncertainties spurred by the evolution of the pandemic (see Section 2.1.3).

In contrast, NFC credit picked up momentum, up by 6.8% in 2020. Such expansion was primarily driven by higher growth in loans granted to private NFCs, particularly towards the accommodation and food services, construction and real estate activities sectors, to finance working capital requirements (see Chart 2.6). Growth was supported by the MDB CGS, with the accommodation and food services sector benefitting the most. Consequently, the share of this sector in the banks’ resident loan book rose, but remained contained at 4.4%. Although wholesale and retail trade was the second sector which benefited most from the MDB CGS, overall resident loans to this sector still fell on an annual basis due to redemptions which outpaced such new loans. Without the scheme, resident loans would have risen by 4.7% while resident NFC loans would have increased by 1.9%.5

Notwithstanding, the loan book of these banks remained concentrated in mortgages representing just over a half, followed by the construction and real estate sector at 13.3%.

2.1.3 Asset Quality

Non-performing loans

NPLs increased across almost all of the core domestic banks in 2020, up by around a fifth. Such deterioration was largely driven by higher non-resident NPLs which rose by almost 70%, with their share advancing by

5 From April 2020 to December 2020, the total cumulative amount disbursed by the MDB CGS to core domestic banks amounted to €253.9 million.
7.3 percentage points, to just over a quarter of overall NPLs in 2020 (see Chart 2.7). This was predominantly driven by one bank’s corporate sector exposure. At the same time, resident NPLs also rose by 9.4%, largely driven by higher consumer credit and corporate NPLs. In the latter case, this increase was mainly attributable to the accommodation and food services, and real estate activities.

In light of these developments, the overall NPL ratio deteriorated slightly, by 0.5 percentage point to 3.7% in 2020 (see Chart 2.8).6 This was exclusively driven by a higher non-resident NPL ratio which rose from 4.1% in 2019 to 8.2% in 2020 due to both higher outstanding non-resident NPLs and a decline in non-resident loans. On the other hand, the resident NPL ratio remained stable at 3.1% following some offsetting developments in the NPLs and the loan portfolio, respectively. The NPL ratio for resident NFC loans remained stable at 7.5% in 2020. In contrast, the NPL ratio for resident household loans worsened by 0.3 percentage point to 2.8%. This was entirely due to higher mortgage NPLs, resulting in the mortgage NPL ratio to increase by 0.4 percentage point to 2.2%. Otherwise, the NPL ratio of resident consumer credit improved by 0.4 percentage point to 5.8%. Meanwhile, the NPL ratio for other financial corporates improved by 0.5 percentage point to 1.8% in 2020.7

The pandemic-triggered economic shock caused credit risk to increase as the creditworthiness of some borrowers in hard-hit sectors deteriorated. Core domestic banks recorded higher Stage 2 loans which indicated an increase in credit risk for loans which are not yet classified as non-performing. Stage 2 loans grew more than two-fold to 12.1% of the loan portfolio (see Chart 2.9).

### Loan loss provisions

In line with higher NPLs and expected credit losses, core domestic banks stepped up their provisions – which rose by just over a half. This reflected not only increased provisions for loans classified as non-performing (Stage 3), but also in line with estimates based on expected credit loss which resulted in higher

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6 The NPL ratio stood above the EU banks’ average NPL ratio of 2.6% (as at 2020 Q4). Source: EBA Risk Dashboard.

7 ‘Other financial corporates’ refer to financial corporates other than central banks, general governments and credit institutions.
precautionary provisions for loans with no change in credit risk (Stage 1) and those which – although risk increased – are still not classified as non-performing (Stage 2) (see Chart 2.9).8

In line with the higher provisioning, the coverage ratio improved by a considerable 9.6 percentage points to 52.5% (see Chart 2.10). This resulted from increased specific (Stage 3) and collective (Stages 1 and 2) coverage ratios, which both rose by about 5 percentage points to 33.1% and 16.5%, respectively. On the other hand, the Reserve for General Banking Risks, as per Banking Rule 09/2019, declined by 5.7%, shaving 0.8 percentage point from the overall coverage ratio. Meanwhile, collateral backing NPLs declined by 3.8% to account for just over half of NPLs. Notwithstanding, when considering collateral together with provisions, NPLs are fully covered, limiting credit risks on banks’ balance sheets.

In light of these developments, the cost of risk (COR), which is the cost of managing risk and incurring losses, increased by 0.9 percentage point to 1.1% as total provisions increased at a faster pace than total loans.9 This is higher than the 0.8% average for EU banks.10

**Loan exposures with forbearance measures**

Forborne loans went up by just over a third to account for 3.0% of loans and advances. This increase was mainly driven by forbearance measures administered on loans which are still performing. These more than doubled to account for just 41.2% of forborne loans (see Chart 2.11). The bulk of forborne loans, however, remained classified as non-performing, which rose by 7.5% in 2020.

Although core domestic banks were proactive, should the economic recovery take longer to materialise than expected, further provisioning may be required to reflect a further potential increase in credit risk. This highlights the importance for core domestic banks to keep the momentum on the viability assessment of their

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8 Total loans exclude placements with the Central Bank of Malta.
9 COR is estimated as the change in allowances and provisions as a ratio of total loans subject to impairments.
11 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).
loan portfolio and the corresponding provisioning needs. This could also result in further pressure on their profitability going forward.

**The securities portfolio**

The bond portfolio of core domestic banks rose by 5.6%, to account for just over a fifth of their balance sheet. During the year, the structure of the bond portfolio also changed, as this group of banks increased their exposures in domestic sovereign bonds by just over 37%, to account for more than a third of their bond portfolio (see Chart 2.12). Holdings of foreign sovereign debt remained almost unchanged and was concentrated in highly-rated euro area countries. Despite the higher exposure to domestic government paper, this only accounted for 8.0% of total assets, up by almost 2 percentage points over the previous year. Furthermore, the Maltese economy is expected to recover in 2021, with all major credit agencies affirming positive sovereign credit ratings with stable outlook (see Chapter 1).\(^\text{12}\) Meanwhile, holdings of both foreign non-bank corporate and bank bonds retreated from 2019 levels, albeit still accounted for 12.4% and about 20% of the total bond portfolio, respectively. Minimal changes were noticed in holdings of domestic securities issued by banks and non-bank corporates, as these remained the least preferred investment class in their bond portfolio.

Despite the high volatility in the equity market during 2020 amid the pandemic, equities held by these banks remained fairly stable on a monthly basis, up by a marginal 0.3% to about €460 million or 1.8% of total assets. Around 43% of the equity portfolio remained invested in equities of domestic corporates and, to a lower extent, in domestic investment fund shares.

**Securities asset quality**

In 2020, the quality of the bond portfolio deteriorated somewhat as holdings of high-rated bonds declined by 12.0% to represent just over a third of the bond portfolio. This reflected a shift towards medium-rated bonds which increased by 29.6% to account for more than half of the bond portfolio (see Chart 2.13). Furthermore, low-rated bonds also increased by almost a fourth, although their share in the bond

\(^{12}\) As at December 2020, Malta’s credit rating from FitchRating, S&P Global Ratings, Moody’s and DBRS Morningstar stood at ‘A+’, ‘A-’, ‘A2’ and ‘A’ respectively; outlook stable.
portfolio remained limited to 4.4%. Such rebalancing in the securities portfolio may in part indicate a possible search-for-yield behaviour by some banks. Unrated bonds declined by 33.6%, as their share in the bond portfolio fell by 3.4 percentage points to 5.8% by end-2020. The core domestic banks did not record any non-performing securities with their non-performing exposures (NPE) ratio still contained at 2.8%, 13

2.1.4 Funding and Liquidity

Customer deposits
Financing almost 83% of their balance sheet, customer deposits remained the main funding source for the core domestic banks. These grew by 6.6% compared to 3.8% in 2019 largely on the back of higher demand deposits which rose by 10.3%. Meanwhile, fixed-term deposits continued to decline.

Resident customer deposits rose by 7.9%, particularly due to higher inflows of household deposits which went up by 8.8% to finance just over half of overall assets (see Chart 2.14). During the height of the partial lockdown, resident household deposits picked up momentum as households stepped up their savings – possibly also for precautionary reasons. It should be noted that, however, even when restrictive measures were eased, these extraordinary deposits were not withdrawn, and deposits continued to grow. Volatility in financial markets may have resulted in households moving away from riskier asset classes into safer instruments awaiting better investment opportunities. Unlike previous years when the growth in deposits from resident private NFCs was mute, such deposits grew by 10.8% in 2020, accounting for 14.0% of customer deposits, suggesting that corporates postponed investments in new business ventures amid the uncertainties revolving around the pandemic. Meanwhile, other resident customer deposits increased marginally to approximately 11% of customer deposits (see Chart 2.15). 14, 15

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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, insurance corporations and pension funds (ICPF), non-MMF investment funds, other financial intermediaries (OFI), financial auxiliaries (FA) and captive financial institutions and money lenders, and public non-financial companies (NFC).
15 Other resident customer deposits increased from deposit inflows of the general government, ICPF’s, OFIs and FAs, captive financial institutions and money lenders.
In contrast, non-resident customer deposits fell by 5.8% in 2020, mainly on the back of lower inflows from OFIs and FAs. These developments reflected the continued de-risking by some banks and their commitment to focus on the domestic market. As a result, the share of non-resident customer deposits contracted by 1.1 percentage points to 8.4% of total customer deposits in 2020 (see Chart 2.15), financing 6.9% of the core domestic banks’ assets.

**Eurosystem and wholesale funding**

Spurred by the core domestic banks’ ample liquidity and the new collateral-easing measures adopted by the ECB to aid banks to increase credit, Eurosystem funding was only tapped by two banks during 2020.16 Indeed, as at end 2020, Eurosystem funding stood at €13.5 million, accounting for just 0.1% of total liabilities in 2020. This was due to the participation of one bank in a TLTRO-III operation. Meanwhile, during the second quarter of the year, another bank made use of a €50 million LTRO, which was not rolled over. Eligible Eurosystem debt securities on banks’ balance sheets amounted to almost €4 billion, of which 91.1% are unencumbered.

Recourse to the wholesale market remained limited. Interbank exposures (excluding repos) decreased, reflecting lower non-resident intragroup lending and funding from other unrelated credit institutions. Funding through repos with unrelated credit institutions rose by almost 60%, yet this still accounted for a mere 1.5% of the overall funding. Furthermore, debt securities issued and ‘other liabilities’ declined by 5.5% and 7.3%, respectively, standing at 1.1% and 4.1% of liabilities, in 2020.

**Liquidity**

Although the liquidity coverage ratio (LCR) of core domestic banks declined by around 15 percentage points to 328.3%, these banks continued to maintain ample liquidity buffers in 2020 (see Chart 2.16). Indeed, liquid assets surged by 12.7% on the back of higher investments in domestic government paper and withdrawable central bank reserves, which remained the most preferred liquid assets. The drop in the LCR was motivated by increased net liquidity outflows which outpaced liquid assets for most core domestic banks. Moreover, the customer loan-to-deposit

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16 In April 2020, the ECB adopted a package of temporary collateral-easing measures to facilitate the availability of eligible collateral for Eurosystem counterparties to participate in liquidity-providing operations, such as the targeted longer-term refinancing operations (TLTRO) III. The package is complementary to other measures previously announced by the ECB, including additional LTROs and the PEPP as a response to the coronavirus emergency.
ratio for core domestic banks stood at 58.4% in 2020, 1.1 percentage points lower than in 2019, but remained below the euro area average of approximately 96%.17

During 2020, central bank-eligible counterbalancing capacity (CBC) assets declined by 7.5% to €2.8 billion, representing 11.0% of the core domestic banks’ assets compared to 12.3% in 2019.18 As a result, the central bank-eligible share of CBC amounted to 1.1 times the total LCR net cash outflows, down by 0.3 percentage point when compared to 2019.

2.1.5 Capital and Leverage
Core domestic banks entered the pandemic with healthy capital ratios, which continued to strengthen in 2020. In fact, Tier 1 capital rose by 1.7% in 2020, which resulted in a Tier 1 capital ratio of 18.5%, 0.9 percentage points higher than in 2019, maintaining some level of voluntary buffers (see Chart 2.17).19 In addition, Tier 2 capital also improved by almost a fifth as one bank reported an increase in eligible subordinated debt after tapping the market, offsetting the contraction reported by the other banks. As a result of such developments, total own funds for core domestic banks rose by around 4% to €2.3 billion by end 2020. Meanwhile, total risk-weighted assets (RWA) dropped by 3.4% resulting in the Total Capital Ratio to rise to 21.6% in 2020 from 20.1% in 2019.

The ratio of RWA to total assets, which gives an indication of the riskiness of the assets held by banks, declined by 3.3 percentage points to 42.9% (see Chart 2.18). The decline in RWA was mainly coming from lower credit risk on loans to corporates and institutions, in part driven by the increase in loans under the MDB CGS which require lower risk weights given the guarantee in

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17 Source: ECB Statistical Data Warehouse (SDW).
18 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.
19 This considers Basel III phase-in arrangements and the additional capital add-ons highlighted under the Capital Requirements Directive (CRD) IV including the capital conservation buffer, which stood at 2.5 percentage points on the Tier 1 capital ratio for 2020; the Other Systemically Important Institutions buffer; and Pillar II requirements which include the capital buffer arising from the Supervisory Review and Evaluation Process (SREP) and guidance levels. Moreover, the Countercyclical Capital Buffer has remained unchanged at 0% (Refer to https://www.centralbankmalta.org/countercyclical-capital-buffer).
place. Notwithstanding, credit risk exposures still represented the largest component of RWA. Meanwhile, RWA earmarked for operational risk also declined marginally and accounted for 8.8% of RWA. Risks arising from credit valuation adjustments and other risk exposures also contributed positively to lower RWA, while – on the other hand – foreign exchange and commodities risks increased. However, all these components remained minimal in the composition of RWA.

The leverage ratio, a non-risk-based solvency ratio, declined marginally to 7.6% by end of 2020, yet still well above the 3% minimum requirement stipulated in the Capital Requirements Regulation (CRR). This reflected the growth in assets, which were largely of lower risk weight.

### BOX 2: BANK LENDING SURVEY RESULTS

The Bank, as a member of the European System of Central Banks, carried out the Bank Lending Survey (BLS) each quarter to assess developments on credit supply and demand conditions for enterprises and households for 2020, and expectations for 2021Q1. The Survey also incorporates several ad hoc questions to analyse the impact of various measures, including but not limited to, those relating to the pandemic. Across the euro area, 143 banks participated in the 2020 survey rounds, of which four were Maltese. The latter accounted for about 93% of total resident bank credit in Malta. This Box gives an account of the results of the local surveys conducted by the Bank and compares such outcomes with the collective replies of other euro area countries.

#### Credit supply conditions

For the first time in three years, some easing in corporate credit standards on loans to NFCs was reported in the second quarter of 2020 (see Chart 1). Such easing reflected the measures introduced to support the economy, particularly the implementation of the MDB CGS, which enabled banks to ease their credit standards coupled with the introduction of moratoria. This scheme provides guarantees to banks when lending to corporates for working capital requirements and when faced with acute liquidity shortages owing to the pandemic. In contrast, euro area banks tightened corporate credit standards particularly during the second half of 2020 owing to weakened economic activity, specifically in some sectors, and lower risk tolerance by these banks.

Domestic BLS banks also reported an easing in their corporate credit terms and conditions in the second quarter of 2020, on the back of narrower margins on average loans, longer maturities, lower non-interest rate charges and eased collateral requirements, which in part reflected the implementation of the MDB CGS and the introduction of moratoria measures (see Chart 2). Meanwhile, euro area banks reported some tightening in the overall corporate terms and conditions due to heightened risk perceptions, lower risk tolerance and, to a much lower extent, reflecting the increased banks’ funding costs and balance sheet constraints. This mainly led to tightened collateral requirements and wider margins.

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1. This Box was prepared by Shaun Zaffarese, a Financial Analyst within the Financial Stability Surveillance and Research Department of the Central Bank of Malta.
2. 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.
3. The BLS data for all euro area countries are published on the ECB’s SDW.
Tightened credit standards were reported for mortgages by domestic participant banks (see Chart 1). This was mainly the case in the second quarter of 2020 as the pandemic outbreak led to a deterioration in the general economic situation, with the tightening in the fourth quarter reflecting concerns on housing market prospects, borrowers’ creditworthiness and thus lower risk tolerance by the banks. No further changes were anticipated at that time for the first quarter of 2021. Similarly, euro area banks also reported tightened mortgage credit standards, driven by the same factors as reported by the domestic BLS banks. However, in January 2021, euro area banks expected a further tightening for the first quarter of 2021.

Domestically, overall credit terms and conditions for mortgages eased prior to the pandemic, on the back of narrower average loan margins in the first quarter of 2020 due to competitive pressures (see Chart 2). In subsequent quarters, mortgage terms and conditions remained unchanged on balance, as loan margins were eased due to higher competitive pressures, but later in the year loan-to-value (LTV) ratios were tightened due to heightened risk perceptions and lower risk tolerance owing to the pandemic. In the euro area, overall mortgage terms and conditions continued to tighten during 2020, particularly as the pandemic resulted in higher risk perceptions and lower risk tolerance. Euro area banks reported lower LTV ratios, reflected in wider margins on riskier loans, more stringent collateral requirements, shorter maturities and reduced loan size limits.

Credit standards for consumer credit and other lending to households tightened both domestically and in the euro area (see Chart 1). In Malta, banks reported significant tightening except in the third quarter of 2020, where on balance, credit standards were eased to support those households that suffered loss of income amid the pandemic. The factors contributing to the tightening reflect prospects of deteriorated creditworthiness of the borrowers on the back of weakened economic activity,
resulting in lower risk tolerance by banks. Meanwhile, euro area banks tightened credit standards further in 2020 owing to anaemic economic activity and borrowers’ credit-worthiness concerns, which triggered lower risk tolerance by banks. At the time of the survey, such tightening was anticipated to persist through the first quarter of 2021.

Domestically, banks were keener on changing credit standards rather than terms and conditions on consumer credit and other lending to households. This is also equally true for euro area banks. In Malta, terms and conditions for consumer credit were somewhat eased in the second quarter of 2020 with one bank reporting narrower margins on average loans, less strict collateral requirements, larger credit limits and longer maturities to aid customers mostly hit by the pandemic (see Chart 2). On the other hand, euro area banks tightened throughout the year, with lower credit limits, wider margins particularly on riskier loans, tighter collateral requirements and shorter maturities reported on the back of heightened risk perceptions and lower risk tolerance.

Credit demand conditions
In Malta, demand for corporate loans increased, as higher short-term loans for inventories and working capital needs were observed in the second quarter of 2020, coupled with higher demand for long-term loans for corporate debt financing in the third quarter. These more than offset the drops reported in the first and last quarter of 2020 (see Chart 3).\(^5\) The higher liquidity needs reflected the negative financial impact of the pandemic, as restrictions posed by the Government to limit the COVID-19 spread led to the temporary closure of many businesses. Such demand was being met by the MDB CGS (see Chapter 1). At the same time, domestic banks, on balance, anticipated a marginally lower demand for corporate loans in 2021Q1, due to prevailing uncertainties and also partly due to a lower base effect.

Replies at the euro area level largely mirrored domestic developments, with an overall increase in the demand for corporate loans on the back of higher short-term liquidity needs for inventories and working capital, as well as for debt refinancing, mainly in the first half of 2020.

Domestic demand for mortgages declined in the first half of 2020, maintaining the trend that was already present in the second half of 2019 (see Chart 4). This mainly resulted from weaker housing market prospects and deteriorated consumer confidence. Furthermore, loss of household income by some individuals and the temporary closure of bank branches brought about by the partial lockdown inhibited the ability to process requests and contributed to lower demand.

\(^5\) The increase in corporate loan demand was partly offset by lower fixed investment in the first quarter of 2020 due to the initial stages of pandemic uncertainties, and also lower needs for working capital in the last quarter of the year due to a base effect caused by the abnormally high demand reported in this regard in previous quarters.
Meanwhile, during the second half of 2020, mortgage demand showed some tentative signs of recovery as housing market prospects and consumer confidence both improved in line with increased promises of sale following the end of a partial lockdown in June, as well as the Government’s temporary reduction in stamp duty rates on property purchases (see Chapter 1). With regards to expectations for the first three months of 2021, most of the domestic BLS banks indicated that they do not anticipate any material developments, except for one bank which expected a further increase in the demand for mortgages. This reflected the tentative signs of an economic recovery driven by renewed hope on the roll out of the vaccination programme.

Euro area banks’ net demand for mortgages turned negative particularly in the second quarter of 2020, driven by lower consumer confidence triggered, in turn, by the intensification of the pandemic and the subsequent lockdowns. However, demand turned positive again in the second half of 2020, supported by the low level of interest rates and, to a lesser extent, the impact of housing market prospects. At the time of the survey, euro area banks expected mortgage demand to experience a further marginal decline in the first quarter of 2021.

Demand for consumer credit and other lending to households in Malta also suffered a significant drop in the first six months of the year, driven by the effects of the containment measures introduced at that time (see Chart 5). In the third quarter, spending on consumer goods resumed as containment measures were gradually lifted, but remained stable in the last quarter of 2020. In the January 2021 survey round, a slight pickup in demand was once again expected for the rest of the quarter. Banks in the euro area also reported lower demand for consumer credit and other household lending, particularly in the

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**Chart 4**

**MORTGAGE CREDIT DEMAND**

(+ indicates increase/ - indicates decrease)

<table>
<thead>
<tr>
<th>Factors</th>
<th>Mortgage credit demand</th>
<th>Housing market prospects</th>
<th>Consumer confidence</th>
<th>Regulatory and fiscal regime</th>
<th>Debt refinancing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic replies</td>
<td>Domestic expectations</td>
<td>Euro area replies</td>
<td>Euro area expectations</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: 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)

<table>
<thead>
<tr>
<th>Factors</th>
<th>Consumer credit demand</th>
<th>Consumer confidence</th>
<th>Spending on durable consumer goods</th>
<th>Loans from other banks</th>
<th>Internal finance out of savings</th>
<th>Other sources of income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic replies</td>
<td>Domestic expectations</td>
<td>Euro area replies</td>
<td>Euro area expectations</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sources: ECB; Central Bank of Malta calculations.

Note: The impact of factors relate solely to the domestic consumer credit demand.
second quarter of 2020, largely reflecting the stringency of the containment measures and their impact on consumption. In the second half of the year, demand remained relatively stable but was expected to increase slightly in the first quarter of 2021.

Other information from ad hoc questions
Throughout 2020, domestic BLS banks reported higher access to retail funding, largely from higher short-term deposits. The uncertainty created by the pandemic as well as the impact of stringent containment measures contributed to higher precautionary and forced savings, which in turn led to higher bank deposits. Such trend was expected to persist also over the first quarter of 2021. Lower debt securities issued and funding through the unsecured money market was reported, with one bank also expecting the latter to persist into the first quarter of 2021. Euro area banks indicated that their access to retail funding improved during 2020, as well as for the very short-term interbank unsecured money market, but deteriorated for the short-term inter-bank unsecured money market. Access to funding via wholesale debt securities and securitisation of loans also weakened.

Domestically, the majority of the BLS participant banks reported that the ECB’s asset purchase programme (APP) and the PEPP had no impact on their business in the first quarter of 2020. Meanwhile, in the second and third quarter of the year, the APP resulted in a slight decrease in sovereign bond holdings, and with it NII. Concurrently, the liquidity position improved further, although this contributed to higher financing costs given that the proceeds were deposited with the Bank at a negative rate. Looking ahead, at the time of the survey, none of the domestic BLS banks expected any changes for the last quarter of 2020 and first quarter of 2021. Euro area banks reported that the APP contributed to higher assets, improved liquidity and capital levels, and better market financing conditions, but profitability for euro area banks weakened through lower NII. Furthermore, euro area banks reported eased terms and conditions, and higher lending volumes for all loan categories also as a result of the APP and PEPP.

With regards to the ad hoc question treating the impact of the negative deposit facility rate (DFR), some domestic participant banks reported that this contributed to lower reported profitability in the last quarter of 2019 and for the first three quarters of 2020, with some banks also reporting that it contributed to lower lending and/or deposit rates. The negative DFR resulted in narrower margins, lower non-interest rate charges, which, however, were compensated for by higher loan and deposit volumes. Meanwhile, on balance, non-interest rate charges on household deposits remained unchanged during the six months ending March 2020. Going forward, during the six months ending 2021Q1, Maltese banks expected that the DFR would result in higher loan and deposit volumes and dampened profitability. On the other hand, the ECB’s two-tier system had a positive impact on domestic BLS banks’ profitability owing to higher NII. Such development was expected to continue until March 2021. Euro area banks reported that in the four quarters to September 2020, the DFR mainly contributed to lower profitability through lower NII, reduced lending and deposit rates, as well as narrower margins for all loan categories. The two-tier system had a positive impact on profitability, mainly through increased NII and, to a much lower extent, led to improved liquidity and market financing conditions.

Throughout the year ending September 2020, none of the domestic BLS banks participated in the March and September TLTRO III operations, however, the participation in future operations is being considered by some banks quoting attractive financing conditions which would improve profitability through the purchase of domestic sovereign bonds and other financial assets, as well as improved credit intermediation. Meanwhile, about one-third of euro area banks participated in both the March and September TLTROs, mainly due to attractive conditions and to secure financing given the uncertainty of financial markets. The share of banks which planned to participate in future TLTROs declined

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6 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.

7 The 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%.
from about half of the banks in 2020Q1 to less than one-fifth of the banks in 2020Q3, with those which planned to participate quoting profitability and precautionary motives and, to a lower extent, the need to meet regulatory and supervisory requirements. Such funding would be used towards granting loans to the non-financial private sector, holding liquidity with the Eurosystem, and the substituting of maturing debt securities, interbank lending and TLTRO II funding. In 2020, euro area banks reported that TLTRO III operations positively impacted the banks’ financial situation and led to higher lending volumes to enterprises.

The BLS also looked into the impact of NPL ratios on lending policies. Domestic BLS banks reported no changes in their lending policy owing to changes in NPLs, although some tightening of credit standards, and terms and conditions for corporate loans is being anticipated during the first half of 2021 through higher costs related to its capital position, increased pressure from supervision, and also a lower risk tolerance. Euro area banks tightened their credit standards, and terms and conditions for loans to enterprises and consumer credit, on the back of higher risk perceptions related to the general economic outlook and borrowers’ creditworthiness, and lower risk tolerance by the banks.

On balance, domestic banks reported that new regulatory and supervisory requirements led to higher retained earnings and capital requirements coupled with increased assets and risk-weighted assets. Such impact is expected to persist in 2021, with some respondents also mentioning that risk-weighted assets are expected to decline. Meanwhile, euro area banks reported a strengthening in their capital position, with total assets, risk-weighted assets and liquid assets also increasing. Euro area banks indicated that regulatory or supervisory actions had a strong easing impact on their funding conditions, and some tightening on their credit standards across all loan categories in 2020.

A new question introduced in the July 2020 BLS round assessed developments in lending standards and demand at a sectoral level. On balance, domestic BLS banks reported eased terms and conditions in almost all of the main economic sectors, except for commercial real estate loans. Heterogeneity among banks was present in the developments reported on credit demand. During the first half of 2020, offsetting developments in demand were reported in the construction and real estate loans, while others reported higher demand for loans related to manufacturing, but lower demand for loans in the services sector. In the second half of the year, demand for real estate loans declined, while higher demand for loans in manufacturing, services and construction sectors was reported by some banks. For the first half of 2021, at the time of writing, two banks expected lower demand across the main economic sectors.

Euro area banks tightened credit standards, and terms and conditions across all the main economic sectors during 2020. Demand increased for lending towards wholesale and retail trade, services, manufacturing and construction, particularly in the first half of 2020. Otherwise, demand for real estate loans declined for euro area banks, both for commercial and residential real estate.

The survey introduced a question to assess qualitatively the impact of COVID-19 support measures. Domestic respondents reported positive impacts emanating from eased lending standards for enterprises, as well as from the higher corporate credit demand that was stronger in the second half of 2020. The demand arose mainly to cover liquidity needs but also requests for precautionary reasons. Meanwhile, expectations for the first half of 2021 indicate that corporate terms and conditions, and demand were expected to remain generally the same at the time of the survey, with some marginal tightening in credit standards possible on an aggregate basis. Euro area banks reported tightened lending standards and higher demand for corporate loans due to such guarantees, particularly in the first half of the year which were mainly used to cover acute liquidity needs, to act as a precautionary liquidity buffer and as a substitution of existing loans.

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Note 1: The main economic sectors refer to manufacturing, construction and real estate, services (excluding financial services), and wholesale and retail trade.
2.2 Non-core Domestic Banks

Following the review of the methodology to categorise Maltese banks (see Box 1), the number of institutions falling within the non-core domestic banks’ category increased by one to six. Over the year, these six banks’ total assets expanded by 3.6%, to account for 24.0% of GDP. This stemmed predominantly from higher placements with the Bank, which rose annually by 17.0%, reflecting the ample liquidity of this segment of banks, as deposits continued to grow. In addition, non-core domestic banks stepped up their investments in Malta Government Stocks (MGS). This reflected a substitution towards Maltese assets as their holdings of foreign assets declined by 7.5%, albeit these still accounted for around half of their overall assets. Consequently, the business model of this group of banks is becoming increasingly more exposed to the domestic economy.

The expansion in total assets was predominantly financed by higher participation in open market operations, as some banks continued to tap Eurosystem funding, with some also resorting to the pandemic emergency longer-term refinancing operations. Retail funding also grew, mainly reflecting higher non-resident customer deposits.

2.2.1 Profitability

For a number of years, the business model of non-core domestic banks was also challenged by the prolonged low interest rate environment, enhanced regulation, and higher staffing and administrative costs. While these banks entered the pandemic better capitalised and more liquid, the scale and duration of the pandemic intensified challenges to profitability, with losses reported by two of the banks, predominantly due to lower income and higher net impairment charges (see Chart 2.19). The rest of the banks reported positive returns, though generally lower than in the previous year. This resulted in the post-tax ROE and ROA to turn negative to -12.6% and -1.4%, respectively, from a positive return of 11.0% and 1.3%, a year earlier.

Net impairment charges more than doubled over 2019, increasing across almost all banks in this group. This highlights the repercussions brought about by the pandemic, where banks had to reassess the viability of their loan exposures and adequately provide for those that faced actual or potential increase in credit risk. These banks also registered negative returns on their main revenue streams, with total gross income falling by 48.8% over a year ago. Such a drop stemmed mainly from a significant decline in non-interest income as one bank reported a large drop in dividends received following the high levels reported in 2019. Other non-interest income also fell, driven by some losses incurred in their trading portfolio during 2020. NII dropped by 21.9% over 2019, however, its share in total gross income increased by 16.5 percentage points to around 48% in 2020. Such a drop reflected lower NII from intermediation activities, which fell by more than a third, driven predominantly by narrower interest margins on foreign-denominated customer loans issued to NFCs and OFIs. At the same time, the negative rates on Eurosystem placements also contributed negatively to profitability. Meanwhile, NII earned on their securities portfolio increased further by 14.9%, reflecting higher income from sovereign bonds. This partly reflected the banks’ attempt to seek higher holdings of bonds to diversify further their portfolio, particularly during the market volatility caused by the onset of the pandemic.

![Chart 2.19 MAIN COMPONENTS OF PROFITS – NON-CORE DOMESTIC BANKS](image-url)

Source: Central Bank of Malta.

Note: Grey bars indicate pre-tax profits in absolute amounts. Teal (positive) and red (negative) bars indicate yearly changes in profit components. NII stands for net interest income.
Non-interest expenses rose by 5.8% over 2019, owing to higher staff and other administrative expenses. The lower income streams combined with higher operational costs drove the cost-to-income ratio to 95.5% from 47.0% in 2019.

### 2.2.2 Credit Dynamics

Customer lending by the non-core domestic banks rose by 4.3% over 2019, accounting for almost a third of their balance sheet. The expansion in the customer loan portfolio was driven by a 12.8% increase in NFC loans, to account for more than half of the customer loan book. Such loans continued to be largely concentrated in the wholesale and retail trade, as well as in the construction and real estate sector (see Chart 2.20). Household loans grew by 7.6% due to higher consumer lending. Yet such type of lending still accounted for a small share of their customer loan book. In contrast, loans to the non-bank financial sector fell by 5.7% over 2019, but still represented a significant portion of these banks’ loan portfolio.

Resident customer loans rose by more than a quarter to account for just below a third of their customer loan portfolio (see Chart 2.21). The participation of these banks in the resident retail market was most noticeable in the NFC sector, where resident NFC lending also grew by just under a quarter. This was significantly driven by the banks’ participation in the MDB CGS, which represented about half of the net increase in resident NFC loans, with the share rising by 0.6 percentage point to 4.6% of the overall resident NFC loans in the Maltese banking system. This suggests that reduced credit demand from non-residents was substituted by higher resident loans, mostly towards NFCs (see Chapter 1). These banks also reported higher consumer loans, up by 7.9% over 2019. The increase in resident lending, while important from a business model perspective, still portrayed a limited penetration rate, since the share of resident customer loans in overall resident lending of the banking sector remained contained at just 2.8%.

Meanwhile, non-resident customer loans fell by 4.3%, largely driven by lower lending to OFIs which dropped by 12.1%. This was partly offset by higher non-resident customer lending to NFCs specialised in the energy-related activities, mining and quarrying, and construction sectors.

By year end, interbank placements declined by 31.4% over 2019, accounting for 9.7% of total assets in 2020. This contraction was...
mainly driven by lower placements with both foreign and unrelated resident banks, while placements with related foreign institutions increased by almost 30% over a year ago. Still, interbank placements with related parties are limited to 16.6% of overall placements and financed just 1.6% of their balance sheet.

2.2.3 Asset Quality

The loan portfolio
The quality of the non-core domestic banks’ loan book deteriorated further in 2020, with one bank reporting a significant increase in NPLs. As a result, the overall NPL ratio increased by 1.7 percentage points to 7.1% in 2020, exclusively driven by higher non-resident NPLs, which rose by 43.2% over 2019, accounting for the bulk of NPLs. The increase stemmed mainly from NFCs operating in the wholesale and retail trade, and manufacturing which were particularly badly-hit by the pandemic. Such exposures accounted for more than three-quarters of the banks’ overall non-resident NPLs. Meanwhile, resident NPLs dropped by almost a third, pushing down the resident NPL ratio by 0.8 percentage point to 1.1%. Such fall comes mainly on the back of lower non-performing loans to OFIs, NFCs operating in the wholesale and retail trade as well as in the administrative and support service activities, and households. The deterioration of the loan book as a result of the spread of the pandemic is visible from the increase in Stage 3 loans which rose by 28.2% over 2019 to represent 12.3% of the loan book. Furthermore, the deterioration in asset quality also resulted in higher Stage 2 loans with their share increasing by 1.3 percentage points to 8.0% in 2020 (see Chart 2.22). Nonetheless, around 80% of loans are in the form of Stage 1 loans.

In line with the rise in NPLs, provisions rose by 52.2%, pushing up the total coverage ratio by 6.6 percentage points to 47.7% in 2020. Such increase was driven by higher Stage 3 provisions which rose by 54.9% to account for most of the provisions. Meanwhile, Stage 1 provisions rose by around 67% over 2019 to account for 4.2% of total provisions, whereas Stage 2 provisions fell by 9.5% to represent the remaining 2.9% in 2020.

Loans with forbearance measures declined by around 41%, to represent a marginal share of 0.5% of the loans portfolio. Such loans were all classified as non-performing by end 2020.

The securities portfolio
The securities portfolio of the non-core domestic banks grew by 11.0%, pushing up its share in their overall assets by 1.7 percentage points to 26.3% in December 2020. The expansion stemmed predominantly from higher bond holdings, which rose by 47.4% to account for almost three-quarters of the total securities portfolio with the remaining being equity holdings and participation in investment funds.

The growth in the bond portfolio was mainly driven by higher holdings of domestic sovereign bonds, which more than doubled over 2019, as these banks participated in the Treasury’s new bonds issued to fund fiscal support measures during the COVID-19 pandemic (see Chart 2.23). Consequently, the concentration of MGS in their total bond portfolio increased from 16.8% in 2019, to around a third in 2020. Meanwhile, investments in domestic corporate bonds remained contained, with the drop in domestic NFC bonds generally offset by higher bank bonds. Despite the increased participation in the local market, foreign bond holdings remained the focus of these banks, which grew by 18.5% over 2019, driven by higher investments in foreign...
NFCs and banks, up by 163.8% and 76.3%, respectively. This suggests an increased search-for-yield behaviour by these banks, as they disposed of a significant share of their foreign sovereign bond holdings, particularly US Treasuries and UK sovereign bonds.

The credit rating of the bond portfolio improved somewhat over the previous year, mainly driven by higher investments in MGS. As a result, the bond portfolio is largely composed of medium-rated bonds, which more than doubled over 2019, accounting for almost half of the total bond portfolio in 2020. Investment in high-rated bonds also increased by almost a fifth, yet its share dropped annually by 9.9 percentage points to 40.8% in 2020, given the higher holdings of MGS. On the other hand, these banks reported lower investments in low and unrated bonds, with their share of total bond portfolio declining to 2.9% and 7.0%, respectively.

Equity holdings fell by more than a third accounting for 6.8% of their total assets. This was driven particularly by the disposal of one bank’s holdings in non-money market funds (non-MMF). At the same time, investments in money market funds (MMF) also declined, although to a lower extent. Foreign equity holdings fell by 7.3%, driven predominantly by lower direct holdings and, to a lower extent, MMF as well as non-MMF funds.

2.2.4 Funding and Liquidity

The uncertainty brought about by the COVID-19 pandemic triggered greater inflows of customer deposits as economic agents postponed consumption and investment decisions partly because they were constrained to do so because of the containment measures, and also because of precautionary motives. Customer deposits grew by 4.6% to finance around 71% of the balance sheet (see Chart 2.24). Deposits from non-resident households and OFIs went up by 6.7% and 9.6%, respectively. Meanwhile, deposits from non-resident private NFCs fell by 18.0%, largely from the administrative and support services activities as well as the information and communication sector.

Resident customer deposits grew by 1.6% in 2020, on the back of higher deposits from OFIs and NFCs, while deposits from resident non-MMF investment funds and households declined. Systemic relevance remained contained, however, as their share of the overall resident customer deposits in the Maltese banking sector stood at just 2.4% in December 2020.
During 2020, interbank funding fell by more than a third, predominantly driven by foreign unrelated banks and to a much lesser extent by resident unrelated banks. This was partly offset by higher intragroup funding, which more than doubled over 2019, exclusively driven by one bank, yet such funding still accounted for around 9% of total interbank funding. In contrast, non-core domestic banks tapped further into supportive financing operations, with Eurosystem funding increasing by more than threefold over 2019. This was attributable to some banks’ participation in the pandemic emergency longer-term refinancing operations to benefit from favourable funding conditions. Furthermore, other banks continued to tap the TLTRO III, as well as the one-week US dollar funding operations. As at end 2020, reliance on Eurosystem funding financed 6.2% of total assets, up from 1.6% in the previous year.

The non-core domestic banks continued to operate with ample liquidity, however their LCR fell by almost 50 percentage points to 325.4% in December 2020, owing to faster increase in liquidity outflows compared to liquidity inflows. Liquid assets also rose mainly owing to higher withdrawable central bank reserves.

2.2.5 Capital and Leverage
Although profitability of the non-core domestic banks deteriorated, their capital position remained robust in 2020. Both the total capital ratio and Tier 1 Capital Ratio improved by 1.0 and 1.0 percentage points, respectively, to 20.2% and 19.9% (see Chart 2.25). The improvement stemmed mainly from lower risk-weighted assets, which dropped by 18.5% over 2019, as otherwise total own funds fell by 14.2%, driven by lower Tier 1 capital. The risk profile of these banks improved, with the share of RWA on total assets narrowing from 61.1% in 2019 to 49.0% in 2020. This is mainly attributed to lower credit risk exposures, driven in turn by lower exposures towards collective investments undertakings and retail exposures, partly reflecting some banks’ participation in the MDB CGS, whereby such loans benefit from lower risk weights (see Chart 2.26). Other components of RWA remained contained, with operational risk exposures decreasing by 12.2%, while risk exposures towards FX and other commodities increasing by around 9.1%. The leverage ratio fell by 1.5 percentage points, yet at 9.6%, it stayed comfortably above the regulatory minimum.
2.3 International Banks

As at end 2020, 12 institutions were classified as international banks, of which four are branches of foreign banks, with the rest being either subsidiaries of foreign banks or stand-alone banks. The overall assets of this group of banks shrank further by 14.4% to 91.1% of GDP, almost exclusively driven by the branches. Excluding these branches, the assets of the remaining banks rose by 1.1%, equivalent to 19.6% of GDP.

This category of banks is characterised by a diverse array of business models ranging from trade financing and factoring, payments and settlements, wealth management, as well as lending to both international retail and wholesale borrowers. Reflecting these internationally-oriented business models, only 6.0% of their assets are domestic. Meanwhile, intragroup funding remained the preferred source of funding for the branches of foreign banks, whereas the other banks tended to rely more on customer deposits.

2.3.1 Profitability

Despite the challenging environment and increased uncertainty brought about by the pandemic, the overall profitability of international banks improved, with pre-tax profits strengthening by almost 70% to just above €300 million. This was mainly attributed to the branches whose profitability more than doubled, pushing their overall post-tax ROA to 2.1% in 2020 from 0.8% in 2019. Although the remaining banks reported a 6.7% increase in their pre-tax profits to €72.5 million in 2020, post-tax, their profitability rates dropped to 2.5% (ROA) and 6.2% (ROE).

The increase in profits stemmed from NII which rose by almost 50% to represent almost two-thirds of total gross income by end 2020 (see Chart 2.27). The latter reflected higher NII from intermediation as a result of lower interest expenses and intragroup placements particularly by the branches. This positive effect from lower placements was partly offset by a drop in interest income from their lending portfolio. Meanwhile, other NII sources, such as these banks’ investment portfolio decreased by more than a third, predominantly from the branches of foreign banks, as these continued to shed part of their securities portfolio during 2020.

Non-interest income strengthened by 3.8%, driven predominantly by higher fees and commissions on trade finance and retail banking by subsidiaries of foreign banks or stand-alone banks, as otherwise non-interest income earned by the branches of foreign banks declined by around a quarter, mainly on the back of lower trading profits.

The international banks reported an overall drop of 3.6% in net impairment charges, though such a decline is specific to some subsidiaries of foreign banks, as otherwise the remaining international banks reported higher net impairment charges, particularly by the branches of foreign banks which reported an increase of 7.1% in their net impairment charges.

Non-interest expenses rose by 13.8%, owing to higher administrative and other expenses by subsidiaries of foreign and stand-alone banks, thus contributing negatively to profits. On the other hand, the branches of foreign banks reported a 10% annual drop, driven by lower administrative expenses. The overall cost efficiency of this group of

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Data on Satabank plc is excluded from 2018 onwards following the Malta Financial Services Authority’s (MFSA) decision to appoint a competent person in October 2018. Its licence was subsequently withdrawn on 30 June 2020.
banks improved, owing to higher operational income, with the cost-to-income narrowing from 39.9% in 2019 to 35.1% in 2020.

2.3.2 Credit Dynamics
Continuing on its declining trend, the customer loan book of international banks contracted by 13.3% to just about 44% of assets in 2020. The drop reflected lower NFC loans and, to a much lower extent, loans to OFIs, which fell by 17.2% and 3.9%, respectively compared to 2019. Loans to NFCs were almost exclusively granted to foreign companies, predominantly in the transportation and storage sectors, construction and real estate activities, and manufacturing (see Chart 2.28). Meanwhile, household loans, mainly consumer credit, expanded by 13.4% to account for some 6% of overall customer loans in 2020, suggesting that these banks assisted foreign households, who may have been experiencing financial challenges as a consequence of the COVID-19 pandemic.

Resident customer loans declined by a further 14.2% over a year ago to just 0.3% of the loan portfolio, chiefly due to lower loans to resident companies in the transportation and storage sector.

Interbank placements with related credit institutions declined by a significant 40.0% to just a quarter of interbank funding, mainly driven by developments within branches. Such a decline contributed to the contraction in the banks' balance sheet. Placements with unrelated credit institutions dropped by a more contained 12.2%.

2.3.3 Asset Quality
The loan portfolio
During 2020, the stock of NPLs fell by 11.5% mainly reflecting lower resident NPLs of OFIs, which fell by more than three-quarters over 2019. Resident NPLs however continued to represent a marginal share of overall NPLs, decreasing to less than €10 million with the resident NPL ratio standing at 1.1% in December 2020. Non-financial corporate NPLs, mainly to foreign customers operating in the transportation and storage sectors and the wholesale and retail trade sectors also declined. Notwithstanding, the significant drop in overall loans led to a marginal deterioration in the asset quality of the loan portfolio, with the overall NPL ratio rising marginally to 1.9%. Excluding branches, NPLs increased by almost 30%, driven by higher household NPLs, which went up by about two-fifths over 2019, owing to some specific business models which were impacted by the negative repercussions of the pandemic. As at end 2020, non-resident household NPLs represented more than two-thirds of total NPLs, resulting in the household NPL ratio to increase by 4.5 percentage points to 25.4%.

As a result of the above developments, loans classified as Stage 1 and Stage 3 declined. However, loans classified as Stage 2 increased by 11.4%, to represent 7.9% of the loan book in 2020. Overall provisions increased by 3.1%, exclusively due to an increase in provisions for Stage 1 loans, as otherwise, Stage 2 and Stage 3 provisions decreased by 10.8% and 4.8%, respectively, to account for 18.5% and 44.6% of total provisions raised by this group of banks in 2020 (see Chart 2.29). The coverage ratio of international banks

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21 As at end 2020, resident NFC loans issued by international banks represented a mere 0.3% of total resident NFC loans.
strengthened by 12.9 percentage points to 91.4% in 2020, as total NPLs dropped at a faster pace than the decline in provisions.

International banks also reported a decrease in loans with forbearance measures, which fell by 23.0% to account for 3.2% of the total loan portfolio. The vast majority of these loans are classified as performing, with the share classified as non-performing limited to 13.3%, compared to 21.4% in 2019.

The securities portfolio

During 2020, the securities portfolio contracted by 17.4%, to just over a quarter of their total assets in 2020. Such declines reflected the divestments carried out by the branches of foreign banks, as otherwise the remaining banks reported higher investments, up by 8.2%. The overall contraction in the securities portfolio emanated exclusively from lower bond holdings, as otherwise investment in equities increased by 16.6% compared to 2019 (see Chart 2.30). This was due to higher direct holdings, as reported by the subsidiaries of foreign banks, as well as an increase in market prices. Despite increasing, equity investments continued to represent a marginal share of the securities portfolio at 2.2% in 2020, up from 1.5% in the previous year.

Bond holdings fell by almost 18%, mainly reflecting lower investments in foreign sovereigns, largely due to the sustained reduction in exposures to Turkish sovereign paper by the branches of foreign banks. Investments in debt securities issued by foreign banks fell by 18.2% over 2019. On the other hand, investments in NFC debt securities strengthened by 51.7%, pushing the share in the bond portfolio from 2.2% in 2019 to 4.0% in 2020. Although investments in MGS more than doubled, driven by investments from the subsidiaries of foreign banks and stand-alone banks, these still amounted to a marginal share of the bond portfolio.

Despite declining by 7.6%, at almost 80% of the bond portfolio, low-rated investment grade bonds continued to dominate, driven by investment in Turkish sovereigns by the branches of foreign banks. Unrated or speculative bonds declined significantly, lowering the share in the bond portfolio by 9.6 percentage points to 17.2% in 2020. Although the share of high and medium-rated bonds rose by 0.8 percentage point, these accounted for just 3.5% of overall debt securities. Should the branches of foreign banks be excluded, investments by the remaining international banks were mainly in medium- and high-rated bonds.
2.3.4 Funding and Liquidity

The funding structure of this group of banks remained somewhat unchanged from the previous year, with more than half of their overall funding coming from the interbank market. This reflected particularly the business model of the branches of foreign banks, which relied extensively on intra-group funding—especially from their head office (see Chart 2.31). In contrast, the remaining subsidiaries of foreign banks and stand-alone banks have a more diverse funding strategy, with 38.5% of their activities financed by customer deposits, mostly obtained from non-residents, as interbank placements financed a more contained 10.0% of their activities.

In line with the contraction reported in their balance sheet, the overall funding base of international banks dropped, predominantly on the back of lower interbank funding which fell by 26.0% owing primarily to lower intragroup placements of the branches of foreign banks, with the latter representing 82.7% of total interbank funding. Meanwhile interbank funding from other unrelated credit institutions rose threefold to 13.6% of interbank funding and 7.4% of total assets. Such an increase stemmed entirely from the branches of foreign banks as otherwise the remaining banks reported a decline of more than half.

Customer deposits held by the international banks also fell by 29.4%, exclusively driven by the branches of foreign banks, as otherwise the remaining international banks reported higher inflows of customer deposits, up by 20.1% over 2019. The overall contraction in customer deposits stemmed from non-resident deposits of the branches which fell by 81.7%. This was mainly attributable to lower deposits from NFCs which fell by 86.6% compared to 2019. This contraction may reflect the impact of the pandemic on NFCs operating in the most sensitive sectors, such as manufacturing, and wholesale and retail trade. This could have led such companies to dip into past savings for working capital purposes. On the other hand, deposits from non-resident OFIs and households increased by 14.6% and 26.0%, respectively, significantly strengthening their share in total customer deposits from 25.0% and 23.1% in 2019 to 40.5% and 41.2%, respectively.

Meanwhile, resident customer deposits of the banks excluding the branches rose by about 160% compared to 2019, mainly driven by a limited increase in the number of resident NFC deposits, reflecting a relatively low starting base in 2019. Despite rising by 3.3 percentage points, their share in overall customer deposits remained contained to 4.2%. Nevertheless, these financed just 0.4% of total assets in 2020 and accounted for a mere 0.2% of total resident customer deposits in the Maltese banking sector, indicating that links with the domestic economy remained limited and contained. Deposits from resident OFIs and households also increased to represent 4.5% and 0.2% of total customer deposits, respectively.

Most customer deposits are time deposits, which, in turn, limit rollover funding risks for international banks. Nevertheless, demand deposits rose slightly. This may reflect an increased preference by NFCs towards more liquid deposits in response to the uncertainty related to the COVID-19 pandemic.

Although declining by 5.1 percentage points, around three-fourths of overall deposits were denominated in foreign currency, largely reflecting the business conducted by the branches. Despite this apparent exposure to foreign currency, inherent risks are largely mitigated since these banks generally match their foreign cur-
currency liabilities with foreign currency assets. Funding through repurchase agreements increased by 35.1%, driven by higher participation by one of the foreign branches – being the only international bank active in such type of funding in 2020. Meanwhile, funding through the issuance of debt securities decreased substantially compared to the previous year, with only one international bank having issued debt securities in 2020. Similar to previous years, reliance on capital and reserves increased further, with such type of funding amounting to 11.7% of liabilities in 2020.

International banks operating as subsidiaries or stand-alone banks continued to operate on the back of a strong liquidity position, with the LCR for international banks doubling from the previous year, to 685.1%. Such increase was driven by a decrease in net liquidity outflows.

2.3.5 Capital and Leverage

The capital position of the subsidiaries of foreign banks and stand-alone international banks remained resilient in 2020, with the total capital ratio expanding by 5.6 percentage points to 52.8% (see Chart 2.32). Such improvement is mainly attributed to lower RWA, which fell annually by 6.1%. At the same time, total own funds increased, exclusively on the back of higher Tier 1 capital. As a result, the Tier 1 Capital Ratio improved by 5.6 percentage points over 2019, reaching 52.8% in 2020.

The drop in RWA stemmed exclusively from lower credit exposures towards corporates, as otherwise operational and foreign exchange exposures increased by 10.4% and 18.2% compared to 2019, respectively. Nonetheless, the risk profile of this category of banks improved, with the share of RWA on total assets decreasing from 87.1% in 2019 to 81.2% in 2020, as the drop in total assets outpaced the drop in RWA.

The leverage ratio, which is a non-risk-based solvency ratio, improved by 3.1 percentage points, to 41.9%.

![Chart 2.32 Capital and Leverage Ratios - International Banks](chart.png)

Source: Central Bank of Malta.

Note: The leverage ratio using a fully phased-in definition of Tier 1 is based on COREP figures.
3. Stress Tests
3. STRESS TESTS

The Central Bank of Malta conducts regular stress tests and scenario analyses to assess the resilience of the domestic financial system to severe – yet plausible – shocks under different hypothetical scenarios. While continuing to monitor the evolution of the COVID-19 pandemic, the Bank has adapted its stress testing frameworks to be able to assess also the impact of the pandemic on banks’ solvency and liquidity positions. This chapter presents an overview of the methodology and the results of the Macro Stress Testing (MST) framework, which is complemented by sensitivity analyses: two stress testing frameworks that assess the liquidity stance of banks; and the ‘interest rate risk in the banking book’ (IRRBB) framework. These tests have been tailored to address specific risks and may exclude certain banks that fall out of scope of the exercise being conducted.1

The results are benchmarked against the applicable minimum requirements for both solvency and liquidity, and aim to capture the effect of systemic risk, rather than bank-specific risk. Thus, despite the frameworks’ capacity to delve into idiosyncrasies of individual institutions, the analyses may be restricted by subjecting the domestic banking system to a common scenario with similar assumptions and methodologies.

Notwithstanding the severe stress of the MST adverse scenarios, both core and non-core domestic banks demonstrated a high level of resistance to shocks and remained above the minimum Tier 1 capital requirement, although non-core domestic banks would face a higher impact than core domestic banks. The major common source of impact on the solvency position of the two banking categories (international banks are out of scope) is credit risk, paired with its consequent impact on net interest income. Additional losses arise from operational risk and market risk, reflecting the business model of individual banks. The severity of the scenarios considered to test for systemic risk have led to a significant impact on the individual results of a few banks given their idiosyncratic exposure to these sources of risks.

The two liquidity stress tests show that while all three banking categories would survive with ample liquidity during four weeks of persistent deposit withdrawals, the severity of the LCR scenarios also resulted in a significant impact across banks. This is mainly attributable to the reliance of short-term funding as captured in the ratio following the application of much higher outflow rates in adverse scenario 1 when compared to the baseline. Potential individual impacts are detected in other LCR adverse scenarios particularly from the reliance on non-resident term deposits (adverse scenarios 3 and 4) or the withdrawal of commitments (adverse scenarios 5 through 8), albeit with an overall improvement when compared to results published in the Financial Stability Report 2019.

The results of the IRRBB framework show that while the short rate down scenario would have the biggest adverse impact on all three bank categories, all banks would manage to exceed their respective minimum capital requirements.

The aggregate stress test results presented in this chapter show overall strong resilience of the banking sector to a pandemic-induced stress impact and liquidity strains, while highlighting weaknesses in a few banks.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 macroeconomic outlook amid the COVID-19 pandemic and feature a baseline and two adverse scenarios, one being more severe than the other.

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.

2 The Central Bank of Malta 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.
2021-2023 Scenario Design

Baseline: This scenario is based on the June 2021 economic projections published by the Bank as part of the Eurosystem staff macroeconomic projections. In this context, domestic real GDP is projected to grow by 4.9% in 2021, 5.4% in 2022, and 4.7% in 2023 following the significant contraction in economic activity of -7% in 2020. The unemployment rate would decline from 4.3% in 2020 to stabilise at 4.2% in 2021, 2022 and 2023.

Given that dividend income on equity holdings was at an all-time low in 2020, the scenario assumes that dividend income for 2021 to 2023 would amount to 60%, 80% and 100% of the pre-COVID earnings for 2019, respectively. Furthermore, net fee and commission income (NFCI) is assumed to drop by 10% over the entire test horizon.

Adverse: This scenario is based on the Bank’s severe scenario published in the March 2021 economic projections, reflecting that some containment measures would still be in place until the end of 2023, resulting in an increased government expenditure (via healthcare and wage supplement), lower travel exports and slower recovery in global economic activity. Under this scenario, domestic GDP would rise by 3.9% in 2021 and by 4.0% in both 2022 and 2023. The unemployment rate would stand at 4.4% in 2021 and stabilise at 4.3% in both 2022 and 2023.

To further account for uncertainty in the banking sector, this scenario is complemented by exogenous shocks consisting of a 15% drop in banks’ NFCI, an instantaneous shock of 24% on their equity holdings and a gradual but slower recovery in dividend income. Assuming that dividend income requires an additional year to be restored to its 2019 level, under this scenario dividend income for 2021 to 2023 would amount to 40%, 60% and 80% of the pre-COVID earnings for 2019, respectively.

Extremely adverse: This scenario is based on the adverse scenario contemplated in the EBA 2021 EU-wide stress test as a hypothetical shock triggered by the materialisation of systemic risks to which the EU banking system is exposed. Although the EBA scenario is dominated by medium-term vulnerabilities arising from the COVID-19 pandemic, particularly widespread defaults in the private sector, it does not attempt to make any predictions about the evolution of the pandemic. Instead, the severity of shocks applied under this scenario could be attributed to a variety of possible negative outcomes, such as ineffective COVID-19 vaccine distribution across the EU or mutation of the virus. Under this scenario, real GDP growth in the euro area, which declined by -7.3% in 2020, would continue to decline further by -1.5% in 2021, -1.9% in 2022 and -0.2% in 2023. A similar trajectory is provided for EU member states and selected countries. In particular, in the case of Malta, real GDP growth is shocked to drop by -1.8% in 2021 and -2.1% in 2022 and to recover by 0.2% in 2023. This scenario is also complemented by the exogenous shocks assumed for the adverse scenario.

Methodology
The MST framework runs over a three-year time horizon and assumes a static balance sheet. The latter assumption allows for ease of comparison across the results of banks in scope by retaining the same composition of assets and liabilities throughout the test horizon. To satisfy this requirement, instruments which mature between 2021 and 2023 are replaced with similar instruments in terms of type, credit quality and date of maturity as at the start of the exercise. The current framework draws from the methodologies developed for the EBA EU-wide stress testing exercises and the top-down model adopted by the IMF during their 2018 Malta Financial Sector Assessment Program. Moreover, it is assumed that banks registering profits pay out dividends at 15% of pre-tax profits (in line with the MFSA circular dated December 2020), where the latter are subject to the official corporate tax rate of 35%. However, in the case of losses, banks are not allowed to create deferred tax assets and, in line with the communication by both the ECB and MFSA on dividend distribution, dividends are not paid out whenever banks breach the respective overall capital requirement (OCR).

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3 Data on GDP were sourced from NSO News Release 949/2021 published on 1 March 2021.
4 The 2021 EU-wide stress test is being carried out at the highest level of consolidation on a sample of 51 banks (39 from the euro area), covering broadly 70% of the banking sector in the euro area, each non-Eurozone Member State and Norway. Further details are available on the EBA website.
The framework employs five risk modules to quantify the impact from changes in the macroeconomic scenarios onto credit risk, market risk, NII (cost of funding), net trading income and operational risk. The framework is flexible in a way that specific modules can be run on a stand-alone basis, additional modules can be incorporated, and the magnitude of shocks can be easily modified to suit the scenarios being tested. Figure 3.1 presents a schematic overview of the effects of the scenario as quantified by the respective risk module on the banks’ statement of profit and loss (P&L) and balance sheet.

**Overview of Risk Modules**

The **Credit Risk Module** quantifies credit risk arising from the loan book and debt securities. Loan loss impairments are calculated on the unsecured portion of new corporate and household NPLs projected via panel regression models using the main macroeconomic and financial variables defined in the respective scenario (more details in Box 3 of the Financial Stability Report 2018). Impairments on debt securities accounted for at amortised cost (AMC) are quantified on the basis of the expected loss approach, following a three-notch downgrade in the official credit rating. The loss given default (LGD) is assumed at 35% for covered bonds and 40% for all other securities. The calculation of impairments also considers whether banks record a book value which is below par (which can be released to absorb expected losses) or is above par (requiring higher impairments to erase the unrealised gains). Debt securities accounted for at FV are repriced on the basis of the worst valuation haircuts sourced from the most recent and previous editions of the EBA EU-wide stress testing exercises in the case of sovereign bonds, or via the widening of credit spreads for non-sovereign FV securities.\(^5\) The changes in the price of debt securities accounted for at fair value through profit and loss (FVTPL) and the impairments on loans and AMC debt securities are all

\(^5\) The widening of credit spreads is calibrated on the basis of the iTraxx European Senior Financial Index.
recognised in the statement of P&L and thus are subject to taxation, while gains and losses on debt securities held at fair value through other comprehensive income (FVOCI) are reflected in the balance sheet, having a direct impact on capital. In addition, defaults would have an impact on the NII in the P&L account via missed repayments on loans and forgone coupons on debt securities.

The Market Risk Module quantifies the losses that would potentially be incurred following changes in the term structure of interest rates. The profile of the yield curve reacts as a result of changes in both the short-term (overnight) and long-term (10-year) interest rates assumed in the respective scenario. The impact from changes in interest rate structure is two-fold: FV bonds would experience valuation gains or losses owing to the inverse relationship between prices and yields; and coupons earned on both floating rate notes and maturing debt securities (which are rolled over at the new prevailing interest rates) would have a direct effect on the NII. Under both adverse scenarios, equity prices would drop instantaneously by 24% in the first year.

The Net Interest Income Module affects income and expenses from interest-bearing assets (loans and debt securities) and liabilities (mainly deposits) by the shock to interest rates. The assumed shift in the yield curve is only in part translated onto the banks’ interest income and expenses through the application of the respective asymmetric pass-through rates which are sourced from Micallef, Rapa and Gauci (2016). Any interest-bearing 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. All these changes are captured under NII.

The main components of net non-interest income (NNII), such as administrative expenses and staff wages, are assumed to remain constant during the test horizon, due to the static balance sheet assumption. The exceptions are dividend income earned from equity holdings and NFCI. Dividend income is assumed to gradually recover to its 2019 level over the test horizon under the baseline and recover at a slower rate but still not reaching the 2019 level under both adverse scenarios. Specifically, compared to 2019, dividend income for 2021-2023 amounts to 60%, 80% and 100% of the 2019 level, respectively, under the baseline scenario, and 40%, 60% and 80% under both adverse scenarios. Moreover, NFCI is assumed to decline by 10% under the baseline and 15% under the adverse scenarios. The impact arising from NNII is added to the outcome of the NII module and charged directly to the P&L.

The Net Trading Income (NTI) Module quantifies market risk on securities accounted for at FVTPL, 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 included in the P&L account.

The Operational Risk 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 composed of several P&L items, the sum of which is equivalent to the net profit before tax figure. As per Box 32 of the EBA 2021 methodological note, this module calculates a materialisation of losses arising from operational risk equal to 6% of the RI under the baseline scenario and 15% under the adverse scenarios. Moreover, the module accounts for projected losses from pending court cases which are equally distributed over the three-year stress test horizon under the adverse scenario as per paragraph 443 of the EBA 2021 methodology.

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 risk-weighted assets at the end of the test horizon. Both categories of banks experience a positive contribution
from NII and NNII reflecting the positive outlook in the baseline economic projections for the test horizon 2021-2023. Conversely, the largest negative contribution arising from credit risk on the AMC debt securities and the loan portfolio may be attributed to the economic slowdown in 2020 which features in the satellite models with a lag. Non-core domestic banks also experience losses arising from the revaluation losses on FV debt securities following the minor changes in the term structure of interest rates, and need to set aside additional impairments accordingly. Both bank categories experience operational risk losses. While core domestic banks experience an increase in their Tier 1 capital ratio by 0.64 percentage point from 18.64% to 19.28%, non-core domestic banks exhibit a decrease in their Tier 1 capital ratio of 2.04 percentage points from 20.01% to 17.97%, given that profits were insufficient to absorb losses, but remains well above the regulatory requirement of 6%. At an individual bank level, all banks surpass their OCR which consists of a common 6% Pillar 1 requirement, an institution-specific Pillar 2 requirement and the combined buffers.

Charts 3.3 and 3.4 show that the aggregate Tier 1 capital ratios for both bank categories would drop under the 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 4.34 percentage points to reach 14.30% while that of non-core domestic banks falls by 8.56 percentage points to reach 11.45%. Under this scenario, losses for core domestic banks mainly originate from operational risk, which in addition to the 15% of the RI, accounts also for conduct risk. 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. For both bank categories, additional losses would originate from higher levels of NPLs and defaulted bonds that reduce the stream of interest income via missed loan repayments and forgone coupon payments, respectively. This reduction in interest income is reflected in a less positive NII and NNII contribution when compared to the baseline scenario. Moreover, the higher share of defaulted assets is also reflected in the larger impact from credit risk requiring additional impairments charged to the P&L and the application of higher risk weights against these assets. In addition to losses in interest income arising as a consequence of the materialisation of credit risk, NNII is also reduced as a result of the slower recovery in dividend income (40%, 60% and 80% of 2019 dividend income being earned in 2021, 2022 and 2023, respectively) as well as the 15% reduction in NFCI over the test horizon. To note that these results do not consider the potential intervention of policy makers to mitigate the outcome of the adverse scenario by providing supplementary support measures.

Nonetheless, the Tier 1 capital ratio for both bank categories remains well above the 6% minimum requirement. As per the SREP guidelines, the results of an adverse scenario are assessed against the total SREP capital requirement (TSCR), which consists of the common Pillar 1 and individual bank Pillar 2 requirement set by the supervisor for December 2020. While the banking system exhibits resilience under the adverse scenario, specific potential vulnerabilities emerge for two banks which are in essence a result of these institutions’ exposures to specific idiosyncratic risks which are targeted directly by the severe exogenous shocks complementing this scenario.

Charts 3.5 and 3.6 show the results under the extremely adverse scenario. These results build on the assumptions applied in the adverse scenario with more severe macroeconomic shocks considered as per the 2021 EBA EU-wide stress test, that lead to additional loan defaults via the credit satellite models. These defaults translate into higher loan loss impairments and a reduction in interest income from missed loan repayments. The Tier 1 capital ratio for core domestic banks falls by 6.01 percentage points to reach 12.63% while that of non-core domestic banks falls by 10.08 percentage points to reach 9.93%. Due to the

![Chart 3.4](chart.png)

**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)**

<table>
<thead>
<tr>
<th>Component</th>
<th>T1 capital ratio 2020</th>
<th>T1 capital ratio 2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>NII &amp; NNII</td>
<td>20.01</td>
<td>11.45</td>
</tr>
<tr>
<td>Credit Risk</td>
<td>-3.08</td>
<td>-0.44</td>
</tr>
<tr>
<td>Market Risk</td>
<td>25.08</td>
<td></td>
</tr>
<tr>
<td>Operational risk</td>
<td>2.03</td>
<td></td>
</tr>
<tr>
<td>Taxes and dividends</td>
<td></td>
<td>-0.44</td>
</tr>
<tr>
<td>Change in RWA</td>
<td></td>
<td>-2.52</td>
</tr>
</tbody>
</table>
| Source: Central Bank of Malta calculations.

![Chart 3.5](chart.png)

**Chart 3.5**

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

<table>
<thead>
<tr>
<th>Component</th>
<th>T1 capital ratio 2020</th>
<th>T1 capital ratio 2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>NII &amp; NNII</td>
<td>15.64</td>
<td>12.63</td>
</tr>
<tr>
<td>Credit Risk</td>
<td>-3.65</td>
<td>-0.54</td>
</tr>
<tr>
<td>Market Risk</td>
<td>-3.03</td>
<td>-0.50</td>
</tr>
<tr>
<td>Operational risk</td>
<td>-4.34</td>
<td></td>
</tr>
<tr>
<td>Taxes and dividends</td>
<td></td>
<td>-0.54</td>
</tr>
<tr>
<td>Change in RWA</td>
<td></td>
<td>-2.52</td>
</tr>
</tbody>
</table>
| Source: Central Bank of Malta calculations.
stronger impact of the extremely adverse scenario, specific weaknesses emerge for another bank with a very marginal breach of its TSCR by the end of the test horizon.

3.2 Sensitivity Analyses

To complement the MST framework, the following subsections present the results of four sensitivity tests. The first analysis tests for a house price correction while the second tests for a credit quality deterioration in the debt securities portfolio. The third test considers an increase in NPLs upon expiration of COVID-19 related moratoria. The last test combines the two previous scenarios.

3.2.1 House Price Correction

This sensitivity test assesses the impact of exogenous shocks to house prices on the core domestic banks’ balance sheets over a one-year horizon. It is applied to core domestic banks only – given that these are the main mortgage providers. Moreover, the drop in house prices translates fully into a drop in property-related collateral values, which for core domestic banks corresponds to the predominant type of collateral backing loans. The magnitude of the assumed shocks to house prices is determined on the basis of the historical standard deviations of the annual rate of change in the house price index. Furthermore, while non-real estate-related loans are not directly impacted by this shock, this test also applies a simultaneous increase in NPLs in all the sectors through the wealth effect channel. The relationship between the shock to house prices and the increase in NPLs is determined via STREAM, for both households and non-financial corporations (NFCs). While the MST framework adopts shocks to house prices of a magnitude consistent with the macro-scenario contemplated, this sensitivity analysis considers two adverse scenarios. The first applies an exogenous shock of 7.5%, approximately equal to one historical standard deviation of the house price index, paired with an increase in NPLs of 4%. The second more severe adverse scenario applies a 30% drop in house prices, equivalent to around four historical standard deviations, paired with an 18% increase in NPLs. Note that the shock to property prices is rather extreme given that it is applied to collateral values that have already been discounted by haircuts normally applied by banks when approving loans.

The test considers that as collateral values decline, loan loss provisions would have to increase accordingly to satisfy the requirement of full NPL coverage. Furthermore, the NPLs arising from negative wealth effects would lead to a further increase in loan loss provisions. While the increase in provisions is charged to capital, the higher risk weights applicable to newly classified NPLs affect the risk-weighted assets. Therefore, the assumed shocks under this test have an impact on both the numerator (capital) and denominator (risk-weighted assets) of the Tier 1 capital ratio.

Chart 3.7 shows the results of the two adverse scenarios, indicating that core domestic banks would comfortably withstand the severe shocks under both adverse scenarios. The core domestic banks’ Tier 1 capital ratio would fall from 18.64% to 18.01% and 16.96% under adverse scenarios 1 and 2, respectively, thus remaining well above the regulatory Tier 1 requirement of 6%. Indeed, all core domestic banks would
be able to absorb the impact and have a capital ratio which exceeds their respective TSCR, even under the more adverse scenario. Compared to the results in the Financial Stability Report 2019, core domestic banks have improved their capital position and are better placed to withstand these adverse shocks.

3.2.2 Credit Quality Deterioration

This sensitivity test assesses the debt securities portfolios of core domestic, non-core domestic and international banks against a potential deterioration in their credit quality. Given that banks which do not hold any debt securities are not affected by these shocks, such banks are excluded from the test. This test applies the market risk module of the MST in isolation and quantifies credit risk for debt securities held at AMC against a three-notch downgrade in their official credit rating, while sovereign and non-sovereign non-AMC debt securities are assessed via a widening in the credit spread and the application of valuation haircuts, respectively.

As at December 2020, the majority of these portfolios consisted of investment grade (rated BBB- or better) debt securities. Indeed, 100% of core domestic banks’ portfolio, 95% of non-core domestic banks’ portfolio and 89% of international banks’ portfolio are rated at investment grade. This would suggest that the banks still prefer to hold high-quality instruments despite the low yield environment.

The debt securities portfolio structure has remained more or less similar to preceding years, where most of the securities are accounted for either at AMC or FVOCI. Securities accounted for at FVTPL represent a very small share of the banks’ portfolio. To note a slight year-on-year decline in the share of securities accounted for at AMC for core domestic and international banks, from 64% to 61% and from 77% to 74%, respectively, when compared to the December 2019 reference date. Conversely, there was no change for non-core domestic banks, with the share of securities accounted for at AMC remaining at 49%. The share of

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6 The ratings grades are based on an internal index based on the second-best credit rating of the four major external credit assessment institutions (ECAIs): namely Fitch; Moody’s; Standard & Poor’s; and DBRS Morningstar. To note that this is the first instance in which DBRS Morningstar ratings are included, hence the descriptive results on the credit ratings are not entirely comparable to those presented in previous years which were based on the other three ECAIs.
FVOCI securities increased for all three bank categories, while the share of FVTPL securities continued to decrease further, with only 2% of non-core domestic banks’ securities portfolio being accounted for at FVTPL, while the share for core domestic and international banks is negligible.

The quantification of the impact of the credit quality deterioration to AMC and non-AMC debt securities would result in a drop in the Tier 1 capital ratio of 0.99, 1.30 and 0.60 percentage points for core domestic, non-core domestic and international banks, respectively (see Chart 3.8), which also highlights the number of banks in scope of the test. The Tier 1 capital ratio would drop from 18.64% to 17.65%, from 20.01% to 18.71% and from 64.36% to 63.76% for the three respective bank categories. The materialisation of the assumed shocks would leave all three bank categories in a comfortable position to absorb potential losses when compared to the regulatory minimum Tier 1 capital ratio of 6%. At an individual level, all banks in scope would be able to absorb this impact with the resulting capital ratio exceeding the respective TSCR.

3.2.3 Increase in NPLs
This sensitivity analysis assesses the impact on banks’ solvency as at the December 2020 reference date arising from a worst-case scenario in which performing loans with active moratoria in March 2021 to households (mortgages) and the identified productive-sensitive sectors, become NPLs. This test was first introduced as part of the Financial Stability Report 2019 Special Feature with reference date March 2020 and updated in the Interim Financial Stability Report 2020 with reference date June 2020. The analysis makes reference to the 12 productive sectors (as listed in Panel A of the Special Feature) which were assumed to be mostly impacted by the COVID-19 pandemic. Upon classification as NPLs, the eight banks in scope would need to set aside loan loss provisions based on the uncollateralised part of the loans, with these provisions being charged to the P&L. In the case that operating profits for 2020 provide only partial loss absorption, banks would need to release capital to offset the residual losses.

Chart 3.9 shows that in such a scenario, Tier 1 capital ratios would fall from 18.62% to 17.33%, from 21.55% to 15.52% and from 23.87% to 22.55% for core domestic, non-core domestic and international banks, respectively – but remaining well above the regulatory Tier 1 capital ratio requirement of 6%. The impact on the Tier 1 capital ratio in a worst-case scenario, assuming an extreme situation where none of the borrowers that were granted a moratorium would be in a position to honour their obligations, would range between 0.31 and 7.73 percentage points. Nevertheless, all banks surpass their respective TSCR. The results presented in this section are produced under the same methodology and worst-case scenario assumptions as used in the aforementioned versions of the Financial Stability Report to ensure comparability of results. Box 6 on moratoria presents the results of a more realistic, yet still adverse scenario, based on banks’ expectation of loans under moratoria becoming NPLs.

3.2.4 Combined credit quality deterioration and increase in NPLs
To further assess the banks’ solvency positions, the previous two sensitivity analyses have been combined to consider a deterioration in both debt securities and loans. The same 16 banks included in the sensitivity analysis on their

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Chart 3.9
STRESS TEST RESULTS – IMPACT OF AN INCREASE IN NPLS IN SENSITIVE SECTORS ON TIER 1 CAPITAL RATIO (per cent)

<table>
<thead>
<tr>
<th></th>
<th>Core domestic banks (5)</th>
<th>Non-core domestic banks (2)</th>
<th>International banks (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Tier 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital ratio</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-shock Tier 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital ratio</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Central Bank of Malta calculations.
debt securities portfolio would fall within scope of this test.

Chart 3.10 shows that the impact of the combined scenario would result in a drop in the Tier 1 capital ratio of 2.22, 2.29 and 0.76 percentage points for core domestic, non-core domestic and international banks, respectively. The Tier 1 capital ratio would drop from 18.64% to 16.42%, from 20.01% to 17.72% and from 64.36% to 63.60%, respectively. Thus the materialisation of the assumed shocks would still leave all three bank categories in a comfortable position to absorb potential losses when compared to the regulatory minimum Tier 1 capital ratio of 6%. At the individual bank level, all 16 banks in scope would surpass the respective TSCR.

### 3.3 Liquidity Stress Testing Framework

As part of the Central Bank of Malta’s stress testing toolkit, two frameworks are regularly updated to assess the liquidity position of banks. The first is the persistent deposit withdrawals (PDW) framework which shocks the liquidity position of banks against a bank-run type scenario over a survival period of four weeks. The second is the LCR framework which entails four adverse scenarios simulating higher outflows during the 30-day horizon of the LCR, along with an additional four adverse scenarios testing partial or full withdrawal of commitments.

#### 3.3.1 Persistent Deposit Withdrawals

The PDW framework tests whether banks’ liquidity buffers of the highest quality are sufficient to meet the assumed liquidity outflows in a bank-run type scenario. The framework considers extreme shocks, over a period of five days and the subsequent three weeks, to assess the banks’ counterbalancing capacity (CBC) in meeting the assumed deposit outflows. The banks’ CBC is defined as the quantity of funds at the banks’ disposal to meet liquidity requirements, and is made up of, *inter alia*: cash excess on the banks’ reserve requirements with the Bank, and funds raised from the sale of marketable securities. Banks are assumed to become illiquid if their stressed CBC is insufficient to meet the assumed withdrawals.

The framework makes use of data sourced from the domestic prudential reporting framework (BR06) and considers granular information on banks’ bond holdings complemented by market information to assess the banks’ CBC.

Two adverse scenarios are presented. Under the first adverse scenario, banks can obtain funding from standard Eurosystem monetary policy operations only against ECB eligible debt securities that were pledged with the ECB as at the reference date – December 2020. For a bank to be able to participate in monetary operations, the bank must be a signatory to the Bank’s Directive No. 8. If a bank is not a signatory of the directive, debt securities cannot be pledged with the ECB. The remaining FV debt securities are sold at fire sale prices.

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1. Eligible debt securities refer to any marketable assets held by banks which, as at the reference date, are included in the database of eligible assets for Eurosystem monetary operations.
2. Securities pledged with the ECB are subject to a liquidity haircut as per the Guidance (EU) 2019/1033 on the valuation haircuts applied in the implementation of the Eurosystem monetary policy framework (ECB/2019/12). The haircuts in the framework are regularly updated in line with revisions to the ECB framework.
3. Fire sale prices have been calibrated on the basis of the market prices observed during the 2008 financial crisis.
Under the second adverse scenario, banks are allowed to pledge all eligible debt securities with the ECB and sell the remaining FV securities at fire sale prices. Thus, banks can obtain funding against all securities which are eligible and unencumbered, rather than just those which have been pledged, as in the first adverse scenario. Since the haircuts assumed for fire sale prices are higher than the valuation haircuts which would be applied by the ECB, in this scenario banks have a higher CBC compared to the first scenario.\(^{10}\) In addition, given the ECB’s ongoing commitment to provide liquidity assistance, this scenario is deemed more plausible.

Under both adverse scenarios, banks are assumed not to sell their AMC securities to raise funds since these instruments are held with the intention of receiving a regular stream of coupon payments and the final principal upon maturity. Conversely, FV securities are purchased with the aim of being sold when prices increase to make capital gains. While the former accounting treatment (AMC) protects these financial instruments from market risk, banks would be at a disadvantage since, by way of the extreme assumption in this test, these securities cannot be used to obtain liquidity. However, the framework considers a third adverse scenario in which banks are allowed to tap into their AMC securities and convert them to FV to be able to sell these securities. This scenario would generate additional CBC for the banks that hold AMC securities, boosting further the excess liquidity presented for the three banking groups in adverse scenario 2.\(^{11}\)

Moreover, under the adverse scenarios presented, it is assumed that intragroup funding and interbank funding would be suspended and withdrawn for the duration of the stress period.

The extent of liquidity outflows from deposits is driven by the term-to-maturity and the assumed outflows which differ for retail, corporate and other customer categories. These have been compared to the cumulative outflow rates applied in the Single Supervisory Mechanism (SSM) 2019 Liquidity Stress Test (LiST) over a 5-day period and a 4-week period and are more severe than the adverse scenario and closer to the magnitudes applied in the extreme scenario.\(^{12}\) The same outflow rates on deposits are assumed under both adverse scenarios.

Charts 3.11 to 3.16 present the results for core domestic, non-core domestic and international banks under the two respective adverse scenarios. These six charts plot the liquidity outflows from demand deposits, time deposits and others (mainly interbank), along with the excess liquidity for the first five days, followed by the subsequent three weeks. The total length of the bars in the charts represent the CBC which is assumed to remain fixed during the survival period as no additional liquidity inflows are considered during the protracted period of stress. As the scenario progresses in time, the cumulative liquidity outflows increase and excess CBC contracts. The system will remain liquid if the CBC absorbs all assumed deposit withdrawals over the test horizon.

As mentioned in Chapter 2, all three banking groups continued to operate with ample liquidity during 2020. This healthy liquidity position is reflected in the length of the uppermost bars in the six charts which represent the excess liquidity for each banking group resulting from the respective scenario. Excess liquidity stemming from the difference between the CBC and outflows under the second adverse scenario is higher than the excess liquidity under the first adverse scenario due to the possibility of pledging all eligible securities as collateral for monetary policy operations. In the more constrained scenario (adverse scenario 1), the excess liquidity at the end of the test drops to 60%, 56% and 84% of the CBC available at the reference date for core domestic, non-core domestic and international banks, respectively.

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\(^{10}\) See Box 2 in the Financial Stability Report 2015 for further detail on the methodology and haircuts applied in the PDW stress test. The haircuts for ECB eligible securities have since been updated in line with the current guidelines issued by the ECB in Guidance (EU) 2019/1033.

\(^{11}\) While the third adverse scenario is relevant for a few banks which hold AMC securities, the impact at bank category level is only marginally different from scenario 2 and thus the results are not being presented.

\(^{12}\) The methodology of the LiST was published on the SSM website on 6 February 2019 and was run by the ECB on a sample of the banks it directly supervises, including three domestic banks.
The test demonstrates that all three banking categories survive with ample liquidity during the four weeks of persistent deposits withdrawals. This also holds true at the individual bank level under both adverse scenarios, where all banks would manage to survive the stress test horizon, indicating an improvement over the weaknesses in individual banks observed for March 2020 reported in the Financial Stability Report 2019 Special Feature. Banks now have a higher CBC mainly due to an increase in the holdings of debt securities and their placements with the Bank (reserve requirement).
3.3.2 LCR-based Liquidity Stress Test

The LCR framework assesses the ability of banks to survive a period of liquidity stress lasting 30 calendar days through their high-quality liquidity assets (HQLA). The LCR is calculated as the ratio of HQLA to net liquidity outflows (outflows less inflows over a 30-day period). Unlike the PDW stress test which tests banks’ resilience in terms of remaining excess CBC, the LCR stress test benchmarks the results against the minimum regulatory requirement of 100%.

The framework is run on a baseline and eight adverse scenarios. The baseline scenario applies the benchmark haircuts and inflow/outflow rates as prescribed by the European Commission (EC) Delegated Regulation (EU) 2015/61 (hereafter, LCR Delegated Regulation) and acts as a monitoring tool for the LCR as reported by banks.13

The first four adverse scenarios target higher outflows from those prescribed in the LCR Delegated Regulation while assuming that the HQLA buffer remains unchanged. The first adverse scenario assumes higher outflow rates than those applied in the baseline scenario (approximately 1.5 times higher, unless the LCR Delegated Regulation already applies a 100% outflow rate and hence cannot be increased further). The remaining three adverse scenarios combine these higher outflow rates with additional withdrawals of fixed-term deposits from either residents, non-residents or both, respectively, which have a contractual maturity exceeding the 30-day period covered by the LCR Delegated Regulation. These scenarios were designed to assume that customers are willing to forfeit any accrued interest to access their funds.14

Amid the uncertainty created by COVID-19 – both in terms of the impact and the duration of the pandemic, which is still ongoing – consideration is given to the liquidity stance of banks should struggling NFCs and households (the retail sector) avail themselves of any approved but unutilised credit, be it on existing loans, overdrafts or credit cards. To this end, four additional scenarios were introduced in the Financial Stability Report 2019 Special Feature whereby banks experience a partial or full withdrawal of commitments to NFCs in isolation and/or the rest of the retail sector. Table 3.1 provides a summary of all the scenarios considered in the LCR framework.

Chart 3.17 shows the results for the three bank categories under the baseline and the eight adverse scenarios. As at December 2020, the LCR under the baseline scenario stood at 326% for core domestic banks, 806% for non-core domestic banks and 924% for international banks. Under adverse scenario 4, which considers higher outflows compared to the LCR Delegated Regulation with additional outflows from

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>Haircuts and outflow/inflow rates as prescribed by the LCR Delegated Regulation</td>
</tr>
<tr>
<td>Adverse:</td>
<td></td>
</tr>
<tr>
<td>Scenario 1</td>
<td>Higher outflows compared to the LCR Delegated Regulation</td>
</tr>
<tr>
<td>Scenario 2</td>
<td>Scenario 1 with additional withdrawals of resident time deposits (&gt;30 days)</td>
</tr>
<tr>
<td>Scenario 3</td>
<td>Scenario 1 with additional withdrawals of non-resident time deposits (&gt;30 days)</td>
</tr>
<tr>
<td>Scenario 4</td>
<td>Scenario 1 with additional withdrawals from both resident and non-resident time deposits</td>
</tr>
<tr>
<td>Scenario 5</td>
<td>Baseline scenario with 50% withdrawal of committed facilities to NFCs</td>
</tr>
<tr>
<td>Scenario 6</td>
<td>Baseline scenario with 100% withdrawal of committed facilities to NFCs</td>
</tr>
<tr>
<td>Scenario 7</td>
<td>Baseline scenario with 100% withdrawal of committed facilities to other retail, including mortgages</td>
</tr>
<tr>
<td>Scenario 8</td>
<td>Baseline scenario with 100% withdrawal of committed facilities to retail and other retail, including mortgages</td>
</tr>
</tbody>
</table>

Source: Central Bank of Malta.

13 The baseline scenario is based on the LCR Delegated Regulation and applies a minimum level of severity which is common across all banks whenever the regulation allows ranges. This also serves as a cross-check against information provided by banks, while also serving as a common reference point for the adverse scenarios.

14 See Box 4 in the Financial Stability Report 2018 for further detail on the methodology and haircuts applied in the first four adverse scenarios of the LCR stress test.
both resident and non-resident time deposits exceeding 30 days, the LCR falls to 169%, 221% and 438% for core domestic, non-core domestic and international banks, respectively. On the other hand, under adverse scenario 8, which considers a full withdrawal of committed facilities to NFCs and other retail, the LCR falls to 133%, 565% and 811% for core domestic, non-core domestic and international banks, respectively with ratios remaining above the 100% regulatory requirement.

Focusing on the first four adverse scenarios, the largest drop originates from adverse scenario 1 for all three bank categories due to a general tendency for reliance on short-term funding. Indeed, current, savings and time deposits with a term of up to 30 days make up 82%, 66% and 34% of core domestic, non-core domestic and international banks’ total deposits, respectively. Adverse scenario 2 is only minimally different from adverse scenario 1, mostly affecting core domestic banks given their higher share of resident deposits, with resident deposits making up 91% of their total deposits. The impact from adverse scenario 3 is mostly visible for the non-core domestic and international banks due to their reliance on non-resident term deposits as a source of funding. The fourth adverse scenario then combines the impact from both resident and non-resident time deposits. The results show an overall improvement when compared to those for March 2020, especially for the international banks given that at the time their LCR fell below the 100% requirement under both adverse scenarios 3 and 4.

With regard to the other four adverse scenarios targeting the withdrawal of committed facilities, the largest impact is observed for core domestic banks being the main providers of loans to domestic NFCs and mortgages. While the data distinguishes between NFCs and mortgages, it is not possible to determine the extent of commitments which could be revoked by the banks. Additionally, the full withdrawal from committed credit lines to retail customers includes also loans for which a sanction letter was issued. Prospective clients could have more than one sanction letter after applying with multiple banks to seek the best rates and loan conditions. Notwithstanding these two data caveats, the adverse scenarios assume that all committed funds are available for withdrawal. The impact from a full withdrawal of commitments to NFCs is visible on all three bank categories, with the LCR under adverse scenario 6 falling to 186%, 568% and 816% for core domestic, non-core domestic and international banks, respectively. On the other hand, the full withdrawal of commitments to the retail sector under adverse scenario 7 leads to a drop in the LCR ratio to 191% for core domestic banks; however, the LCR only falls to 799% and 917% for non-core domestic and international banks, respectively, due to their limited exposure to the retail sector.

By design of the adverse scenarios and the severity of the shocks applied, weaknesses can be observed at an individual bank level across the eight adverse scenarios, with some banks experiencing an LCR below the 100% requirement. In general, results are comparable to the situation for March 2020 as presented in the Financial Stability Report 2019 Special Feature, with the same weaknesses being observed for the same banks, albeit for some banks the resulting LCR ratio is higher in December 2020.

Unlike breaches of capital requirements which may have immediate direct implications for banks (particularly restrictions on dividend payments), the regulation on liquidity allows for a flexible approach in
restoring liquidity buffers to the required levels.\textsuperscript{15} Although all banks have an LCR ratio above the 100% requirement, should such adverse scenarios materialise, banks would be allowed to temporarily operate below this requirement.

### 3.4 Interest Rate Risk in the Banking Book (IRRBB)

IRRBB refers to the potential risk arising from changes in the shape of the yield curve and its impact on the banks’ interest-bearing assets and liabilities, and ultimately the valuation of 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), with a revaluation of both interest-bearing assets and liabilities held in the banking book being re-priced using discounted future net cash flows. The extent of the impact is influenced, among others, by the interest rate type (fixed, variable or a combination of both), the currency denomination, and the reset date of the interest-bearing assets and liabilities. The latter is particularly relevant to banks that finance their variable-interest rate loans with longer-term funding due to potential re-pricing mismatch.

This framework targets the impact on NII from six different shocks to the yield curve, as prescribed in Annex 2 of the 2016 Basel Committee on Banking Supervision (BCBS) standards. The scenarios consist of an upward and downward parallel shift of the yield curve as at the reference date, an increase and a decrease in the short rate end of the curve and two composite shifts in the short- and long-term rates referred to as the steepener and flattener scenarios. The shocks are hypothetical and are not meant to project future developments in the interest rate, but rather to identify potential vulnerabilities in banks’ banking books under different scenarios. Second round effects are not being considered. Chart 3.18 shows the respective changes in the euro (EUR) term structure under the six scenarios as at December 2020.

Only EUR, Pound sterling (GBP) and US dollar (USD) are considered as the material currencies in which the banking books are denominated, amounting to 100%, 95% and 94% of the banking book of core domestic, non-core domestic and international banks, respectively. In particular, exposures denominated in EUR represent 92%, 81% and 75% of the banking book of these three bank categories, respectively.

This framework tests the impact of IRRBB on NII over a 12-month horizon and assumes a static balance sheet. Therefore, any instruments that mature within this horizon are rolled over with similar instruments at the prevailing interest rates in the respective scenario. Charts 3.19 to 3.21 present the impact of the six 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.\textsuperscript{16}

\begin{center}
\textbf{Chart 3.18}
\end{center}

\textbf{STRESS TEST SCENARIOS – CHANGE IN THE EUR TERM STRUCTURE OF INTEREST RATES UNDER THE 6 BCBS SCENARIOS}

\begin{center}
\begin{tabular}{c|c|c|c}
\hline
& Parallel up & Parallel down & \textbf{Short rate up} \textbf{Short rate down} \\
\hline
\textbf{Actual} & Actual & Actual & Actual & Actual \\
\hline
\textbf{Chart} & \begin{sideways}4 \end{sideways} & \begin{sideways}3 \end{sideways} & \begin{sideways}2 \end{sideways} & \begin{sideways}1 \end{sideways} & \begin{sideways}0 \end{sideways} & \begin{sideways}-1 \end{sideways} & \begin{sideways}-2 \end{sideways} & \begin{sideways}-3 \end{sideways} & \begin{sideways}-4 \end{sideways} \begin{sideways}4 \end{sideways} & \begin{sideways}3 \end{sideways} & \begin{sideways}2 \end{sideways} & \begin{sideways}1 \end{sideways} & \begin{sideways}0 \end{sideways} & \begin{sideways}-1 \end{sideways} & \begin{sideways}-2 \end{sideways} & \begin{sideways}-3 \end{sideways} & \begin{sideways}-4 \end{sideways} \begin{sideways}4 \end{sideways} & \begin{sideways}3 \end{sideways} & \begin{sideways}2 \end{sideways} & \begin{sideways}1 \end{sideways} & \begin{sideways}0 \end{sideways} & \begin{sideways}-1 \end{sideways} & \begin{sideways}-2 \end{sideways} & \begin{sideways}-3 \end{sideways} & \begin{sideways}-4 \end{sideways} \\
\hline
\textbf{Sources:} SNL, BCBS.
\end{tabular}
\end{center}

\textsuperscript{15} The press release that was published on 12 March 2020 stipulating that the ECB Banking Supervision will allow banks to operate temporarily below the LCR – as part of the ECB temporary capital and operation relief in reaction to coronavirus – is still active. The ECB will continue to take a flexible approach when approving LCR restoration plans which banks are legally required to submit when breaching LCR requirements. Indeed, the point in time at which the ECB expects banks to once again comply with the general 100% requirement will depend on both bank-specific and market-specific factors, but this is not expected any sooner than the end of 2021, according to the FAQs on ECB supervisory measures in reaction to the coronavirus which is updated regularly depending on developments.

\textsuperscript{16} Banks may apply a lower tax rate if in previous years they have accumulated deferred tax assets, however, for the scope of this stress test, deferred tax assets are not being considered.
As shown in these charts, the short rate down scenario would have the biggest adverse impact on all three bank categories. Under this scenario, the Tier 1 capital ratio would drop from 18.64% to 16.07%, from 20.01% to 18.13% and from 47.21% to 46.05%, respectively, for core domestic, non-core domestic and international banks. The aggregate post-shock Tier 1 capital ratios remain well above the regulatory minimum of 6%, even under this more severe scenario. In fact, all banks would absorb the impact and retain a capital ratio that exceeds the bank’s respective TSCR.

Given that banks hold the majority of their interest-bearing assets in loans and advances which are repriced immediately, shifts in the short end of the yield curve would influence banks the most. Additionally, the banks’ current balance sheet structure would allow them to gain from potential increases in interest rates. While loans are repriced immediately, a large share of deposits have an open-ended maturity and, to a lesser extent, deposits that mature within the year, which attract 0% or very low interest rates. Indeed, 84%, 68% and 87% of deposits of core domestic, non-core domestic and international banks, respectively, mature within one year.

The impact of changes in the interest rates can also be measured in terms of movements in the net interest margin (NIM). The NIM is expressed as the difference between the interest income generated by the banks and expenses in terms of interest paid out, divided by the interest-bearing assets. Under the short rate down scenario, the NIM would drop from 1.66% to -0.24%, 0.93% to -0.82% and from 10.31% to 8.60%, respectively, for core domestic, non-core domestic and international banks.
The major positive impact would arise from the short rate up scenario for all three bank categories. Under this scenario, the Tier 1 capital ratio would increase from 18.64% to 21.83%, from 20.01% to 21.97% and from 47.21% to 48.59% for core domestic, non-core domestic and international banks, respectively. Owing to the assumption of asymmetric pass-through for increases and decreases in interest rate assumptions (as applied in the MST), banks are assumed to react sooner to a positive shift in the yield curve when compared to a downward interest rate shock. Under the short rate up scenario, the banks’ NIM would increase to 4.01%, 2.74% and 12.33%, respectively, for the three respective bank categories.

### BOX 3: OVERVIEW OF THE CENTRAL BANK OF MALTA’S APPROACH TO ALIGN ITS CREDIT RISK THRESHOLD MODEL (CRTM) TO IFRS 9 CLASSIFICATION OF LOANS

The CRTM is a Merton-type model based on Monte Carlo simulations to quantify credit risk arising from new defaults within a portfolio of loans. While the classification of new non-performing loans (NPLs) constitutes one observation of actual transitions from performing loans to NPLs, in practice this outcome originates from a wide variety of individual outcomes and circumstances that would have materialised during the year of review. To this end, the CRTM was first introduced in Box 5 of the Financial Stability Report 2013 to assess the performing loan portfolio on an individual bank basis and generate a loan loss distribution via simulations of these alternative scenarios. In turn, an assessment of the adequacy of banks’ capital in absorbing different levels of loan losses arising from the simulated alternative scenarios is conducted.

A main feature of the update being presented in this box is the alignment of the CRTM to the classification of loans into three stages defined in the International Financial Reporting Standard 9 – Financial Instruments (IFRS 9) issued by the International Accounting Standards Board (IASB). The CRTM was originally based on the International Accounting Standard 39 (IAS 39) issued by the IASB which recognised impairments on an incurred loss approach, i.e. the recognition of impairment losses occurs after there is objective evidence of credit losses. IAS 39 has since been replaced by IFRS 9 which includes an expected credit loss (ECL) framework as a forward-looking approach for the recognition of impairments on financial instruments. In particular, impairments on loans are calculated on the basis of a 12-month ECL (12mECL) or a lifetime ECL (LTECL) depending on the stage of a loan. The former recognises potential losses arising from a loan default over the next 12 months, while the latter recognises potential losses that could arise over the entire term of the loan. Thus, apart from the manner in which provisions are quantified, the traditional model of classifying loans as either performing or non-performing has in the recent years migrated to a 3-stage classification as follows and as summarised in Table 1.

<table>
<thead>
<tr>
<th>Stage</th>
<th>IFRS 9 ECL framework</th>
<th>Computation of RWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>12mECL</td>
<td>Apply the risk weight corresponding to performing loans</td>
</tr>
<tr>
<td>Stage 2</td>
<td>LTECL</td>
<td>Apply the risk weight corresponding to performing loans</td>
</tr>
<tr>
<td>Stage 3</td>
<td>LTECL</td>
<td>Apply the risk weight corresponding to NPLs</td>
</tr>
</tbody>
</table>

Source: Central Bank of Malta calculations.

1 Prepared by David Stephen Law, Principal Quantitative Analyst within Policy Crisis Management and Stress Testing Department. The author would like to thank Alan Cassar, Chief Officer Financial Stability and Statistics Division and Christine Barbara, Manager within Policy Crisis Management and Stress Testing Department, for their valuable suggestions.
Stage 1 – Loans are classified in this category upon inception, and this relates to the performing category. Impairments would be calculated as per the 12mECL approach. For the purposes of capital requirements, risk-weighted assets (RWAs) are calculated under the standardised approach by multiplying the loan exposure by the corresponding risk-weight assigned to performing loans.¹

Stage 2 – Loans are classified in this category if they experience a significant increase in credit risk (SICR). While RWAs would still be calculated as for Stage 1, banks would need to estimate impairments set aside for these exposures according to the LTECL approach, which would result in a higher provisioning rate when compared to the 12mECL.

Stage 3 – Loans are classified in this category if there has been an incurred loss event and thus would be comparable to the category of NPLs. Loans classified in this stage would be assigned higher risk-weights applicable to NPLs while impairments remain computed according to the LTECL approach.

In order to simulate alternative scenarios, the CRTM generates the underlying asset value of each borrower. This is an unobserved (latent) variable which by design is standard normally distributed and modelled as a combination of idiosyncratic and sectoral shocks, as follows:

\[ X_{i,s,j} = r_s Y_{s,j} + \sqrt{1 - r_s^2} \varepsilon_{i,s,j} \]

Where:

- \( X_{i,s,j} \) is the simulated asset value of borrower \( i \) in sector \( s \) in simulation \( j \)
- \( r_s \) represents a sectoral factor weight and takes values between 0 and 1
- \( Y_{s,j} \) is a standard normal random number adjusted for the correlation matrix of sectoral NPL ratios, representing an exogenous shock
- \( \varepsilon_{i,s,j} \) is a standard normal random number representing the borrower specific (idiosyncratic) risk factor

In the original version of the CRTM, a performing loan is deemed to become an NPL if its underlying asset value \( X_{i,s,j} \) drops below the credit risk threshold whose value is linked to the sectoral probability of default \( p_s \), as follows:

\[ X_{i,s,j} < \Phi^{-1}(p_s) \]

where \( \Phi^{-1}(p_s) \) is the value of the inverse standard normal distribution corresponding to the respective sectoral probability of default.

Chart 1 shows the distribution of the underlying asset value \( X_{i,s,j} \) and the credit risk threshold (given by the vertical line) which indicates the point at which a performing loan becomes non-performing. The Monte Carlo engine draws values for \( X_{i,s,j} \) from this distribution to determine whether the performing

¹ While Article 107 of the Capital Requirements Regulation allows banks to determine capital requirements under the standardised approach (SA) or the internal ratings based approach (IRB), all banks operating in Malta follow the SA.
loan at the beginning of the period remains performing or becomes an NPL by the end of the period.

To incorporate the IFRS 9 classification of loans, the updated CRTM had to depart from a binary classification (performing or non-performing) to consider a three-stage approach. This implies that the credit risk threshold is no longer linked to a single parameter (the probability of default) but to nine transition probabilities summarised in a 3-by-3 transition matrix, as follows:

\[
\text{Transition Matrix} = \begin{pmatrix}
  p_{11} & p_{12} & p_{13} \\
p_{21} & p_{22} & p_{23} \\
p_{31} & p_{32} & p_{33}
\end{pmatrix}
\]

Where each entry of the transition matrix \( p_{ij} \) represents the probability for a borrower classified as IFRS 9 Stage \( k \) at the beginning of the period, ending up in Stage \( l \) by the end of the period.

Chart 2 shows the distribution from which the Monte Carlo simulation can draw the value of \( X_{i.s[j]} \) and determine whether the loan currently classified as either Stage 1, 2 or 3 at the beginning of the period remains in the current stage or transitions into either of the other two stages by the end of the period.

Implicitly, instead of a single sectoral credit risk threshold, the CRTM now has a total of six credit risk thresholds (two thresholds for each of the three IFRS 9 stages) to determine transitions as per Table 2.

**Estimating portfolio-specific characteristics from the simulated transitions**

Although the simulations of new borrower defaults involve random draws from a given probability distribution, which are in turn bench-
marked against the sectoral-specific thresholds (see Table 1), the quantification of losses involves the use of borrower characteristics at the individual loan level. Indeed, the 12mECL and LTECL are calculated for each borrower on the basis of the outstanding balance, the interest rate charged and the term-to-maturity of each loan. Similarly, the change in risk-weighted assets is calculated for each loan on the basis of the sector and collateral backing the loans.

At the end of each simulation, the CRTM generates the value of loan losses for an alternative scenario as the sum of 12mECL for loans ending in Stage 1 and LTECL for the remaining loans classified as Stage 2 or Stage 3. Combining the loan losses from each simulation produces an empirical distribution of impairments at portfolio level. Unlike the underlying asset value $X_{i,s,i}$ which is standard normally distributed by design, the shape of the loss distribution is not determined in advance but generated entirely from the characteristics of the loan portfolio being assessed, i.e. the sectoral composition of the loan portfolio and the underlying risk of default as captured by the transition matrices. This portfolio-specific distribution is then used to infer three credit risk parameters: (i) the Expected Loss (EL), which is equal to the average of the distribution, (ii) the Absolute Value at-Risk (VaRα), which as the α-percentile of the distribution represents both expected and unexpected losses at the α-level of confidence and (iii) the Expected Shortfall (ES), which captures the mean of the right tail of the distribution for the losses exceeding the VaRα. Unlike the VaRα, the ES is a consistent parameter which represents an extreme (right) tail event, i.e. the high-impact loss event with an extremely low probability of occurrence.

**Possible uses of the model and way forward**
This model is primarily designed to act as a tool for credit risk quantification with credit risk thresholds inferred from sectoral default rates as observed at the reference date. The aforementioned three credit risk parameters are determined to assess the adequacy of bank provisions to cover credit risk losses prevailing in the loan portfolio. The output of the model could be used as a challenger model to assess the adequacy of banks’ provisioning and inform analyses conducted within the Financial Stability Departments.

Moreover, the model will be extended to tap into its potential of stress testing banks’ resilience to particular risks. By means of increasing transition probabilities from the higher into lower stages (i.e. $p_{12}$, $p_{23}$ and $p_{33}$), the model could be used to quantify increases in sectoral risks. Similarly, shocks may be applied to granular information at the borrower level to test the impact of a devaluation of collateral backing the individual loans. Future work can be carried out to explore the possibility of linking the transition probabilities to macro-economic shocks. In the case that a significant relationship exists between the sectoral transition probabilities and explanatory macro-economic variables, then the output of the CRTM could also enhance the Macro Stress Testing framework’s quantification of credit risk in the loan portfolio.

**Table 2**
**IFRS 9 COMPLIANT CREDIT RISK THRESHOLDS**

<table>
<thead>
<tr>
<th>Initial Stage</th>
<th>Final Stage</th>
<th>Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>Stage 3</td>
<td>$X_{i,s,i} \Phi^{-1}(p_{13})$</td>
</tr>
<tr>
<td></td>
<td>Stage 2</td>
<td>$\Phi^{-1}(p_{13}) \leq X_{i,s,i} \Phi^{-1}(p_{12} + p_{13})$</td>
</tr>
<tr>
<td></td>
<td>Stage 1</td>
<td>Otherwise</td>
</tr>
<tr>
<td>Stage 2</td>
<td>Stage 3</td>
<td>$X_{i,s,i} \Phi^{-1}(p_{23})$</td>
</tr>
<tr>
<td></td>
<td>Stage 2</td>
<td>$\Phi^{-1}(p_{23}) \leq X_{i,s,i} \Phi^{-1}(p_{22} + p_{23})$</td>
</tr>
<tr>
<td></td>
<td>Stage 1</td>
<td>Otherwise</td>
</tr>
<tr>
<td>Stage 3</td>
<td>Stage 3</td>
<td>$X_{i,s,i} \Phi^{-1}(p_{33})$</td>
</tr>
<tr>
<td></td>
<td>Stage 2</td>
<td>$\Phi^{-1}(p_{33}) \leq X_{i,s,i} \Phi^{-1}(p_{32} + p_{33})$</td>
</tr>
<tr>
<td></td>
<td>Stage 1</td>
<td>Otherwise</td>
</tr>
</tbody>
</table>

Source: Central Bank of Malta calculations.
4. Insurance Companies and Investment Funds
4. INSURANCE COMPANIES AND INVESTMENT FUNDS

4.1 The Domestic Insurance Companies

By the end of 2020, 68 insurance companies were licensed in Malta, having a total of €15.0 billion in assets. These assets grew by 7.6% over December 2019, equivalent to 116.8% of GDP. Such insurance firms represented about 5.7% of the non-bank financial system, a share which has been on an increasing trend since 2018 (see Box 4). Of these, eight insurance companies remained focused on underwriting risks in Malta and as such this chapter will focus on these companies. Their assets grew by 1.5% to €3.8 billion, equivalent to 29.9% of GDP. These consisted of three life insurance corporations and five non-life insurance firms, with two of the latter also licensed to provide life insurance products. Despite the dual licence, the focus of these two companies remained on non-life business, with their life business representing just 5.6% of their total gross written premia.

Despite their local focus, domestic insurance companies reinsured a median of 18.1% of their premia with foreign reinsurance companies as at December 2020, marginally higher than in the previous year. Reinsurance serves to shift risks of potentially large claims to international entities and hence reduces the exposure of domestic entities. Notwithstanding, this strengthens their cross-border links with ensuing, albeit limited, potential contagion risks. This is particularly the case for non-life corporations, which tend to re-insure a larger share of their premia.\(^1\)

4.1.1 The Domestic Life Insurance Companies

The balance sheet of the domestic life insurers expanded further, although at a contained rate of 1.1% to €3.4 billion, or 26.1% of GDP. In fact, year-on-year growth only turned positive during the last quarter of the year, with a year-on-year drop registered up until September. The life business remained highly concentrated with an Herfindahl-Hirschman Index (HHI) of 6,126, as insurance companies reported a slight drop in gross written premia.\(^2\) Written premia remained dominated by ‘insurance with profit participation’ policies, accounting for 78.4%. The share of this product contracted by 1.3 percentage points over December 2019, as insurance companies have been doing away with such types of contracts in recent years (see Chart 4.1). At the same time, the share of ‘index and unit-linked’ policies increased slightly to 12.6% as at the end of 2020. Meanwhile, gross written premia of the ‘other life insurance’ rose by just €0.6 million since December 2019 and made up 9.0% of gross written premia.\(^3,4\)

Bond holdings increased by 11.0% to reach €1.4 billion as at the end of 2020, with their share in overall assets rising to 41.1%. This was the result of higher corporate bond holdings, as these soared by almost 43% to €440.6 million. As a result, their share in total assets increased

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\(^1\) The median reinsurance part of the premia stood at 9.5% for the life insurance sector, and at 34.0% for the non-life insurance sector.

\(^2\) The HHI is a measure of market concentration, calculated by the sum of squares of each firm’s market share. A value above 2,500 is indicative of a highly concentrated market.

\(^3\) ‘Insurance with profit participation’ refers to a savings product where at the end of each year the insurance company may declare a bonus rate, which forms part of the annual investment return. ‘Index and unit-linked’ products refer to when the obligation for the life insurance company is represented by the value of the underlying unit.

\(^4\) ‘Index and unit-linked products’ also represent 17.3% of the life insurers’ technical provisions, with the rest of the technical reserves allocated for non-unit linked products.
to 13.1% during December 2020, up from 9.3% during December 2019 (see Chart 4.2). This increase reflected a change in the investment strategy which saw some of the MGS holdings being disposed of in 2020. The biggest increment was registered in low-rated corporate bonds, as life insurance corporations increased such holdings suggesting a search for higher yield (see Chart 4.3). In fact, the share of such bonds rose to almost 47% of the overall corporate bond portfolio, up from 40.5% in December 2019.5 Despite more than doubling, holdings of high-rated bonds accounted for just 7.4% of the total corporate bonds. Holdings in medium and sub-investment grade bonds increased in absolute terms, though their share in the overall corporate bond portfolio decreased by 5.8 and 4.1 percentage points to stand at 31.6% and 14.0% respectively. Corporate bond holdings were almost equally split between euro area and outside the euro area, with exposure towards Maltese corporates limited to 6.7% of the whole corporate portfolio.6

On the other hand, the amount of holdings of sovereign bonds remained practically the same representing just over a quarter of total assets. However, the composition of the sovereign bond portfolio has changed since 2019, as MGS holdings fell by 34.8% to around 30% of the sovereign bond portfolio, compared to 45.8% in December 2019. Meanwhile, euro area sovereign bond holdings rose by 35.5% to about 64% of the overall sovereign portfolio. This brought with it a reduction in home bias and further risk diversification. Furthermore, with respect to the euro area bond holdings, about three-quarters were invested in jurisdictions classified as medium grade or higher.

Investment in equities and participation in Collective Investment Undertakings (CIUs) declined by 20.1% and 13.1%, respectively during the first quarter of the year amid the market volatility brought about by the pandemic. In the case of the former, prices eventually rebounded during the last quarter of the year on

5 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.

6 Considering the non-Maltese corporates, securities were mainly issued by non-financial corporations (NFCs), other financial intermediaries (OFIs), banks and captives’ financial institutions and money lenders (CFIMLs). In the case of domestic corporate bonds, they were largely issued by NFCs followed by CFIMLs.
the back of various measures implemented and renewed optimism about the resolution of the pandemic. As a result, the share of equities remained practically unchanged from December 2019, representing around 17% of total assets. Such holdings were mainly concentrated in NFCs located in the United States and in the euro area, with 19.0% of the total equity portfolio pertaining to domestic entities – mainly in real estate, and the financial and insurance activities sectors. In the case of participation in CIUs, the subsequent rebound was more contained, resulting in an overall decrease of 8.0% over its level in 2019, representing 27.5% of life insurers’ assets.

Domestic life insurance companies held around a tenth of their balance sheet in cash and deposits, albeit such holdings had decreased by 3.3% over a year earlier. Almost all of the deposits were held with related domestic banks. Other assets include real estate mainly held for investment purposes, which stood at 4.1% of the balance sheet. At the same time the share of loans remained stable at just half a percentage point, reflecting the limited participation of domestic life insurers’ in non-traditional non-insurance activities.

The COVID-19 pandemic had a considerably large impact on the profitability of life insurers, with their pre-tax profits amounting to €4.7 million in December 2020, compared to €19.8 million in December 2019 (see Chart 4.4). Adverse market movements and a deterioration in investment activity resulted in a loss of about €240 million in investments income. A decline in economic activity brought with it a reduction in premia, which fell by around €18 million mainly due to ‘with profits participation schemes’. This reflected activity within the first half of 2020, with written premia rebounding in the latter half of the year. On the other hand, net claims paid surged by €46.0 million, or 17.3%, mainly due to maturing medium-term single premium contracts, thereby contributing negatively to the underwriting performance of life insurers.7 These were, however, largely re-invested into the same type of contract. These negative movements were, however, in part counteracted by a substantial decline in provisions set aside for claims. The reduction in premia and the increase in paid insurance claims also led to an increase in the loss ratio from 76.5% in 2019 to 94.6% in 2020 – which, however, remained below 100% indicating profitable underwriting business. As a result, pre-tax ROE and ROA fell to 2.0% and 0.15%, respectively from 7.8% and 0.6% in 2019, again mainly reflecting adverse developments in the first half of 2020. Pre-tax return on net premia also fell to 1.4% from 5.7% in 2019, owing to a faster decline in pre-tax profits than net premia.

Understandably, the financial impact of the pandemic had an adverse effect on the life insurers’ capital levels, though their sound position prior to the onset of the pandemic provided them with enough cushion to withstand this unprecedented shock. The Solvency Capital Requirement (SCR) coverage ratio dropped significantly in the first quarter of 2020, down by almost 90 percentage points to about 122% to then recover, ending the year at 186.8%.8 The composition remained healthy with all own funds held in Tier 1 capital. At the same time, liquidity was not adversely affected, with the limited drop reported in the first half

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6 A single premium contract is a type of contract in which a lump-sum of money is paid into a policy which is guaranteed to be paid back on maturity or death, whichever comes first.

7 Solvency II Directive requires insurance companies to hold own funds at least equal to the SCR, which translates into an SCR Coverage Ratio of 100%.
of the year more than offset by the increase in the second half. The liquid assets ratio stood at 80.6%, higher than the 78.9% recorded in December 2019 (see Chart 4.5). Such high liquidity reflected significant holdings of government bonds and listed equities coupled with increased cash holdings, which more than offset the decrease in deposits. If however, the pandemic persists and the predicted economic growth does not materialise, lower volumes of new business may impact liquidity.

4.1.2 The Domestic Non-life Insurance Companies
Domestic non-life insurers’ assets grew by 4.8% to €484.3 million in December 2020, equivalent to 3.8% of GDP. Almost half of this growth was due to higher holdings of cash and deposits, largely reported from the second quarter onwards. Written premia in the motor vehicle-related segment increased by 1.0%, and their share of the total written premia increased marginally to 43.7%, the highest among the different lines of business (see Chart 4.6). This is followed by the share of premia related to fire and other property damage, which rose by 0.4 percentage points to represent 26.9% of total written premia. In absolute terms such premia increased by 1.8% over 2019.

Following a decline of 17.7% during the first quarter of the year, equity holdings recovered marginally by year end as prices improved following the slump at the start of the pandemic. Such equities were predominantly held in related insurance companies which were affected by the prevailing market developments, and which imply a high level of interconnectedness due to cross ownership. However, as a share of assets, equities dropped by 1.1 percentage points to 25.4% by December 2020 (see Chart 4.7). Similarly, participations in CIUs declined by 5.2% during the first quarter but then recovered by 11.8% to represent 8.5% of non-life insurers’ assets by year end.

Bond holdings fell slightly when compared to a year ago to account for 10.0% of assets. Such drop was driven by lower sovereign bond holdings, as MGS and foreign sovereign bonds fell by 20.6% and 40.4%

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9 The liquid assets ratio shows the proportion of liquid assets on total assets (excluding assets held for unit-linked). The ratio is calculated by applying different weights (ranging from 100% for cash to 0% for intangible assets) to the different assets, according to their liquidity profile.
respectively, to represent together 15.6% of the bond portfolio. Meanwhile, the remaining share was held in corporate bonds, which rose by 5.5%, predominantly in the last quarter of the year. This mainly reflected higher holdings of both low and medium-rated bonds which increased to 34.6% and 25.7% respectively, of the corporate bond portfolio. Around a quarter of the increase in low-rated bonds was, however, driven by upgrades of sub-investment grade bond holdings, with the latter declining by 8.2% to account for about 36% of the corporate bond portfolio. On the other hand, holdings of high-rated bonds contracted by 15.0% to just 3.5% of total corporate bonds, in part driven by a corporate downgrade of one NFC.

Recoverable and receivables' share to total non-life insurers’ assets increased marginally to stand at 21.2% during December 2020, whereas the share attributable to cash and deposits increased by 1.4 percentage points to stand at 17.0%, with deposits predominately held with domestic banks.

Furthermore, during the first half of 2020, non-life insurers reduced their exposures towards the domestic real estate market as tangible real estate exposures fell to 16.0% of assets from 17.4% in December 2019. More than half of the property assets held were in the form of office and commercial buildings held for investment purposes, with the rest mainly held for own use. Non-life insurers did not engage in credit intermediation, as loans granted remained stable at 0.2% of their total assets and were mainly composed of uncollateralised loans to domestically-related insurance companies.

The impact of COVID-19 was also considerable on the profitability of non-life insurers, albeit more contained when compared with life insurance companies. Their pre-tax profits decreased by 38.5% to €31.5 million (see Chart 4.8). The pre-tax ROE and ROA declined to 16.3% and 6.6%, from 28.9% and 11.5%, respectively. These remained relatively healthy given the pandemic unprecedented circumstances and remained higher than the ratios reported in 2018. Similarly, the pre-tax return on net premia stood at 19.6%, down from 31.5% reported in 2019. In line with the life insurance sector, the reduction in profitability was mainly due to a decline in ‘investment income and other income’, as this dropped by 97.2% – mainly due to lower yields on financial instruments. A 1.2% decline in net written premia contributed to the weakening
in profitability, which was however more than offset by a decline of 3.9% in net claims paid to €76.1 million. This was mainly in relation to motor insurance as traffic accidents decreased owing to the containment measures that limited mobility and the increased recourse to telework during 2020, especially in the second quarter of that year. As a result, the loss ratio calculated as net claims paid as a share of the net written premia, fell by 1.3 percentage points to 47.4% indicating improved underwriting activity. However the net expense ratio, which considers operating expenses, increased by 2.0 percentage points, and hence the combined ratio, which includes both the expenses and the net claims paid as a proportion of the net written premia, increased by 0.7 percentage points to 82.9% in December 2020.

The non-life insurers’ capital remained well-above the supervisory requirements with an overall solvency coverage ratio of 248.2%, down by 8.3 percentage points over a year. Most of total own funds were held in Tier 1 capital. Liquidity remained largely unchanged with the liquid assets ratio standing at 38.8%, which is, however, being driven by the high share of intragroup equity holdings of a particular insurance company, as these are considered to be illiquid (see Chart 4.9).

### 4.1.3 Domestic Insurance Risk Outlook

The COVID-19 macroeconomic shock has affected the economic outlook across several dimensions, including the insurance sector. Profitability has deteriorated across the board, particularly as a result of lower investment income in the first quarter of the year, though this improved significantly in subsequent quarters, particularly for the life insurance sector, as higher allocated investment return coupled with lower provisions helped drive a partial rebound in profits. This was on the back of the various measures implemented, and the renewed optimism of a possible return to normality thanks to the vaccine rollout. In the case of the non-life sector, the recovery in profitability throughout the year was mainly because of the lower claims from motor insurance and higher provisions.

The outlook for 2021 remains highly conditioned by the evolution of the pandemic and the consequent market developments and pace of economic recovery (see Chapter 1). However, the pace of vaccination, especially in Malta, has been very encouraging and a recovery is expected, especially during the second half of 2021. Consequently, the returns for insurance companies, particularly on their securities portfolio and also in terms of written premia, are expected to recover in 2021. Indeed, initial data for the first quarter of 2021 suggests that investment income continued to improve following the initial rebound during the last quarter of 2020. The challenges from an ultra-low yield environment persist and this will continue to affect asset allocation, profitability, as well as solvency of insurers. Any rating downgrades brought about by delays in economic recovery could also impact investment income. However, the domestic insurers have persistently been shown to have enough headroom with adequate capital buffers, and liquidity well above supervisory requirements. Hence, in the absence of an unexpected worsening of the pandemic, a cautious sense of optimism within the domestic insurance sector could be well founded for 2021.
BOX 4: NON-BANK FINANCIAL INTERMEDIATION (NBFI) IN MALTA – A FINANCIAL STABILITY PERSPECTIVE

Introduction
The global non-bank financial sector has grown considerably over the past years and has become an increasingly important alternative source of financing, both for firms and households. The Financial Stability Board (FSB) estimated that the financial assets of the global NBFI sector reached USD 200 trillion in 2019, accounting for nearly half of the global financial system, up from 42% in 2008. In Malta, this sector grew by 47.2% since 2012 and accounted for almost 84% of the financial system in 2020.

The FSB defines NBFI as credit intermediation involving entities and activities fully or partially outside the regular banking system (FSB, 2011). It is a network of financial intermediaries that offer bank-related financial services such as investments, risk pooling and savings, and which are involved in maturity, credit, and liquidity transformation, and which help create leverage within the financial system. Such entities contribute to spurring economic growth by providing an alternative channel to funnel savings into profitable capital investments. At the same time, the presence of such entities creates competition in the financial sector that may lead to financial innovation, efficient credit allocation and cost reduction as they tend to unbundle their offers, and provide specialised services to specific target groups (World Bank, 2019; FSB, 2013). However, such flexibility and price competitiveness are partly also the result of less intrusive regulations when compared to banks, which leaves room for regulatory arbitrage. This forces policymakers into a difficult balancing act to try to maximise the benefits emanating from the sector while minimising the potential of systemic risks (Elliott et al., 2015).

The risks from bank-like activities came to the fore during the financial crisis, which was caused in part by the previously unsuspected fragility of a large network of non-bank financial activities (Elliott et al., 2015). Furthermore, this sector is continuously evolving as FinTech is disrupting the ecosystem and transforming traditional business models (Karagiannaki et al., 2017). These entities are, for example, offering direct lending through e-commerce partnerships as developments such as machine learning enables personalised offerings almost instantaneously. NBFI activity can, in turn, be intertwined with the operations of regulated institutions such as banks. In this regard, while financial interconnectedness can help diversify risk across financial sectors, it can also create a source of systemic risk (Adrian and Ashcraft, 2016). Interconnectedness has implications for financial stability through both the funding and credit risk channels, especially when these channels are associated with the build up of leverage and/or maturity mismatches (FSB, 2020). Furthermore, non-bank entities do not benefit from formal access to central bank liquidity or public sector credit guarantees, which means that the real economy could be severely impacted in cases of defaults, particularly of systematically-important entities (Pozsar et al., 2012).

The objective of this Box is to delve deeper into the extent of NBFI in Malta, by examining its footprint and growth over the past years, as well as assessing the risk profile of these entities through their involvement in credit intermediation, liquidity and/or maturity transformation, leveraging and their level of interconnectedness with the banking system. The analysis is initially based on the methodology adopted by the European Systemic Risk Board (ESRB) for the calculation of the NBFI perimeter, referred to as the broad measure. This indicator is then narrowed down in line with the FSB’s methodology to capture those entities that act as credit intermediaries and which are therefore more susceptible to bank-like risks. This subset of entities is referred to as the narrow measure of NBFI.

1 Prepared by David Baldacchino, Senior Economist within Financial Stability, Surveillance and Research Department. The author would like to thank Andrew Spiteri, Manager within Financial Stability, Surveillance and Research Department; Wendy Zammit, Head within Financial Stability, Surveillance and Research Department; and Alan Cassar, Chief Officer Financial Stability, for their valuable suggestions.

2 Global Monitoring Report on Non-Bank Financial Intermediation 2020 - Financial Stability Board (fsb.org)
Section 1 covers the NBFI perimeter explaining both the ESRB’s and FSB’s methodologies for the broad and narrow measures of NBFI, which are then applied to the Maltese financial system. Section 2 then assesses the risk profile of the entities within the narrow measure while Section 3 concludes.

1. The NBFI Perimeter

1.1 Methodology

According to the ESRB, the broad measure of NBFI captures the assets under management of all non-bank financial institutions except for insurance corporations and pension funds (ICPFs), as well as central counterparties (CCPs), as these entities are already subject to a strict regulatory framework (ESRB, 2020).

On the other hand, the FSB uses a two-stepped approach, by first “casting the net wide to capture an aggregate measure of the financial assets of entities that engage in NBFI. Such non-bank financial intermediaries include insurance companies, pension funds, OFIs and financial auxiliaries. The second step narrows the focus to non-bank financial entities that are involved in credit intermediation and have increased potential for posing risks to financial stability through liquidity/maturity transformation, and/or leverage, resulting in the FSB’s narrow measure of NBFI” (FSB 2020, p. 28).

The FSB’s narrow measure distinguishes entities across five economic functions shown in Table 1. Entities whose business activity falls under at least one of these functions is captured in the narrow measure (FSB, 2013). Entities that are generally excluded from the FSB’s narrow measure include ICPF and bank-consolidated entities as they are already subject to strict regulation. Furthermore, equity and real estate funds, financial auxiliaries and captive financial institutions are also excluded on the basis of limited credit intermediation (see Figure 1).3 Closed-ended funds are generally excluded as they are not considered to be susceptible to runs in the same way as open-ended funds (FSB, 2020).4

Similar to the FSB’s methodology, the Bank in its assessment of the NBFI sector starts by casting the net wide, looking at the overall assets of the financial system and excludes the assets of the banking sector to arrive at the (overall) NBFI sector. The first stage of the filtering process of NBFI entities then excludes ICPF to arrive at the broad measure of NBFI, similar to the ESRB’s methodology.5 This subset of entities is filtered again to arrive at the narrow measure of NBFI. While this measure will be similar to that conducted by the FSB, the entities are filtered according to type of entity rather than function.

<table>
<thead>
<tr>
<th>EF</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>EF1</td>
<td>Management of collective investment vehicles with features that make them susceptible to runs</td>
</tr>
<tr>
<td>EF2</td>
<td>Loan provision that is dependent on short-term funding</td>
</tr>
<tr>
<td>EF3</td>
<td>Intermediation of market activities that is dependent on short-term funding or on secured funding of client assets</td>
</tr>
<tr>
<td>EF4</td>
<td>Facilitation of credit creation</td>
</tr>
<tr>
<td>EF5</td>
<td>Securitisation-based credit intermediation and funding of financial entities</td>
</tr>
</tbody>
</table>

Source: FSB (2020).

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3 Financial auxiliaries are corporations which are engaged in activities related to financial intermediation, but which are not financial intermediaries themselves.

4 To note that all these entities are 'generally' excluded from the FSB's narrow measure, as the different jurisdictions might still opt for the inclusion of (some of) these entities if they deem that they pose financial stability risks as a consequence of the activities undertaken.

5 CCPs are not being excluded as there are no such entities registered in Malta as at December 2020.
than zooming in on their specific economic functions. This is mainly due to insufficient data granularity, which impedes a complete assessment of the activities undertaken.

Thus, as shown in Figure 1, the perimeter of non-bank financial intermediaries in Malta includes:

1. **Entities included in the narrow measure:**
   
   i. **Money Market Funds (MMFs) and Non-MMF Investment Funds (IFs):** MMFs typically invest in short-term instruments and are regarded as close substitutes to bank deposits yet providing a higher yield. In contrast, non-MMF IFs tend to have a longer holding period while investing in potentially less liquid assets in a bid to earn an investment return. These entities will be included in the narrow measure except for equity and real estate funds and other closed-ended funds since these are not considered to be as susceptible to runs as open-ended funds.
   
   ii. **Other Financial Intermediaries (OFIs):** corporations that are principally engaged in long-term financing but, unlike banks, do not incur liabilities in the form of currency or deposits. They also are not funded through investment fund shares, or in relation to insurance, pension and standardised guarantee schemes from institutional units. This sub-sector captures:
      
      a. Financial Vehicle Corporations (FVCs): Institutions which carry out securitisation activities.
      b. Lending Institutions: These institutions provide lending services, including personal credit, mortgages, factoring, and financing of commercial transactions including forfeiting.

2. **Entities excluded from the narrow measure:**

   iii. **Financial Auxiliaries:** corporations which are principally engaged in activities related to financial intermediation, but which are not financial intermediaries themselves. In Malta, this sub-sector includes Payment and Electronic Money Institutions, Investment Service Providers (ISPs), Head Offices, and Insurance Agents and Brokers.

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iv. Captive Financial Institutions and Money Lenders (CFIML): includes those entities that hold controlling interests in groups of companies and set up with the intention of asset structuring and fund-raising purposes for their parent company with very little involvement in investing or borrowing with unrelated parties. Most of their assets or liabilities are not transacted on open markets.

v. Insurance Corporations: corporations that are principally engaged in the pooling of risks mainly in the form of direct insurance or reinsurance.

vi. Pension Funds: includes those entities that carry out social risk pooling and are engaged in the credit intermediation chain.

1.2 The NBFI perimeter in Malta

Since 2012, Malta’s financial system grew by 33.1% to reach €313.6 billion in assets by the end of 2020 (see Chart 1). Most of the growth was driven by the non-bank financial sector as it grew by 47.2%, whereas the banking sector, excluding the central bank, declined by 24.3%. Indeed, during this period, the banking sector underwent a consolidation process, largely driven by some non-core and international banks, which surrendered their licence or downsized their operations. In this regard, the sector’s assets declined from almost 725% of GDP in 2012 to around 315% by the end of 2020. Within the non-bank sector, the ICPF sector increased by 44.0% since 2012 to reach €15.0 billion by December 2020. Excluding these two sectors, results show that the broad measure of NBFI activity in Malta is relatively large with assets totaling around €248 billion. Since 2012 this sector expanded by 47.4%, but its rate of growth has been declining since 2018.

Upon comparison with other European countries, the broad measure of NBFI activity stood at 78.9% of the total financial sector’s assets, second only to Luxembourg (see Chart 2). It is

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7 The share of the Broad measure to the total financial system increased marginally to 79.1% during December 2020.
also relatively much higher than the third-placed Hungary at 48.6%. This is largely driven by CFIMLs which make up 91.1% of the broad measure, and which surged by 47.0% since 2012 to stand at €225.9 billion in December 2020.

However, as defined by the narrow measure, the actual perimeter of institutions with the potential of propagating bank-like risks is much smaller, accounting for only 5.4% of all the NBFI perimeter in Malta as at the end of 2020. This is mainly because, in line with the FSB’s methodology, CFIMLs are generally excluded, as most of these entities are holding companies of larger groups, trusts and Special Purpose Entities (SPEs), servicing the group structure, and do not engage in credit intermediation. Moreover, their interconnectedness with banking groups does not appear to be a significant source of risk.

In contrast to the banking sector as outlined above, the narrow measure as a share of GDP increased from about 82% as at the end of 2016 to 110% by the end of 2020 (see Chart 3). As explained in Section 3 below, NBFI activity is an alternative source of finance to the banking sector, with a significant share of credit intermediation undertaken through the holdings of debt securities. In comparison to some other jurisdictions (both within and outside the EU), Malta’s narrow measure of NBFI activity is comparatively low – the second lowest among the countries in Chart 4.

Available data shows that since 2016, the narrow measure was growing steadily, up by 62.8%, only to decline by 1.1% to €14.1 billion by the end of 2020 (see Chart 5). The drop occurred during the last quarter of the year as mixed funds sold a significant proportion of their equity holdings as equity prices recovered.

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*a* Due to insufficient data granularity, data for the narrow measure is available from the end of 2016 onwards.

*b* Important to note that whereas in other jurisdictions, the narrow measure is calculated using the activity-based approach described in the methodology, Malta’s measure is calculated using an entity-based approach. Notwithstanding this, the conclusions being drawn would not change significantly – especially in light of the fact that CFIMLs comprise a large share of the NBFI perimeter.
following several support measures by the Fed and central banks and the news on potential vaccines from pharmaceutical companies.

The narrow measure mainly consists of (open-ended) non-MMF investment funds and MMFs, whose share in the overall narrow measure went up from 65.0% during 2016 to 74.6% during 2020. It must be noted that these entities are already heavily regulated – such as under the Undertakings of the Collective Investment in Transferable Securities (UCITS) and Alternative Investment Funds Managers Directive (AIFMD) regulations. These entities are, in turn, mainly made up of other asset allocation funds, which represented more than half of the narrow measure seeing its share increasing by 17 percentage points.10 Such funds grew by 139.6% and 11.5% since 2016 and 2019, respectively, to €7.5 billion as at the end of 2020 (see Chart 6). In the case of open-ended bond and mixed funds, while these grew by 17.5% and 53.0% since 2016, they declined by 6.2% and 29.6% since 2019 to €1.9 billion and €1.1 billion, respectively. In the case of bond funds, such a drop reflected lower bond holdings during the fourth quarter of 2020 in part due to the current market movements. Hedge funds, on the other hand, declined by 46.6% since 2016 to stand at €64.7 million during December 2020.

Apart from investment funds, the largest share within the narrow measure was represented by lending institutions, followed by FVCs. Assets of lending institutions increased by 43.0% over 2016 to €2.7 billion, while FVCs declined by 21.8% to €904.7 million. Both types of institutions experienced year-on-year declines during 2020, of 6.6% and 9.8%, respectively. This was mainly due to lower loans granted in the case of lending institutions, whereas in the case of FVCs they recorded a decline in the amount of securitised assets, presumably related to the pandemic as such entities could not benefit directly from government support schemes.

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10 Funds are classified as other asset allocation funds if they cannot be classified as any of the other funds. For example, an investment fund investing in commodities is classified as ‘other asset allocation fund’.
The analysis presented in this section illustrated that although at the outset the NBFI sector in Malta is large, this is mainly due to Malta becoming a European financial sector, which grew significantly since joining the EU in 2004. Malta established itself as a fund domicile and the NBFI sector in Malta is mainly composed of entities involved in the funding optimisation of group structures that do not propagate bank-like risks. This results in a relatively smaller segment of entities, which can be deemed to be involved in bank-like activities and provide an alternative source of funding other than the banking sector.

2. Financial Stability Risks of NBFI

2.1 Risk metrics
This section introduces an indicator-based framework largely based on the FSB’s methodology. In this approach financial stability risk is assessed through risk metrics presented in Table 2 which are designed to capture the extent of credit intermediation, maturity and liquidity transformation, leverage, and the interconnectedness with the banking system.

Credit intermediation – Indicators CRE 1 and CRE 2 compare the amount of credit assets and loans in relation to total assets, respectively. This means that CRE 2 captures a subset of assets falling under CRE 1, which also incorporates debt securities. By construction, these metrics fall between 0 and 1, with values closer to 1 indicating a higher engagement in credit intermediation.

Maturity transformation – Positive maturity transformation occurs when a financial institution uses short-term liabilities to fund long-term assets. This could render such entities susceptible to runs if investors seek to withdraw their money. Indicator MAT 1 measures the portion of long-term assets that are funded by short-term liabilities (that is, not funded by equity or long-term liabilities), as a share of the total financial assets. In the case of investment funds, equity falls under short-term liabilities and is therefore not included in the numerator. The indicator ranges between -1 and +1, with 0 demonstrating no maturity transformation and positive (negative) values implying positive (negative) maturity transformation.

### Table 2

<table>
<thead>
<tr>
<th>Risk Metric</th>
<th>Indicator 1</th>
<th>Indicator 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Credit Intermediation (CRE)</strong></td>
<td>CRE 1: Credit assets / Total financial assets</td>
<td>CRE 2: Loans / Total financial assets</td>
</tr>
<tr>
<td></td>
<td>MAT 1: (Long-term assets - equity - long-term liabilities) / Total financial assets</td>
<td>MAT 2: Short-term liabilities / short-term assets</td>
</tr>
<tr>
<td><strong>Maturity Transformation (MAT)</strong></td>
<td>LIQ 1: (Total financial assets - liquid assets) / Total financial assets*</td>
<td>LIQ 2: (Total financial assets - liquid assets + short-term liabilities) / Total financial assets</td>
</tr>
<tr>
<td><strong>Liquidity Transformation (LIQ)</strong></td>
<td>LEV 1: Total financial assets / equity</td>
<td></td>
</tr>
<tr>
<td><strong>Leverage (LEV)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Interconnectedness with the banking system (INT)</strong></td>
<td>INT 1: Assets with credit institutions / Total financial assets</td>
<td>INT 2: Liabilities with credit institutions / Total financial assets</td>
</tr>
</tbody>
</table>

Notes: Risk indicators as set out in FSB (2020), with the exception of the indicator marked in * which is taken from ESRB (2016). ** Risk indicators applicable to investment funds. Short-term assets and liabilities are deposits, loans and debt securities with original maturity less than one year, whereas long-term assets and liabilities are those with original maturity more than one year. In the case of FVCs, assets (and loans) include securitised assets (and loans). Equity holdings have been considered as short-term assets. Liquid assets include deposits, sovereign bonds, debt securities issued by MFIs and equity and investment fund shares.
Indicator MAT 2 reflects the share of short-term liabilities to short-term assets. A ratio of 1 indicates that short-term liabilities are covered with short-term assets, while values below 1 indicate negative maturity transformation. The higher the ratio rises above 1, the higher the dependence on short-term funding.

**Liquidity transformation** – Positive liquidity transformation refers to the use of liquid, short-term liabilities, to finance less liquid assets, which tend to be of longer term. This, as in the case of maturity transformation, could render non-bank entities susceptible to runs. In the event where parties providing the finance (savers or other lenders) seek to withdraw their money, such entities would need to sell off their illiquid assets to accommodate the demands of their investors, potentially resulting in a drop in asset prices and related market losses.

Ratio LIQ 1 measures the proportion of illiquid assets relative to total assets. A higher ratio indicates a higher proportion of illiquid assets, with a maximum score of 1 indicating that all assets are illiquid. However, to shed further insight into the extent of liquidity transformation, the analysis is complemented with indicator LIQ 2 which measures the amount of illiquid assets (total financial assets less liquid assets) and short-term liabilities as a proportion of total financial assets. A value of 1 would mean that no liquidity transformation is taking place, with short-term liabilities being equal to liquid assets, meaning that near-term demands on liquidity are supported by liquid assets. On the other hand, the closer the value is to 2, the higher the indication that assets are less liquid and that they are funded by short-term liabilities, thereby suggesting positive liquidity transformation. Conversely, the further the value is below 1, the higher the indication of negative liquidity transformation.

**Leverage** reflects the use of borrowed capital as a funding source when investing with the intention of expanding the firm’s asset base and generating higher returns. However, the use of leverage could magnify the losses because if the investment goes contrary to expectations, the subsequent losses would be greater than they would have been otherwise. Metric LEV 1 compares the total assets relative to equity, or the assets under management (AUM) relative to the net asset value (NAV) in case of investment funds. The higher the value is above 1, the lower the level of equity relative to total assets, and hence the higher the leverage.

**Interconnectedness** with the banking system captures the extent of linkages between the non-bank entities and credit institutions that may be conduits for the transmission of financial distress. The first metric, INT 1, measures the assets side links with banks whereas INT 2 measures the links on the liabilities side. The higher the value as a proportion of total assets, the higher the extent of interconnectedness with the banking system.

### 2.2 Assessment of potential financial stability risks

This section discusses the developments in the various risk metrics discussed above, using annual data for the period December 2016 to December 2020. Results are summarised in Table 3.

**Table 3**

<table>
<thead>
<tr>
<th>Indicators/Entity types</th>
<th>Open-ended investment funds</th>
<th>Other financial intermediaries</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Aggregate IFs</td>
<td>Bond funds</td>
</tr>
<tr>
<td>Credit Intermediation</td>
<td>CRE 1</td>
<td>0.2 ▶</td>
</tr>
<tr>
<td></td>
<td>CRE 2</td>
<td>0.0 ▶</td>
</tr>
<tr>
<td>Maturity Transformation</td>
<td>MAT 1</td>
<td>0.2 ▶</td>
</tr>
<tr>
<td></td>
<td>MAT 2</td>
<td>1.3 ▶</td>
</tr>
<tr>
<td>Liquidity Transformation</td>
<td>LIQ 1</td>
<td>0.2 ▶</td>
</tr>
<tr>
<td></td>
<td>LIQ 2</td>
<td>1.1 ▶</td>
</tr>
<tr>
<td>Leverage</td>
<td>LEV 1</td>
<td>1.2 ▶</td>
</tr>
<tr>
<td></td>
<td>LEV 2</td>
<td>0.1 ▶</td>
</tr>
</tbody>
</table>

Notes: All figures, including the aggregate columns, represent the weighted mean. Arrows indicate whether figures increased, decreased, or remained the same, from the end of 2016 to the end of 2020.
2.2.1 Open-ended investment funds

The significant growth of the asset management industry in recent years has raised concerns on its implications for financial stability, particularly because of the increase in debt funds and the changing financial landscape which has pushed fund managers to invest in less liquid assets for a higher return. Yet, liquidity transformation seems to be contained among investment funds, with a slight exception again being bond funds, which registered the highest values among investment funds. In fact, their holdings of illiquid assets grew from 33.8% of their portfolio in 2016 to 41.6% in 2020 in a bid to earn a higher yield. This meant the LIQ 1 ratio stood at 0.4, double the 0.2 reported among the other investment funds. The increase of illiquid assets also resulted in the LIQ 2 to be pushed upwards from 1.1 to 1.3 during the same period, indicating that bond funds tend to have the largest share of illiquid assets compared to their short-term liabilities.

Credit intermediation is limited and conducted solely through the use of debt securities as evidenced by CRE 2 which stood at 0. This is almost entirely driven by bond funds, which – in line with their business model – have approximately 77% of their balance sheet in the form of debt securities, resulting in their CRE 1 ratio reading 0.8, significantly higher than the 0.2 reported for the aggregate investment funds.

Across the investment funds assessed, maturity transformation is positive but limited as suggested by both MAT 1 and MAT 2 indicators, which on average stood at 0.2 and 1.3, respectively. It is, however, prevalent among bond funds as they typically hold long-term debt securities. This drives their MAT 1 ratio to 0.8. Subsequently, the low proportion of short-term assets among these funds resulted in the MAT 2 ratio standing at 5.2, significantly higher than the ratio at the aggregate level for investment funds. Although to a much lower extent, maturity transformation is also prevalent among hedge funds, which on average reported MAT 1 and MAT 2 readings of 0.4 and 1.9, respectively. This is driven by one hedge fund, which held almost 65% of its portfolio in long-term deposits with non-EU entities during December 2020.

Leverage among investment funds is limited, in large part because most of the domestic funds are regulated under the UCITS Directive which restricts borrowing for retail up to 10% of their assets on a temporary basis. In the case of the Alternative Investment Funds (AIFs), asset managers have to set reasonable leverage limits, however, the competent national authorities can impose limits if deemed necessary for the stability and integrity of the financial system. As measured by the total assets relative to the NAV, leverage is relatively higher than the average in the case of mixed funds, with LEV 1 reading 1.6. This, however, reflects the increased funding by one entity through deposits from non-monetary financial institutions (MFI), as otherwise the leverage ratio would stand at unity for the rest of these funds.

Interconnectedness with the banking system is also relatively low for investment funds, with the relevant ratios generally not exceeding 0.2 on both the asset and liability sides. A slight exception to this is the case of hedge funds as they register a slightly higher interconnectedness with the banking sector on the liability side with INT 2 standing at 0.3 as at the end of 2020, as banks are investing higher amounts in these types of investment funds.

2.2.2 Other financial intermediaries

All risk metrics suggest that OFIs have a higher probability of propagating bank-like risks than investment funds. These entities have a higher engagement in credit intermediation, which is mainly through the granting of loans by lending institutions, and securitised loans and debt holdings by

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12 Refer to article 25 of the AIFMD: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32011L0061&from=EN
FVCs. Lending indeed makes up 90% of the lending institutions’ assets, translating into a CRE 1 value of 0.9, with no debt securities holdings, however, reported. In the case of FVCs, loans— including securitised loans – make up approximately 10% of their asset portfolio while holdings of debt securities make up slightly less than a quarter.

OFIs are also engaged in positive maturity transformation, with the values reading 0.6 and 1.9 for MAT 1 and MAT 2, respectively. However, these are solely being driven by lending institutions, which represent the bulk of OFIs, as otherwise FVCs engaged in negative maturity transformation. Results among lending institutions are, however, not heterogeneous, with the biggest entity in the sector driving the maturity transformation whose main source of funding consists of short-term loans from related credit institutions. Should this entity be excluded, the remaining lending institutions would record a negative maturity transformation on average, given that the remaining entities have proportionately a higher element of funding through equity (see Table 2). Overall FVCs’ negative maturity transformation is being driven by the prevalence of long-term liabilities, namely the issuing of long-term debt securities, but also shareholders’ funds (see Table 2), with such factors reducing both MAT 1 and MAT 2.

Similar conclusions can be put forward for liquidity transformation, as while at the aggregate level and among lending institutions, results suggest the existence of positive liquidity transformation, this is not prevalent across the board and is being driven by a large institution. In fact, removing this entity would result in a negative liquidity transformation. In the case of FVCs, the measure stood below unity at 0.7, same as the level in December 2016, as short-term liabilities are relatively low as highlighted in the case of maturity transformation.

Almost half of the FVCs’ funding occurs through the issuance of debt securities and loans, which resulted in considerable leverage as shown by LEV 1 of 2.0 during 2020. The leverage of lending institutions is even higher at 4.1, but is again driven by the funding from a related credit institution by the same entity, as otherwise the ratio LEV 1 for these institutions would stand at 1.1.

The level of interconnectedness with the banking system among OFIs stands at 0.4 and 0.6 for assets and liabilities respectively. The significant funding from a related credit institution by the largest lending institution is indeed driving the links on the liabilities side for the lending institutions category, which stood at 0.7, as otherwise no liability links would be reported. However, the impact on assets links is much more contained, with around half of the assets of these institutions pertaining to credit institutions. In the case of FVC, both ratios are relatively low, standing at 0.1 both on the asset and liability sides, with the interconnectedness on the funding side being with foreign related credit institutions.

Conclusion

The analysis of the non-bank financial sector shows that the actual NBFI activity in Malta, as defined by the narrow measure, is relatively small when compared to other jurisdictions. This is predominantly because of the presence of CFIML entities, as they make up 85.9% of all non-bank entities’ assets, and whose function is generally limited to allowing for the pass through of capital within a group of companies, and are thus excluded from the narrow measure. This is similar to the experience of other countries such as Luxembourg, Ireland and Netherlands (ESRB, 2020). In fact, while the broad measure of the NBFI as a share of the financial system’s total assets stood at 79.1% during December 2020, this decreases to 4.5% based on the narrow measure. Furthermore, the narrow measure of NBFI activity is dominated by investment funds, which are also strictly regulated and supervised.

The narrow measure of NBFI activity had been on an increasing trend over the years as entities were increasingly recognised as an alternative source of finance. However, the onset of the COVID-19
pandemic generated some stress for these entities and the overall assets of this sector declined marginally, as non-bank entities could not access any government support measures directly. Investment funds also reported outflows or loss in the value of their investments, but no significant redemptions were reported. Notwithstanding, the overall impact of the pandemic in terms of risk metrics was contained, with no material changes in the risks posed by these institutions reported. Moreover, links with domestic banking entities, which remained the main players in the domestic credit market, are relatively low and observable only within a few institutions. The assessment of the potential financial stability risks among these entities within the narrow measure showed that credit intermediation is mainly undertaken by bond funds, FVCs and lending institutions. However, while in the case of bond funds this is predominantly undertaken through debt securities holdings, in the case of lending institutions this is conducted through the provision of loans. In the case of FVCs, credit intermediation is undertaken through securitised loans as well.

Indicators for maturity transformation suggested that this is undertaken predominantly by bond funds, and to some extent also by hedge funds and lending institutions. The latter sector is also engaged in positive liquidity transformation. However, in the case of hedge funds and lending institutions, results are being driven by the biggest entities within the respective sectors and such activities are not prevalent across the board.

When considering the extent of leverage undertaken, this is not common among investment funds owing to their business model with a slight exception when it comes to mixed funds as external funding from non-EU non-MFIs by one particular entity raised the aggregate measure. OFIs, on the other hand, are relatively more leveraged, with the indicator for lending institutions being driven by the largest institution through funding from a related credit institution.

Work is currently underway to establish a methodology to determine the domestically-relevant OFIs, which, together with the domestically-relevant investment funds, will enable the calculation of the domestically-relevant narrow measure. As outlined in Box 5, domestically-relevant investment funds are relatively few in relation to the whole population of entities, and this will reduce further the size of the narrow measure. These two approaches can in turn be combined together so as to focus on the domestically-relevant entities that potentially could pose risks to financial stability. Going forward, the framework will be developed further with the intention of focusing more on the riskier domestically-relevant entities and their impact on the local financial system.

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Financial Stability Board (FSB), 2011. Shadow Banking: Strengthening Oversight and Regulation, s.l.: FSB.
4.2 Domestic Investment Funds

This edition of the Financial Stability Report carries an updated methodology for selecting domestically-relevant investment funds which better captures financial stability implications on the Maltese economy and the financial system (see Box 5). On the basis of this methodology, 36 investment funds were identified as domestically relevant, compared to 35 in 2019 as one fund was reclassified given that it changed its strategy to focus more on instruments of a longer-term nature. This development resulted in overall assets growing by 1.2% in 2020 to €1.8 billion, equivalent to 14.1% of GDP, as otherwise, excluding this fund, assets would have contracted by 0.8%.

More than 80% of domestically-relevant sub-funds were licensed as retail UCITS, representing just above three-quarters of the domestically-relevant sub-funds’ assets. Of the remaining sub-funds, five were licensed as AIFs, accounting for 21.6% of total assets, and one was a Professional Investor Fund (PIF), which by its nature is targeted to professional investors, representing 3.2% of assets.

Bond funds remained the most prevalent fund type accounting for around 44% of the domestically-relevant sub-funds and captured almost three-fourths of domestically-relevant sub-funds’ assets (see Chart 4.10). Indeed, despite market turbulence and significant volatility brought about by the onset of the pandemic, bond funds’ assets increased by 1.1% in 2020, reversing the 4.5% drop reported in the first quarter of 2020, partly reflecting a flight to safer assets.

The wide-scale global selloff in riskier assets may have spurred the contraction reported in equity funds domestically, particularly in the early stages of the pandemic with their total assets falling by 14.3% in the first quarter of 2020. The unprecedented monetary and fiscal stimulus created the conditions for a rebound, however, this only contributed to a partial recovery in equity funds. Indeed, as at the end of 2020, while the number of the equity funds remained unchanged – accounting for just above one-fifth of the domestically-relevant sub-funds – their assets decreased by 12.4% to represent 9.2% of overall assets under management.
Meanwhile, owing to the reclassification mentioned above, the number of funds classified as other asset allocation funds increased to eight, with their assets growing by 20.7% to 11.3% of assets. In turn, the number of sub-funds classified as mixed funds remained unchanged at four, accounting for some 6.1% of assets. On aggregate, these funds’ assets fell by 3.7% during the year, recouping most of the drop seen in the first quarter of 2020.

4.2.1 Asset Composition
The largest asset component of domestically-relevant investment funds were debt securities, which on aggregate grew by 3.4% to account for 70.4% of total assets, maintaining the upward trend reported in the past two years. This mainly reflected higher holdings of NFC bonds, in part by the newly-added fund, and also sovereign bonds, which continued to be the most preferred instrument (see Chart 4.11).

As in previous years, around 90% of sovereign bond holdings were issued by the Maltese Government, thus confirming the domestic bias of such funds. Holdings of NFC bonds expanded to represent 14.4% of the bond portfolio, up by almost 2 percentage points, in part driven by the new fund. Foreign euro area NFC bonds rose by almost 55%, to account for nearly a third of NFC bond holdings. Non-euro area NFC bonds increased by 19%, but their share declined slightly to represent around 44% of NFC holdings. In contrast, holdings of Maltese corporate bonds decreased by 6.8% to represent around a fourth of overall NFC bond holdings.

Holdings of financial corporate bonds also fell by 2%, owing to lower bond holdings of ‘OFIs, financial auxiliaries and captives’ as well as banks, which saw their share in the overall bond portfolio decreasing to around 23% and 7.7%, respectively. Meanwhile, bonds of insurance corporations remained contained at a modest 1.2% of the bond portfolio. Maltese financial institutions represented just above 40% of financial corporate bonds, which, however, saw their share decrease slightly. Holdings in financial non-euro area corporate bonds dropped by 1.6 percentage points to 27.5%, with euro area financial corporate

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10 Funds are classified as ‘other asset allocation funds’ if they cannot be classified as any of the other funds. For example, an investment fund investing in commodities is classified as ‘other asset allocation fund’.

11 Investment funds are classified as ‘mixed funds’ if they invest in both bonds and equity with no general policy in favour of either one or the other.
bonds growing by 2 percentage points to 32.1%.

Holdings of equities decreased by 4.8% in 2020 to represent 21.4% of overall assets (see Chart 4.12). This decline is likely to have reflected the higher uncertainty due to the pandemic, particularly during the first quarter of 2020. It was mainly driven by lower direct holdings, which declined by 10%. In turn, this reflected a decline of about 23% in holdings of bank equities, predominantly of domestic banks, reflecting the fall in their share prices. NFC equity holdings also dropped by around 7% to represent some 31% of the overall equity portfolio, almost two-thirds of which were of Maltese corporates. Other equity holdings also fell, albeit by a lower extent, with equities in ‘OFIs, financial auxiliaries and captives’ amounting to 7% of the overall portfolio. The remaining 3.2% were invested in insurance corporations, the majority of which were domiciled in Malta. On the other hand, participations in investment funds increased by 2.3% to account for 46.5% of the overall equity portfolio. These largely represented investments in euro area investment funds, which stood at 84.2% of investment funds holdings, registering an increase of more than 15 percentage points. Participation in non-euro area investment funds declined by almost 12 percentage points to 7.3% of holdings in investment funds, while participation in Maltese investment funds were trimmed by 3.4 percentage points to 8.5%.

At almost 8% of assets by December 2020, the share of cash and deposits remained unchanged over one year ago, largely due to the additional fund, as otherwise such share would have contracted to almost 7% of total assets.

4.2.2 Investors

Maltese households and non-profit institutions serving households (NPISH) remained the principal investors in domestically-relevant sub-funds, accounting for 60.6% of the total NAV, a 0.9 percentage point decrease from 2019 (see Chart 4.13). Meanwhile, investments by domestic OFIs and NFCs grew by 3.7 percentage points to 19.4% of the overall NAV by end of year. In contrast, the share of investments by MFIs fell by 2.6 percentage points to 11.3% as at the end of 2020. Participation by non-resident investors was limited to 3.9%, confirming the domestic focus of these funds.

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12 Direct equity holdings include investments in MFI, OFI, financial auxiliaries and captives, insurance corporations and NFCs.
Households’ investments in retail UCITS accounted for almost 60% of their NAV, down by almost 2 percentage points from 2019. Meanwhile, Maltese OFIs started investing in such funds with their share reaching almost one-fifth of the total NAV. This was offset by lower participation by domestic NFCs, which reduced their participation by 13 percentage points to account for a contained 2.2% of their NAV. Domestic banks’ participation narrowed by almost 4 percentage points to 15% of NAV.

Meanwhile, households are even more prominent in AIFs, representing almost two-thirds of the overall NAV of the AIFs and the PIF, while insurance companies held almost all the remaining participation which stood at 19.1%, substantially in line with the previous year. Ultimately, domestic NFCs are the sole investor in the PIF.

Overall, domestically-relevant investments funds represented 3.6% of the Maltese households’ financial wealth and 0.3% of that of the NFCs.

4.2.3 Risk Assessment
During 2020, the domestic investment funds remained highly liquid with low leverage. Concentration risk remained given that their securities portfolio is biased towards Maltese assets. Their assets grew moderately with a preference towards debt instruments instead of equities indicating a move to safer assets. The maturity profile of their portfolio rose given that the share of securities with maturities beyond five years increased while at the same time less liquid assets also rose. Such funds have experienced net outflows only during the onset of the pandemic in March and April, and some in November 2020, but these were contained and reversed in the following months. While activity decreased over a year ago, the domestic investment funds kept the relatively positive trend experienced in the past three years.

Liquidity profile
The liquidity profile of investment funds’ assets is largely determined by the daily regulatory requirements and ensures that redemption requests from investors are met. Unlike other investment funds in the euro area, on the onset of the pandemic, domestically-relevant investment funds did not seem to have suffered significant redemptions. They continued to increase their exposure to credit risk through higher holdings of debt securities, offsetting the cash-out seen in the first quarter of the year when they raised their liquidity temporarily. By the end of the year, the retail UCITS liquid assets ratio was relatively unchanged compared to the previous year, standing at 69.6% (see Chart 4.14). Conversely, at almost 80%, the liquid assets ratio of AIFs and PIF declined by 2.2 percentage points, mainly driven by lower liquid assets including equities, bank bonds, and cash and deposits. As a result, the overall liquid assets ratio of the domestically-relevant investment funds stood at 71.9% in December 2020, down by 1.6 percentage points from the previous year’s level.

Leverage
Investment funds use leverage to increase their return, largely through borrowings and/or with the use of derivatives, which is commonly referred to as synthetic leverage. In adverse developments, this could result in significant losses, thus posing additional risk since losses could be amplified. The EU framework, however, addresses the issue of leverage in investment funds by putting in limits, requiring risk management and reporting by fund managers. Despite the persistently low interest rate environment which may encourage search-for-yield behaviour, the leverage of domestically-relevant investment funds remained highly liquid with low leverage.
funds calculated as AUM-to-NAV ratio, decreased very marginally by 0.1 percentage point to 100.2%. This indicates limited leverage as most of the assets are funded through NAV, thus sourced directly from investors. This marginal leverage is due to retail UCITS, which, however, remained contained at 100.3%, with no leverage by AIFs and the PIF reported.

Concentration risk
Concentration risk – being either geographical, sectoral, or in specific asset classes – can be a threat to the health of the investment portfolio as it is one of the main possible causes of major losses, also due to high correlation. A well-diversified portfolio aims at reducing both risk and volatility, though in this way curbing somewhat the potential for significant capital gains. At 60.8%, the securities portfolio of domestically-relevant investment funds is highly skewed towards assets held in Malta. Although the share of domestic securities fell by 1.2 percentage points over the previous year, domestic assets remained dominant. Euro area securities accounted for 23% of the overall securities portfolio, up by 2.4 percentage points, whereas other foreign securities declined by 1.2 percentage points to 16.2% (see Chart 4.15). Holdings of domestic securities also declined. The bond portfolio is highly concentrated in domestic sovereign paper, to represent more than a third of assets. The concentration in local sovereign holdings shows a home bias but could also be related to the relatively higher yields offered by domestic bonds compared to other euro area government bonds.

4.2.4 Risk Outlook
Domestically-relevant investment funds saw their assets growing moderately compared to the previous year. However, the investment strategy showed a rotation effect, as equities witnessed a decline in favour of debt. This is partly attributable to the high valuation of equities, which may have led to some profit taking, but also to the uncertainty stemming from the COVID-19 pandemic, which still weighed on investment decisions, pushing towards safer assets.

Structural risk
Potential group contagion risk is evident in the domestic investment funds sector, with asset management companies owned by the core domestic banks managing almost 84% of the NAV of the domestically-relevant sub-funds. Nonetheless, being set up as separate legal entities ensures that they are 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 the risks emanating from excessive redemption requests, which could put the fund into liquidity issues with the potential of fire-sales of its assets.

Cyclical Risk
Possibly owing to the low interest rate environment, investment funds’ debt portfolio has shown a maturity extension, as the share of securities with maturities beyond five years rose by 2.9%. These represented 77.7% of the total debt portfolio, an increase of 0.5 percentage point, mainly driven by longer-dated domestic sovereign bonds. Furthermore, a switch from the very short maturities of up to one year to slightly longer dated ones maturing between one and two years was also observed.

The increase in less liquid assets indicates a search for higher yield by fund managers, showing willingness to take on more risks in a low-yield environment, possibly to compensate for valuation losses particularly due
to the equity price drops experienced during the first quarter of the year as a consequence of the COVID-19 pandemic. Indeed, bond holdings rose further, driven by higher corporate bonds, and sovereigns to a lower extent. Nonetheless, domestically-relevant investment funds did not experience the outflows faced by funds domiciled in other European countries, where large redemptions from some investment funds and a severe deterioration in liquidity in some markets were reported. Indeed, domestic funds maintained a net inflow throughout 2020, as sales outweighed redemptions, although activity decreased over a year ago, confirming the trend of the past three years.

**BOX 5: REVISITING THE METHODOLOGY FOR SELECTING DOMESTICALLY-RELEVANT INVESTMENT FUNDS**

The growth of the investment fund industry merits macroprudential oversight given its potential impact on financial stability as flows into funds, coupled with the fund managers’ actions, can potentially amplify vulnerabilities in the financial system. Malta has established itself as a cost-effective fund domicile giving fund managers direct access to the EU internal market. Similar to other fund-oriented jurisdictions, this results in a distinct characteristic where funds domiciled in one country do not necessarily exhibit links with the domestic economy. Such characteristics make it necessary for the Bank to distinguish between those investment funds which are domestically relevant and others that are not. In this manner, it can monitor relevant developments in this sector and identify any potential risks to financial stability.

Under the previously adopted methodology, domestically-relevant investment funds were selected on the basis of whether the investment fund’s resident shareholder units exceed 50% of the overall NAV of the fund. This methodology limits the classification to a single factor, emphasising residency rather than domestic relevance. Starting from this edition of the *Financial Stability Report*, the methodology for the categorisation of such funds was updated to better capture other factors reflecting the domestic relevance of investment funds. This box highlights the changes in the current methodology and presents the identified list of funds on which the assessment of domestic relevance within the Report is based.

**Revised methodology**

The new methodology is based on the following three indicators, which aim to capture a better understanding of the links with the domestic economy.

- **Indicator 1**: The proportion of resident shareholder units (NAV) in the fund, excluding the holdings of other resident investment funds
- **Indicator 2**: The proportion of resident assets held by the investment fund
- **Indicator 3**: Whether the investment fund is managed by an entity that has ties with the domestic economy.

**Indicator 1: The proportion of resident shareholder units (NAV)**

The first indicator captures the share of the resident NAV out of the total NAV for each investment fund, building on the indicator which was used so far. The main difference is that the part of the resident investment fund’s NAV which is held by other resident investment funds is excluded from the overall investment fund’s resident NAV.

Excluding the NAV units held by other resident investment funds is relevant since information on the ultimate investor is not available, and the investor could well be a non-resident. By way of an

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1. This Box was prepared by Massimo Ciarla, Principal Economist within the Financial Stability Surveillance and Research Department of the Bank. The author would like to thank Andrew Spiteri, Manager within Financial Stability, Surveillance and Research Department; Wendy Zammit, Head within Financial Stability, Surveillance and Research Department; and Alan Cassar, Chief Officer Financial Stability, for their valuable suggestions.

2. Other resident investment funds include those funds classified as non-MMFs.
example, a non-resident shareholder A holds investments in the resident Investment Fund A. In turn, this resident Investment Fund A invests in the resident Investment Fund B. Should the holdings of the resident Investment Fund A into the resident Investment Fund B be considered, Investment Fund B would be considered as domestically relevant even though its ultimate investor, shareholder A, is a non-resident (see Figure 1).

The proportion of resident shareholder units (NAV) is calculated using the formula:

\[
\frac{\text{IF'}s \text{ NAV (RoM)} - \text{IF}^{2}\text{s NAV [Other IFs (RoM)]}}{\text{IF'}s \text{ Total NAV}} \times 100
\]

**Indicator 2: The proportion of resident assets held by the investment fund**

The second indicator captures the share of assets invested domestically. The assets are composed of two broad sets: those holdings recorded as Security-by-Security Assets (SbSA), which are the ones identified by an ISIN code; and those which are without (non-SbSA).\(^4\) The proportion of assets held by residents of Malta is calculated using the formula:

\[
\frac{\text{MT Non SbSA Holdings} + \text{MT SbSA Holdings}}{\text{Total Assets}} \times 100
\]

**Indicator 3: Managed by a domestically-relevant entity**

The aim of this indicator is to highlight which funds are managed by entities that are considered to have a marked domestic footprint in the Maltese financial sector. The domestic relevance of a management company can be gleaned by the share of the aggregate resident NAV of the investment funds managed by a given management company in the total managed funds. In this step, similar to indicator 1, the share of resident NAV held by other resident investment funds is also excluded. Investment funds which are self-managed or managed by foreign entities are excluded. The indicator is calculated as follows:\(^5\)

\[
\frac{\text{MT entity i NAV (RoM)} - \text{NAV [Other IFs (RoM)]}}{\text{MT entities NAV (RoM)} - \text{NAV [Other IFs (RoM)]}}
\]

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\(^3\) RoM refers to residents of Malta.

\(^4\) An International Securities Identification Number (ISIN) is a code that uniquely identifies a specific securities issue.

\(^5\) See footnote 3.
Based on the above calculation, five management companies accounted for almost 99% of the overall resident NAV (excluding other investment funds NAV) for funds managed by resident companies. These five management companies are considered to be domestically relevant as identified by indicator 3. Domestic relevance is further confirmed by the fact that for each of these entities the share of the resident NAV (excluding other IFs NAV) out of the total NAV of the management company is above 50%.

**Scoring system and supervisory judgement**

The new methodology is built on a scoring system, which assigns a score of either 1 or 0 to each of the three indicators used and aggregates them to arrive at a mechanical score. The score of 1 for indicators 1 and 2 is assigned if the indicator’s value is higher than 50%, with a 0 assigned if the indicator’s value is lower than or equal to 50%. For indicator 3, investment funds – managed by a domestic entity which has a domestic relevance within the local economy – are assigned a score of 1, while the remaining investment funds are assigned a score of 0. This scoring mechanism is, in some instances, augmented by tapping into supervisory judgement in collaboration with the MFSA to better assess the relevance of the investment funds for the stability of the domestic financial system. This judgement will be updated on an annual basis aiming to arrive at a harmonised list of domestically-relevant investment funds.

The supervisory judgement can add or deduct one notch to the score based on the indicators, thus enabling funds with a score of 1 to become domestically relevant, or those with a score of 2 to be considered as not domestically relevant. Investment funds with a score of 0 are automatically excluded from the list of domestically-relevant funds, while those with a score of 3 are outright considered as domestically relevant. There are several factors that may affect the supervisory judgement, including information about the Ultimate Beneficial Owner’s (UBO) links with the domestic economy.

![Figure 2](NEW METHODOLOGY: SCORING SYSTEM AND SUPERVISORY JUDGEMENT)

**Figure 2**

NEW METHODOLOGY: SCORING SYSTEM AND SUPERVISORY JUDGEMENT
the latter be considered not domestically relevant, the score is adjusted one notch down. In contrast, if the UBO and other domestic ties are not captured in the scoring system, a score of 1 is awarded.

The investment fund is classified as domestically relevant if the final score, post supervisory judgement, is either 2 or 3 (see Figure 2). The list of domestically-relevant investment funds will be updated on an annual basis.

Results
Based on the new scoring mechanism, 36 investment funds were classified as domestically relevant in December 2020, compared to 67 funds as captured in the Interim Financial Stability Report 2020 (see Table 1). The resulting reduction in the number of institutions falling within scope is attributable to a more granular approach under the revised methodology. The primary driver for this reduction relates to the exclusion of those funds that under the old methodology would have been classified as resident institutions, but in reality are owned by other resident funds as explained by indicator 1.

At the same time, those funds which are captured by indicator 1, and are thus considered to be resident in the previous methodology, but which do not meet at least one of the requirements set under indicator 2 or 3, are excluded. These include those investment funds which – despite exhibiting a share of resident NAV of 50% or above – do not invest more than 50% of their portfolio in resident assets or are not managed by a local investment company. Ultimately, the inclusion of supervisory judgement also contributed to some of the funds not being considered as domestically relevant any longer. The classification based on the new methodology allows a clearer picture of those funds exhibiting material links with the domestic economy. These 36 investment funds form the sample on which the assessment of domestically-relevant funds is carried out in this edition of the Financial Stability Report.

Table 1
DOMESTICALLY-RELEVANT MANAGEMENT COMPANIES AND INVESTMENT FUNDS

<table>
<thead>
<tr>
<th>BOV ASSET MANAGEMENT LIMITED</th>
<th>REAPS ASSET MANAGEMENT LIMITED</th>
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<tbody>
<tr>
<td>BOV Balanced Portfolio Fund</td>
<td>APS Diversified Bond Fund</td>
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<tr>
<td>BOV Conservative Portfolio Fund</td>
<td>APS Income Fund</td>
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<tr>
<td>BOV Growth Portfolio Fund</td>
<td>APS Regular Income Ethical Fund</td>
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<tr>
<td>Global Balanced Multi-Manager Fund</td>
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<tr>
<td>Vilhena Broad Opportunities Fund</td>
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<td>Vilhena Euro Income Fund</td>
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<td>Vilhena Euro Liquidity Fund</td>
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<td>Vilhena European Multi Manager Fund</td>
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<td>Vilhena Far East Opportunities Fund</td>
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<td>Vilhena Global Themed Fund</td>
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<td>Vilhena High Yield Fund</td>
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<td>Vilhena Malta Bond Fund</td>
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<td>Vilhena Malta Fund</td>
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<td>Vilhena Malta Government Bond Fund</td>
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<td>Vilhena Maltese Equity Focus Fund</td>
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<td>Vilhena Maltese Opportunities Fund</td>
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<td>Vilhena Sterling Income Fund</td>
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<td>CALAMATTA CUSCHIERI INVESTMENT MANAGEMENT LIMITED</td>
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<td>Emerging Market Bond Fund</td>
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<tr>
<td>Euro High Income Bond Fund</td>
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<td>Global Balanced Income Fund</td>
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<td>Global High Income Bond Fund</td>
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<td>Global Opportunities Fund</td>
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<td>Malta Balanced Income Fund</td>
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<td>Malta Government Bond Fund</td>
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<td>HSBC GLOBAL ASSET MANAGEMENT (MALTA) LIMITED</td>
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<td>Equity Growth Fund</td>
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<tr>
<td>International Bond Fund</td>
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<td>Malta Bond Fund</td>
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<td>Malta Government Bond Fund</td>
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<tr>
<td>Maltese Assets Fund</td>
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<tr>
<td>JESMOND MIZZI FINANCIAL ADVISORS LIMITED</td>
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<tr>
<td>Merill Global Equity Income Fund</td>
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<td>Merill High Income Fund</td>
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<td>Merill Total Return Income Fund</td>
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<tr>
<td>Self-managed</td>
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<td>Amalgamated Growth and Income Fund</td>
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5. Macroprudential Policy Response
5. MACROPRUDENTIAL POLICY RESPONSE

5.1 COVID-19-related Policies
This section features the main policy measures implemented by the Bank in response to the economic and financial disruptions generated by the pandemic. It also gives an overview of the measures taken by other authorities and the MDB in this respect.

Central Bank of Malta Measures

**CBM Directive No. 18 on Moratoria in Exceptional Circumstances**
The legal right to apply for loan payment moratoria in Malta was issued on 14 April 2020 through Directive No. 18 on Moratoria in Exceptional Circumstances. The objective of the Directive was to provide liquidity relief to borrowers whose continued loan repayment ability had been compromised as a result of a temporary decline in income due to the COVID-19 pandemic. To this end, loan moratoria helped mitigate the temporary exogenous economic shocks generated by the COVID-19 pandemic through the provision of liquidity relief to affected borrowers and avoidance of undue classification of loans as non-performing.

On 14 January 2021, the Bank reactivated Directive No. 18, also in line with the Reactivated EBA Guidelines on legislative and non-legislative moratoria (EBA/GL/2020/15).1,2 This reactivation took into consideration the changes in economic conditions to those prevalent in June 2020, when the Bank had announced the extension of the application period to 30 September and the possible extension of existing moratoria by an additional six months.3 Indeed, the January 2021 reactivation came along with targeted conditions according to which an applicant could benefit either from (i) a completely new moratorium, or else (ii) an extension to an existing moratorium. Both of these cases were subject to an overall 9-month limit on the total moratorium to be negotiated during the reopened application period, which closed on 31 March 2021.

As shown in Figure 5.1 below, applications submitted for the first time were eligible for the full nine-month moratorium permissible under the reactivated Directive No. 18. Meanwhile, those who had already previously benefitted from a moratorium, and needed an extension, were able to do so, provided that the overall moratorium period did not exceed nine months.

Between October 1 2020 and January 14 2021, banks continued offering loan payment relief measures. Since the application period for moratoria was closed in September 2020, such measures would not have been able to benefit from moratoria as per Directive No. 18. However, in view of the protracted economic

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**FIGURE 5.1 TIMELINE OF MORATORIA (RE)NEGOTIATED DURING THE REACTIVATED APPLICATION PERIOD**

Source: Central Bank of Malta.
impact referred to above, and also due to the similar economic nature of these measures, Directive No. 18 allowed for a retrospective application as moratoria on these measures, also in line with the aforementioned EBA/GL/2020/15 in this regard. This meant that any payment relief measures, which met all the eligibility criteria stipulated in the Directive but were negotiated when the application period was closed, could have been considered as moratoria under Directive No. 18.

Going forward, the Bank will continue to follow EBA Guidelines on legislative and non-legislative moratoria.

Borrower-Based Measures
The Bank introduced changes to Directive No. 16 on Borrower-Based Measures to mitigate against potential transient disruptions in income and their impact on borrowers’ ability to comply with the parameters set in the Directive. In this regard, the Bank extended the phasing in of the loan-to-value limit at origination (LTV-O) applicable to Category II borrowers from 1 July 2020 to 1 July 2021. Furthermore, the Bank decided to lower the stressed debt-service-to-income limit at origination (DSTI-O) of 40% applicable to residential real estate loans granted to both Category I (i.e. namely first-time buyers) and Category II borrowers. The relaxation of the stressed DSTI-O limit was a temporary measure and was set for a period of six months to December 2020. For additional information refer to Panel C of the COVID-19 Special Feature of the Financial Stability Report of 2019. There is no intention to extend the measures introduced in 2020. However, the Bank remains vigilant to all developments in the residential real estate market and is ready to revise its policy stance as necessary.

Identification of Other Systemically Important Institutions (O-SIIs)
On the basis of the O-SII identification methodology developed by the Bank in conjunction with the MFSA (hereinafter referred to as ‘the Authorities’), the same four credit institutions designated as O-SIs during the 2020 iteration have been re-confirmed as O-SIs for 2021. Consequently, the Authorities confirmed Bank of Valletta Group, HSBC Bank Malta Plc, MeDirect Bank Group Ltd and APS Bank Plc as O-SIs, with MeDirect Bank Group Ltd registering an increase in its O-SII buffer rate from 0.50% to 1.00%.

In view of the impact of the COVID-19 pandemic, the Authorities decided to suspend the phasing in of arrangements by one year for those institutions currently subject to transitory provisions (APS Bank Plc) and those which have registered an increase in their O-SII buffer rate (MeDirect Bank Group Ltd) stemming from the 2020 O-SII identification exercise.

Those institutions which already meet their O-SII buffer rate on a fully-loaded basis (i.e. BOV and HSBC), are still requested to continue meeting their fully-loaded buffer rate during 2021. The four identified O-SIs are required to hold an O-SII buffer requirement as outlined in Appendix A, applicable as from the date of publication of the Authorities’ O-SII statement of decision.

Malta Development Bank COVID-19 Guarantee Scheme (MDB CGS)
The MDB CGS is intended to provide guarantees on loans granted by domestic banks in order to enhance access to bank financing for the working capital requirements of businesses facing liquidity shortages as a result of the COVID-19 pandemic. A Guarantee Fund of €350 million has been allocated by the Maltese

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5 Category II borrowers refers to those borrowers purchasing a residential property for secondary residence purposes or for buy-to-let
9 During the 2020 iteration, MeDirect Bank Group Ltd. registered a higher overall O-SII score. Consequently, and in line with the Authorities’ O-SII methodology, the Group was moved to a higher O-SII bucket, resulting in the higher applicable O-SII buffer rate.
10 The CBM-MFSA O-SII statement of decision was published on 12 February 2021 and is accessible as per following link: https://www.centralbankmalta.org/site/Financial-Stability/O-SII/Statement-of-Decision.pdf
11 Eligible working capital costs under the MDB CGS include salaries, rental costs, energy and water bills, acquisition of material and stock for the continuation of businesses and maintenance costs among others.
Government for the purpose of this scheme. This would then enable domestic banks to leverage government guarantees up to a maximum portfolio volume of €777.8 million.

In order to address the issue of expiring moratoria while maximising the potential of the scheme’s remaining funds, the MDB conducted the following amendments:

a. The moratorium period for loans under the CGS has been extended from a maximum of 12 months to 18 months;
b. The inclusion period end date of new loans under the scheme has been extended from 30 June 2021 to 30 September 2021; and
c. The eligibility criteria have been extended to include regular bank loan repayments (principal and interest).

Therefore, the MDB widened the definition of working capital to also include future loan repayments for the coming 18 months in case of SMEs, and for the next 12 months for corporates. This is particularly relevant for businesses with expiring bank moratoria which can now obtain refinancing for these loan repayments through these amendments to the scheme. These ‘refinancing loans’ will still be subject to the same terms and conditions of the MDB CGS.

Main MFSA Circulars issued in response to the COVID-19 pandemic

Circular to Credit Institutions on the EBA Guidelines on uniform disclosures under Article 473a of Regulation (EU) No 575/2013 as regards transitional arrangements for mitigating the impact of the introduction of IFRS 9 on own funds, and the amendments thereto

On 28 October 2020, the MFSA issued a circular in order to provide information to domestic credit institutions on the publication of the EBA Guidelines (EBA/GL/2018/01) on uniform disclosures under Article 473a of Regulation (EU) No 575/2013 (CRR) in relation to the transitional arrangements for mitigating the impact of the introduction of IFRS 9 on own funds. The circular makes reference to the fact that these guidelines put forward a uniform disclosure template which credit institutions are expected to use when disclosing information on own funds, capital and leverage ratios both with and without the application of IFRS 9 transitional arrangements or analogous expected credit losses. This is intended to facilitate the comparability of the data disclosed by credit institutions during the transition to IFRS9 whilst fostering market discipline.

The circular then delves into another set of EBA guidelines published on 11 August 2020 amending the aforementioned Guidelines, to take into account certain adjustments to the CRR in response to the COVID-19 pandemic (the ‘CRR quick-fix’). By means of this circular, further clarifications were provided on the disclosure requirements set out in the ‘CRR quick fix’ and the way in which domestic credit institutions should disclose this information.

Circular on the restriction of dividend distributions or share buy-backs and variable remuneration

On 2 April 2020, the MFSA issued a circular to inform credit institutions on the applicability of ECB Recommendation ECB/2020/19 which recommended that, in view of the challenges brought about by the COVID-19 pandemic, credit institutions should refrain from distributing dividends and conducting share buy-backs, and to exercise extreme caution on variable remuneration until 1 October 2020. Pursuant to the extension of this ECB Recommendation by means of another ECB Recommendation ECB/2020/35, the MFSA extended the application of its previous circular until 1 January 2021.

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12 Regulation (EU) 2020/873 amending Regulations (EU) No 575/2013 and (EU) 2019/876 as regards certain adjustments in response to the COVID-19 pandemic (CRR quick-fix) comprises of a set of amendments to the CRR. These amendments are intended to assist credit institutions in mitigating the impact of the COVID-19 pandemic, and also to incentivise continued lending support to households and businesses.

In view of the protracted impact of the COVID-19 pandemic, the ECB decided to further extend the applicability of this Recommendation by repealing ECB Recommendation ECB/2020/35 and implementing ECB Recommendation ECB/2020/62 which is applicable until 30 September 2021. In line with this extension, on 24 December 2020, the MFSA issued a circular requesting domestic credit institutions to refrain from distributing any cash dividends or conducting share buy-backs, or to limit such distributions, until 30 September 2021, extending the previous cut-off period of 1 January 2021.14 This is also commensurate with Recommendation ESRB/2020/15 of the European Systemic Risk Board (ESRB), adopted on 15 December 2020.15

In line with the contents of this MFSA circular, any domestic credit institution which intended to distribute dividends or buy back shares would be expected to inform the respective supervisor in order to evaluate whether the intended distribution would be prudent in light of the current economic scenario. While significant institutions (SIs) were requested to liaise directly with their Joint Supervisory Teams (JSTs) on the adequacy of their distribution levels, less significant institutions (LSIs) were to liaise directly with the MFSA to assess that their intended distribution levels were within acceptable prudence thresholds.

Circular to Credit Institutions on the EBA Guidelines on Supervisory Reporting and Disclosure Requirements in Compliance with the CRR ‘Quick-Fix’ in response to the COVID-19 Pandemic (EBA/GL/2020/11)

On 22 October 2020, the MFSA issued a circular reflecting EBA Guidelines on Supervisory Reporting and Disclosure Requirements in Compliance with the CRR ‘Quick-Fix’ in response to the COVID-19 Pandemic (EBA/GL/2020/11) which directed credit institutions to fulfil the relevant reporting and disclosure requirements that fell within the scope of these EBA Guidelines in relation to the changes that had been brought about by the amendments to CRR (CRR ‘Quick-Fix’). The aim of these EBA Guidelines was to clarify the reporting and disclosure requirements on the leverage ratio and to comply with CRR ‘quick fix’ in response to the COVID-19 pandemic. The circular extended these requirements to domestic institutions.

Circular to credit and financial institutions on the application of the prudential framework in light of coronavirus (COVID-19) measures

In line with EBA guidance, on 25 March 2020, the MFSA informed licence holders that while moratoria did not lead to any automatic classification in default, forborne or unlikeliness to pay, the relevant accounting provisions stipulated in IFRS 9 to reflect the increased credit, were to remain in effect. In this respect, credit institutions were required to “use judgement and distinguish between borrowers whose credit standing would not be significantly affected by the current situation in the long term, from those who would be unlikely to restore their creditworthiness.”

European Regulatory Developments

EBA Guidelines on the pragmatic 2020 supervisory review and evaluation process (SREP) in light of the COVID-19 crisis

On 23 July 2020, the EBA published the SREP Guidelines for the year 2020 to ensure that the necessary flexibility and pragmatism are applied by the competent authorities in view of the exceptional circumstances of the COVID-19 pandemic. Indeed, the implications of the COVID-19 pandemic had an effect on both the competent authorities and credit institutions, particularly with regard to operational constraints, heightened uncertainty and increased burden on banks to continue supporting the real economy. The Guidelines focused on four main areas; (i) the pragmatic SREP; (ii) overall SREP assessment and scoring; (iii) supervisory measures; and (iv) conduct of the SREP in cross-border contexts. In particular, it emphasised the need to focus on the most material risks and vulnerabilities brought about by the crisis and the ability of institutions to respond to the challenges, including operational continuity.


EBA GLs on COVID-19 reporting and disclosure of exposures subject to measures applied in response to the COVID-19 crisis (EBA/GL/2020/07)
The aim of these Guidelines is to address data gaps associated with the mitigating measures introduced by Member States to address the negative economic consequences of the COVID-19 crisis.18 The following requirements were covered by the Guidelines:

1. reporting requirements to monitor the use of payment moratoria and the evolution of the credit quality of the exposures subject to such moratoria;
2. disclosure requirements for the exposures subject to the payment moratoria;
3. reporting requirements for the new loans subject to specific public guarantees;
4. disclosure requirements for the new loans subject to the specific public guarantees;
5. reporting requirements on other forbearance measures applied in response to COVID-19 crisis.

As stipulated in these Guidelines, reporting was to be carried out every quarter, for an expected period of 18 months, and with the first reference date of 30 June 2020. Regarding disclosure, the Guidelines stipulate that this was to be performed on a semi-annual basis on 30 June and 21 December.

5.2 Other Policy Developments
In parallel to the measures enacted to address the financial stability risks in relation to the COVID-19 pandemic, during the course of 2020, the Bank and other authorities continued to perform their statutory tasks. The main developments are outlined in this section.

Amendments to CBM Directive No. 11 on ‘Macroprudential Policy’
Following a public consultation, the Bank published amendments to CBM Directive No. 11 on ‘Macroprudential Policy’ which came into force on 28 December 2020.17 These amendments reflected the revised Capital Requirements Directive (CRD V) and mainly consisted of the following changes:

- Application and Scope of the Systemic Risk Buffer (SyRB): The SyRB can now be applied on sectoral exposures and subsets thereof. Furthermore, the use of the SyRB is no longer limited to the prevention and mitigation of long-term non-cyclical systemic risks, but can be used to prevent and mitigate systemic risks which are not covered by the CRR as well as by the institution-specific CCyB and by the O-SII/G-SII buffer.
- The SyRB is now cumulative to (and not offset by) the G-SII/O-SII buffer provided that these buffers address different risks.
- O-SII buffer cap increased from 2% to 3%.
- A designated authority is now required to notify only the CCyB rate to the ESRB in case there is any change in the rate.

Voluntary reciprocation of macroprudential measures
Following its annual review, in 2020 the Bank maintained its non-reciprocity stance unchanged in relation to the previously activated measures recommended for reciprocation by the Belgian, Swedish and French authorities.18,19 No amendments to the reciprocation stance were deemed necessary. For further information on reciprocity adopted in the first half of 2020, refer to the Interim Financial Stability Report of 2020.20

18 Notification for extension by the National Bank of Belgium. Source: https://www.esrb.europa.eu/pub/pdf/other/esrb.notification/200408 _crr_be-843100d0c-en.pdf?4ac673250a6ab2b68b1b54476304486
19 Notification for extension by the French Haut Conseil de stabilité financière (HCSF). Source: https://www.esrb.europa.eu/pub/pdf/other/ esrb.notification/200713_measures-0a3a2a2c2778.en.pdf?911398e5965be284d2c3ab3b711866
Material third countries
As per the European Systemic Risk Board (ESRB) Recommendation 2015/1 on recognising and setting countercyclical buffer rates for exposures to third countries, the Bank conducts an exercise on an annual basis to identify those third countries which are material to the Maltese banking sector. The extent of materiality is based on three exposure metrics as outlined in the ESRB Decision 2015/3: original exposures, risk-weighted assets and defaulted exposures for the Maltese banking sector in relation to third countries. 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. 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 2020 Q2 – 2021 Q2 period are the United States, the United Arab Emirates and the Republic of Turkey. Thus, when compared to the identified material third countries for the previous period, the current list of domestic material third countries remained the same with the exception of Russia which qualified for the deletion criteria as stipulated in the ESRB methodology, and thus has been dropped from the list.

Counter Cyclical Capital Buffer (CCyB)
According to the notification that was communicated by the Bank on the decision relating to the applicable CCyB rate for the first quarter of 2021, the level of cyclical systemic risks in Malta remained contained. The relevant credit-to-GDP ratio was recorded at 82.9% and its deviation from the long-term trend stood at -6.4 percentage points. This together with other relevant qualitative information indicated that at the current juncture, the CCyB rate for Malta should continue to be set at zero. This assessment is also reinforced by the current developments and the economic downturn brought about by the COVID-19 pandemic.

Amendments to the Recovery and Resolution Regulations, 2021
Through the publication of L.N. 6 of 2021 on the 8 January 2021, the Recovery and Resolution Regulations (RRR), was amended to transpose the revised Bank Recovery and Resolution Directive (BRRD II) (Directive (EU) 2019/879) into Maltese legislation. The main amendments relate to the new regulations regarding the application, calculation, and determination of the minimum requirement for own funds and eligible liabilities (MREL). Specifically, minimum levels of MREL and minimum subordination requirements for different resolution entities (depending on their size and/or systemic importance) and non-resolution entities were introduced. It also introduces new reporting obligations applicable to institutions; transitional periods for institutions to meet MREL requirements; measures to address breaches of MREL; and new reporting obligations by the Resolution Committee to the EBA on the set MREL amounts. In addition, the legal notice grants new powers to the Resolution Committee to prohibit entities from certain distribution of funds and to suspend certain obligations pursuant to any contract to which an institution is a party. It also sets a new regulation on the selling of subordinated eligible liabilities to retail clients.

Main MFSA Circulars

The Investment Firms Regulation and Directive 1st Briefing
On 10 December 2020, the MFSA issued the first Circular on the Investment Firm Regulation and Directive (IFR package) out of a series of circulars which will be issued in due course by the MFSA. The Circular refers to the new classes of investment firms as defined in the IFR package and provides further explanation on the quantitative indicators introduced by the IFR package, so called K-Factors. In addition, the MFSA encouraged licence holders to participate in all future EBA consultations on the subject and explained the

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impact on own funds for those licence holders which hold a Category 3 Local Firms Licence.26 The Circular concludes by stating that the IFR package necessitates amendments to national legislation, which are due to come into force by 26 June 2021. In the meantime, licence holders were encouraged to continue reviewing the IFR package and to start planning any operational changes that may be required.

Circular to Credit Institutions on amendments to Banking Rule 16
On 22 December 2020, the MFSA published a revised version of Banking Rule 16 (BR/16) relating to Funding Plans for Credit Institutions authorised under the Banking Act, applicable from 31 December 2020. The need for revisions to BR/16 arises from the implementation of the EBA Guidelines on harmonised definitions and templates for funding plans of credit institutions under Recommendation A4 of ESRB/2012/2 (EBA/GL/2019/05).26 Revisions made to BR/16 include amendments to the set of criteria which establish the credit institutions falling within the scope of the Rule as well as changes to the reporting requirements which apply to credit institutions on an individual and consolidated basis, as applicable.

Circular on The New EU Sustainable Finance Model
In a circular issued by the MFSA on 11 August 2020, an outline on the legislative instruments relating to the new EU sustainable finance model expected to come into force in the pursuant months was provided. The MFSA circular delves into the progress achieved by the European Commission as part of its Action Plan on sustainable finance, emphasising the below three main legislative initiatives:

• **Taxonomy Regulation:** This regulation, which entered into force on 12 July 2020, establishes the conditions and the framework to create a unified classification system (taxonomy) on what can be considered environmentally-sustainable economic activities. This regulation encompasses all three factors of sustainability which are governance, social and environmental.

• **Disclosure Regulation:** The Disclosure Regulation, applicable as of 10 March 2021, aims to harmonise existing provisions on disclosures to investors regarding sustainability-related disclosures by the imposition of requirements on financial market participants and financial advisers in relation to financial products.

• **Benchmark Regulation:** In November 2019, the final text amending the EU Benchmark Regulation was published. The objective of this regulation is to ensure the reliability of benchmarks and minimise conflicts of interest in benchmark-setting processes. ESG disclosure requirements in relation to benchmark statements and benchmark methodologies and the minimum standards required for the new “Climate Transition Benchmarks” and “Paris-aligned Benchmarks” are set out in the delegated acts. The establishment of the aforementioned benchmarks would contribute to increasing transparency and preventing greenwashing.

Circular to Credit Institutions on the materiality threshold for assessing credit obligations past due
On 24 December 2020, the MFSA issued a circular to credit institutions on the materiality threshold for assessing credit obligations past due pursuant to an ECB guideline published on 25 June 2020.27 These guidelines put forward the materiality threshold which credit institutions should apply in order to classify a credit obligation as ‘defaulted’. The materiality threshold comprises of two components; an absolute limit and a relative limit:

a. A limit in terms of the sum of all amounts past due owed by the obligor, which would be equal to:
   i. €100 for retail exposures;
   ii. €500 for exposures other than retail exposures; and

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27 ECB Guidelines on the threshold for assessing the materiality of credit obligations past due as per following link: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020D00978&from=EN
b. A limit in terms of the amount of the credit obligation past due in relation to the total amount of all on-balance sheet exposures to that obligor, excluding equity exposures, equal to 1%.

In line with the ECB guidelines, a default would be expected to have occurred when both the limits outlined above are exceeded for more than 90 consecutive days. In line with this MFSA circular, the ECB guidelines are applicable to all domestic credit institutions as from 31 December 2020.

European Regulatory Developments

Update on the European Deposit Insurance Scheme (EDIS)

During 2020, the technical discussion in the Ad Hoc Working Party on the strengthening of the Banking Union (AHWP BU), have continued to focus on the parameters of a EDIS based on the hybrid model. The hybrid model proposes that funds are split between a central fund managed at European level and national Deposit Guarantee Schemes (DGS). Additionally, a mandatory lending mechanism is proposed to be introduced so that in the eventuality that the central fund is depleted, national DGSSs would be requested to provide additional funding through the form of a loan to the requesting DGS. The parameters that were discussed include: the scope of the scheme; the allocation of funds between the central fund and the national DGSSs; possible caps on the central fund and on mandatory lending; the repayment modalities such as interests and reimbursement sequencing; and the treatment of options and national discretions.

Eurogroup agreement to the early introduction of the backstop to the Single Resolution Fund (SRF)

The COVID-19 crisis continued to strengthen the case for completing the Banking Union in a holistic manner. Liquidity in Resolution (LiR) was identified as one of the main issues on which discussions should progress. The need for LiR occurs when a bank in resolution, even though successfully recapitalised, still encounters a shortage of liquidity. In November 2020, the Eurogroup agreed to advance the introduction of a common backstop to the SRF by the beginning of 2022. Through the common backstop instrument, the European Stability Mechanism (ESM) will provide liquidity support to the SRF in the form of a credit line. In this regard, as of 2022, the ESM backstop will double the funds of the SRF to around €120 billion. Nevertheless, according to the first comprehensive estimates of potential LiR demand in resolution for the euro area, as published by the ECB in 2020, in a systemic crisis with multiple failing banks and contagion, the sum of €120 billion could still be insufficient.28 Thus, other additional options are being discussed in order to have a comprehensive framework in place to ensure that sufficient funds to use for LiR are available for different scenarios.

28 https://www.ecb.europa.eu/pub/pdf/scpops/ecb.op251~65a080c5b3.en.pdf?690e875c3ef4f22db7a170c0c0396c45
Introduction
The COVID-19 pandemic has prompted public authorities – both locally and in other countries – to take various policy measures to contain the transmission of the virus. Measures such as business shutdowns, quarantines, and restrictions on mobility and social contact resulted in significant operational disruption and have brought some sectors of the economy to a standstill.

The various containment measures that were introduced in Malta resulted in, as elsewhere, reduced cash inflows for affected local businesses and households. In response, the Government and other authorities rolled out a package of support measures, among which were wage supplement schemes, tax deferrals, guaranteed bank lending and loan moratoria to alleviate such liquidity shocks, thereby avoiding undue insolvencies and employee layoffs.

As part of this support package, the Bank issued Directive No. 18 on ‘Moratoria on Credit Facilities in Exceptional Circumstances’ to lay down the eligibility criteria of borrowers for loan moratoria. This box takes a deeper look at the loan moratoria uptake in Malta, including a sectoral analysis on the recourse by the private sector to this measure. It also aims to assess the financial stability impact on lenders, followed by an impact assessment on credit institutions’ NII and NPL ratios. A stress test also complements this analysis, testing banks’ resilience against potential cliff-edge effects, in other words, sudden increases in NPLs upon expiration of loan moratoria.

Impact on non-financial private sector
By combining granular loan data from the Bank’s Central Credit Register (CCR) and publicly available information, one could shed more light on the composition of granted loan moratoria in order to observe any interlinkages across sectors due to common sources of activity.

The economic shocks brought about by the COVID-19 pandemic have affected the financial position of firms operating in a variety of economic sectors in a heterogeneous manner. This is evidenced by the varying shares of loans under moratoria when compared to the outstanding loans granted in the respective sector as, shown in Chart 1. It also shows a varying degree of impact that can be inferred from the granting of loan moratoria, across sectors and also across time. The extent of the impact from the pandemic appears to be determined by the exposure of a particular sector to the type of (i) mobility restrictions on the local population, (ii) restrictions in international travel and (iii) the extent of such restrictions. The impact on these sectors also varies across time, reflecting the evolution of the restrictions mentioned above.

Chart 2 illustrates the movement in the composition of loan moratoria uptake by sector, in order to shed light on the drivers of sectoral recourse to moratoria. In doing so, this chart also compares the evolution of two indicators. The Stringency Index (SRI) provides daily observations of the degree...
of containment measures on a scale from 0 (no restrictions) to 100 (full containment).\(^3\) Meanwhile, the tourism activity index provides a comparison of monthly inbound tourists to corresponding monthly pre-COVID-19 figures, thereby providing an evolution of the impact on sectors exposed to tourism activity.

Combining evidence from both charts shows that the sectors whose financial position has been most affected were:

i. Households;
ii. Accommodation and food service activities (NACE code I);
iii. Real estate activities (L);
iv. Administrative and support service activities (N);
v. Professional, scientific and technical activities (M – 70.1);
vi. Financial and insurance activities (K – 64.2);\(^4\)
vii. Wholesale and retail trade (G);
viii. Construction (F).

As shown in Chart 2, the SRI peaked in April 2020 (87), with containment measures being relaxed between June and July (31.5) of the same year and re-tightened at a stable level between August 2020 and February 2021 (52.78). The SRI shows a further tightening in March 2021 (75) followed by a loosening in April (68). Meanwhile, as expected, 2020-21 tourism levels were substantially below the corresponding pre-COVID-19 levels throughout the entire period analysed. A 56.6%

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\(^3\) The SRI was chosen as it focuses exclusively on containment measures. This index was developed by Blavatnik School of Government and the University of Oxford (as part of the Oxford COVID-19 Government Response Tracker – OxCGRT). In collaboration with the Bank, the OxCGRT now also includes a timeseries for the Government’s COVID-19 response (see Sant, 2021).

\(^4\) Recourse to moratoria by the professional, scientific and technical activities, and the financial and insurance activities consisted of head offices (M – 70.1) and holding companies (K – 64.2), respectively. Since these are similar in nature, the dynamics of these two sectors are discussed simultaneously as ‘head office and holding companies’.
drop in inbound tourists was recorded in March 2020, with the airport remaining effectively closed between April and June of that year. The airport was subsequently re-opened in July, with tourist arrivals nevertheless remaining significantly below pre-COVID-19 levels during the peak season, with further drops recorded thereafter. In particular, a drop in tourist arrivals of almost 95% was recorded in April 2021, when compared to April 2019.

As the containment measures were relaxed and stabilised, an element of adjustment can be observed as reflected by the gradual reduction in outstanding moratoria in certain sectors, possibly also reflecting some adaptation to the containment measures in place. Meanwhile, sectors closely linked to tourism activity exhibited a consistent demand for loan moratoria throughout the period under review, mainly reflecting the impact of the global travel restrictions on these sectors.

On 14 January 2021, CBM Directive No. 18 was reactivated, allowing the submission of applications for new moratoria, or targeted extensions to existing moratoria, until March 2021. While 20.3% of outstanding moratoria reported for January related to newly-granted moratoria, this share dropped sharply during February (1.6%), March (3.4%) and April (0.4%). The higher moratoria application figures recorded in January are most likely a result of the reactivation of Directive No. 18 during this month – which reopened the application window following the original 30 September 2020 application deadline.

Since most moratoria were granted for a period of 12 months (including extensions), drops in outstanding amounts can be observed in March and April 2021, reflecting the expiration of these 12-month loan moratoria.

The evolution of moratoria take-up generally points to two main sources of shocks to domestic NFCs, namely:

a. internal demand economic shocks resulting from social restrictions on the local population;
b. external demand economic shocks resulting from reduced tourist arrivals.

The following sections elaborate on how the above shocks and a combination thereof affected sectoral take up of loan moratoria.

**Activities mainly impacted by external demand economic shocks resulting from reduced tourist arrivals**

The majority of the loan moratoria for accommodation and food service activities are linked to hotel operations, which closely followed developments in inbound tourism levels. Related to this sector, real estate activities – including leasing of property such as holiday and other short-stay accommodation – have also been similarly affected by lower tourist arrivals. ‘Head offices and holding companies’ consists of a combination of professional, scientific and technical activities (head offices) and other financial companies (holding companies) that also had a substantial share of moratoria granted to NFCs that manage group operations for companies involved in hotels. These moratoria are therefore linked to the nature of hotel group structures despite being captured under these two sectors. This also reflects the dependence and linkages of these sectors with tourism and hospitality activity.

Granular data analysis also shows that around one-third of loan moratoria granted to the construction sector is related to the tourism industry, hence also pointing at the far-reaching effects of the pandemic and the interlinkages among sectors. Reduced hotel demand for outsourced laundry services is another example of the extent of interlinkages, which is evidenced by loan moratoria applications by laundry services providers, falling under the other service activities sector.

The education sector was also impacted by reduced tourist arrivals with the loan moratoria granted under this sector being mainly towards language schools and, to a small amount, to diving schools.
Activities mainly impacted by internal demand economic shocks resulting from social restrictions on the local population
Social restrictions motivated the rest of loan moratoria to the accommodation and food service activities, which are linked to restaurants and catering activities, and a number of ‘head offices and holding companies’ involved with the management of diverse operations including retail outlets and transportation.

Restrictions on mass gatherings also impacted the demand for cinemas, casinos and performing arts, which was in turn reflected by moratoria applications under the arts, entertainment, and recreation activities. Loan moratoria linked to the production of food and beverages, which fall under the manufacturing sector, were likewise affected by lower sales from the restriction of social gatherings, such as weddings and mass events, though also by the decline in inbound tourism.

Another third of loan moratoria granted to the construction sector relates to varying construction activities which may have been impacted by local social restrictions, such as the closure of courts, which impeded the signing of deeds. Private tuition, within the education sector, was also impacted by the effective closure of schools, accounting for the remaining small share of loan moratoria granted under this sector.

Activities mainly affected by a combination of internal and external demand shocks resulting from reduced population mobility
Household loan moratoria were mainly granted to mortgage holders, but also included (to a much smaller degree) a combination of consumer credit and lending towards sole traders and non-profit institutions serving households (NPISH). Household moratoria accounted for the lion’s share of total outstanding moratoria granted until October 2020. However, after peaking in July 2020, the financial position of households recovered thereafter, reflected in the low sectoral share of outstanding loans of 1.6% as at April 2021, as shown in Chart 1. While the aforementioned two economic shocks have both affected households, observations from developments in the NFC sector could shed light on the financial conditions of those in employment.

Reduced mobility, resulting from residents remaining indoors and lower tourist arrivals, affected the administrative and support services activities with requests for moratoria coming from NFCs related to the rental and leasing of water transport equipment, leasing of small aircraft and car rental activities. Related to this behaviour, loan moratoria applications can also be observed for transportation services, particularly public transportation, ferries, taxis and other land passenger services, all of which fall under the transportation and storage sector. Overall, the lower use of different means of transportation resulted in a lower demand for fuel services, which account for one third of loan moratoria applied under the wholesale and retail trade sector.

Another third of loan moratoria towards the construction sector was related to commercial real estate, possibly reflecting uncertainty about the prospects of the demand for rental office space due to work from home policies. The closure of non-essential business activities also resulted in demand for loan moratoria by service providers like hair and beauty salons, both falling under the other service activities sector.

Impact on credit institutions

Impact on NII
While the use of moratoria allowed borrowers to benefit from delaying monthly repayments to a future period with healthier cash flows, banks experienced a reduction in their cash inflow from interest income and capital repayments, in turn influencing their asset and liability management. The extent
of the impact from delayed monthly repayments on banks offering moratoria could be estimated by using the granular loan data from the Bank’s CCR as at financial year ending December 2020 to calculate the forgone monthly repayments while moratoria were active as a share of monthly repayments potentially received from all loans. Chart 3 shows a box plot of the share of loans under moratoria in the portfolios of those banks that granted moratoria and the impact of the delayed repayments as a share of these banks’ potential interest income. As can be seen in the chart, the share of moratoria in these banks’ loan portfolios ranges between just above 0% and 16.0%, while the estimated impact on NII ranges between 1.4% to 10.4% of potential income earned from loans. Although for some banks the share of loans under moratoria to total loans is higher than for others, the higher impacts on income earned from loans is linked to those banks that are more diversified overall but have higher concentrations to specific vulnerable sectors affected by the pandemic. Indeed, these banks have elevated sectoral shares of loans under moratoria for the accommodation and food service activities, and the real estate sector, which as described above have been affected by the low level of tourist arrivals.

**Impact on asset quality**

The data as at end April 2021 indicates that most moratoria have already expired. Chart 4 shows the sectoral composition of loans under moratoria as granted by the 11 banks with active moratoria during this period, distinguishing between the performing status of the expired loans. Out of the expired loan moratoria, only a very small proportion is currently classified as NPLs (red bar), which amounts to 0.5% of household loans, 1.5% of accommodation and food service activities, 2.2% of real estate activities, and 0.1% or lower for the remaining sectors. In the aggregate, NPLs stemming from expired loan moratoria amount to 0.7% of total NFC loans or 0.5% of total loans. When expressed as a share
of total loans under moratoria, NPLs amount to less than 5% of the respective category, namely:
4.9% for households; 3.4% for aggregate NFCs (ranging between 0% and 6.2% at the sectoral level);
or 3.7% of total loans.

While the most recent data shows that most loan moratoria have already expired, only a negligible
increase in NPLs was observed. Nevertheless, this box includes a variant of the stress tests pre-
sented in Chapter 3 by assessing the impact on banks from a more significant increase in NPLs. The analysis applies direct information received from a survey conducted among a few banks on the
effectiveness of measures implemented to mitigate the impact of COVID-19. Among others, banks were asked to quantify their expectation of loans being classified as NPLs once the moratorium period expires. This information was used to calibrate a more real-life scenario on the impact of NPLs from the loans benefiting from moratoria when compared to the worst-case scenario presented in Chapter 3.

Market intelligence indicates moderate expectations on immediate non-performing statuses of expiring
loan moratoria, which can be aggregated as less than 10% for active household loan moratoria
and less than 20% for active NFC loan moratoria. Based on these qualitative expectations and adding
an overlay for conservatism, this test applies an assumption of 25% of both household and NFCs
loans under moratoria becoming NPLs for all 11 banks with active moratoria. This assumption remains
conservative even when taking into account the preliminary evidence from CCR of those loans being
classified as ‘unlikely to pay’ after their moratorium expires. The magnitude of this assumption inten-
tionally errs on the conservative side, particularly when compared to the observed increases of under
5% in NPLs from expired moratoria mentioned earlier. Therefore, this test is considered to be an
adverse scenario for the assessment of potential cliff-edge effects and is intended to shock the sys-
tem to assess its resilience. Furthermore, while 2021 interim profits could absorb part of the assumed
losses, the test assesses the impact on the December 2020 Tier 1 capital ratio. NPL classification of
expiring loan moratoria would impact the Tier 1 capital ratio in two ways – via the numerator through
deductions from the Tier 1 capital from booking of impairments, and via the denominator through
an increase in total risk-weighted assets.

The stress test estimates that, under this adverse scenario, loan loss provi-
sions for the banks in scope would increase by €64 million while risk-weighted
assets would increase by €86 million. As shown in Chart 5, these two impacts
would lead to a drop in the Tier 1 capital ratio of 67 basis points from 22.24% in
December 2020 to 21.57% post shock, with the largest impact arising from NFC
loan moratoria, which tend to carry a higher monetary

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\text{Chart 5} \\
\text{STRESS TEST RESULTS – IMPACT ON BANKS’ TIER 1 CAPITAL} \\
\text{RATIO FROM INCREASE IN NPLS – 11 BANKS IN SCOPE} \\
\text{(per cent)}
\]

Source: Central Bank of Malta calculations.

\[
\begin{array}{ccc}
\text{19} & \text{20} & \text{21} \\
\text{Actual} & \text{Households} & \text{NFCs} & \text{Cumulative} \\
\text{23} & \text{22} & \text{22} & \text{22}
\end{array}
\]

On 24 March 2021, the MDB widened the definition of working capital needs to also cover future loan repayment for the coming
18 months in case of SMEs, and for the next 12 months for corporates. Future loan repayments emanating from expiring moratoria
can therefore be financed via the MDB CGS. The stress test does not take into consideration this development.
value when compared to household loans.

At the individual bank level, Chart 6 shows a higher dispersion of the impact on the banks’ Tier 1 capital with the individual impact for most banks below the aggregate impact of 67 basis points (red dot). Indeed, similar to the estimated impact on NII shown in Chart 3, the higher impact can be attributed to banks which have a higher exposure to sectors hit by the economic shocks related to the pandemic. Nevertheless, the Tier 1 capital ratio of each bank would be able to absorb the impact of the respective increase in provisions and risk-weighted assets while remaining well above the respective overall capital requirement.

Conclusions and Policy Response
While it is too early to fully assess the impact of COVID-19 on both the banking sector and the non-financial private sector, this box attempts to shed light on the effectiveness of loan moratoria as one of the key support measures enacted to mitigate the negative financial impact of the COVID-19 pandemic. The identified economic shocks indicate interlinkages among various sectors. Furthermore, the degree of impact of these shocks varies from sector to sector, as evidenced by the varying uptake of loan moratoria as a share of total loans of the respective sectors.

On the positive side, even though most loan moratoria have already expired, reported new NPLs have nevertheless remained low at under 5% of total loans under moratoria. This points towards borrowers being better placed to resume debt servicing. At the same time, the remaining active moratoria continue to support those borrowers who are still impacted by pandemic-related effects.

From the point of view of credit institutions, the relief provided to borrowers translated into an immediate impact on their inflows from monthly loan repayments. The impact on delayed cash inflows is estimated to reach up to 10% of annualised income on loans for those banks more exposed to vulnerable sectors. The extent of the impact on these banks reflects the importance of diversification in loan portfolios so as to minimise concentration risk.

Despite the granting of EBA-compliant moratoria, banks were required to proactively engage with clients and – through ‘unlikelihood-to-pay’ assessments – identify at an early stage deteriorations in asset quality so as to avoid sudden increases in NPLs and adverse repercussions therefrom (cliff-edge effects). Recent data from the Bank’s CCR confirms that the asset quality of loans with expired moratoria remained high, with only 0.5% of household loans and 0.7% of NFC loans being classified as NPLs once the moratorium period expired. Moreover, the stress test conducted on active moratoria indicates that, should there be a deterioration in asset quality, banks’ Tier 1 capital would be able to absorb the losses while remaining above the respective overall capital requirement.
By avoiding an undue and potentially premature classification of certain distressed borrowers as non-performing, loan moratoria have alleviated pressures on banks’ capital. This, together with other measures, has in turn supported banks’ ability to keep supporting the flow of credit to the economy.

Overall, initial evidence points towards loan moratoria not leading to an excessive increase in NPL ratios. This augurs well against the risks of potential cliff-edge effects on the financing needs of the economy, since as noted earlier the impact on capital is expected to be contained. The Bank will nonetheless keep these developments under review as more data become available.

Moreover, the Authorities have a number of tools to prevent higher NPLs from having a lasting impact on banks’ asset quality, such as the MFSA’s Banking Rule No. 9 - Measures Addressing Credit Risk Arising from the Assessment of the Quality of Asset Portfolios of Credit Institutions Authorised Under the Banking Act 1994 and the EBA Guidelines on management of non-performing and forborne exposures (EBA/GL/2018/06). These measures are also complemented with supervisory expectations which guide banks to book higher levels of accounting provisions through IFRS 9 in order to account for higher credit risks.6 Supervisors are also adapting their supervisory review and evaluation processes to reflect COVID-19-specific credit risk. Apart from the timely recognition of NPLs, prudent provisioning expectations apply through the ECB’s Addendum to the ECB Guidance to banks on nonperforming loans, MFSA Banking Rule No. 9 and the CRR (Pillar 1) prudential NPE treatment. This is crucial if banks are to keep up the momentum in the timely accumulation of provisions, so as to avoid any unexpected cliff-edge effects, preserve the value of their capital, and enable them to continue supporting the economic recovery.

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6 ECB’s Identification and measurement of credit risk in the context of the coronavirus (COVID-19) pandemic.
### Appendix A

#### IMPLEMENTED POLICY MEASURES

<table>
<thead>
<tr>
<th>Capital Buffer for Other Systemically Important Institutions (O-SII)</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>Implementation date</th>
</tr>
</thead>
<tbody>
<tr>
<td>MeDirect Bank Group Ltd*</td>
<td>0.375%</td>
<td>0.500%</td>
<td>0.500%</td>
<td>0.500%</td>
<td>1 Jan. 2016</td>
</tr>
<tr>
<td>HSBC Bank Malta Plc</td>
<td>1.125%</td>
<td>1.500%</td>
<td>1.500%</td>
<td>1.500%</td>
<td>Revised on 1 Jan. 2020</td>
</tr>
<tr>
<td>Bank of Valletta Group</td>
<td>1.500%</td>
<td>2.000%</td>
<td>2.000%</td>
<td>2.000%</td>
<td></td>
</tr>
<tr>
<td>APS Bank Plc**</td>
<td>-</td>
<td>0.0625%</td>
<td>0.0625%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* The 0.500% increase in MeDirect Bank 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%.

<table>
<thead>
<tr>
<th>Countercyclical Capital Buffer (CCyB)</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>Implementation date</th>
</tr>
</thead>
<tbody>
<tr>
<td>All credit institutions</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>1 Jan. 2016</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Macroprudential policy: Reciprocity</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>Implementation/ Withdrawal date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reciprocity of the Systemic Risk Buffer implemented by Estonia</td>
<td>1.0% for risk exposures exceeding €200 million</td>
<td>1.0% for risk exposures exceeding €200 million</td>
<td>Withdrawn by Estonia as of 1 May 2020 in response to the COVID-19 pandemic</td>
<td>24 Oct. 2016/ 1 May 2020</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Macroprudential policy: Material Third Countries</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>Implementation date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification of Material Third Countries</td>
<td>United States of America, Republic of Turkey, Russian Federation, United Arab Emirates</td>
<td>United States of America, Republic of Turkey, Russian Federation, United Arab Emirates</td>
<td>United States of America, Republic of Turkey, United Arab Emirates</td>
<td>June 2016</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Measures Addressing Credit Risk</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>Implementation date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borrower-based measures</td>
<td>Launch of public consultation with stakeholders</td>
<td>Publication of feedback statement on outcome of the public consultation and Directive no.16</td>
<td>Issuance of Notice to amend Directive no.16 in response to the COVID-19 pandemic</td>
<td>No changes occurred</td>
<td>1 July 2019 (amended 1 June 2020)</td>
</tr>
<tr>
<td>All credit institutions (BR/09/2019)</td>
<td>Implementation of NPL Reduction Plan for banks which exceed the 6% NPL ratio threshold</td>
<td>Implementation of NPL Reduction Plan for banks which exceed the 6% NPL ratio threshold</td>
<td>Implementation of NPL Reduction Plan for banks which exceed the 6% NPL ratio threshold</td>
<td>Implementation of NPL Reduction Plan for banks which exceed the 6% NPL ratio threshold</td>
<td>2 Jan. 2017</td>
</tr>
</tbody>
</table>
### Appendix B

#### Financial Soundness Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Core Domestic Banks</th>
<th>Non-Core Domestic Banks</th>
<th>International Banks</th>
<th>Total Banks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2016</strong></td>
<td><strong>2017</strong></td>
<td><strong>2018</strong></td>
<td><strong>2019</strong></td>
<td><strong>2020</strong></td>
</tr>
<tr>
<td>Regulatory capital to risk-weighted assets</td>
<td>16.16</td>
<td>17.28</td>
<td>18.13</td>
<td>20.08</td>
</tr>
<tr>
<td>Regulatory Tier 1 capital to risk-weighted assets</td>
<td>13.58</td>
<td>15.19</td>
<td>16.00</td>
<td>17.57</td>
</tr>
<tr>
<td>Leverage Ratio</td>
<td>6.15</td>
<td>7.03</td>
<td>7.33</td>
<td>7.83</td>
</tr>
<tr>
<td>Large exposures to total own funds</td>
<td>110.94</td>
<td>88.40</td>
<td>92.84</td>
<td>87.80</td>
</tr>
<tr>
<td>Risk-weighted assets to total assets</td>
<td>47.16</td>
<td>48.49</td>
<td>46.40</td>
<td>42.92</td>
</tr>
<tr>
<td><strong>Profitability</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Return on assets</td>
<td>0.70</td>
<td>0.60</td>
<td>0.50</td>
<td>0.57</td>
</tr>
<tr>
<td>Return on equity</td>
<td>2,3</td>
<td>10.06</td>
<td>9.20</td>
<td>6.54</td>
</tr>
<tr>
<td>Operational cost-to-income ratio</td>
<td>50.49</td>
<td>57.08</td>
<td>62.81</td>
<td>66.29</td>
</tr>
<tr>
<td>Interest margin to gross income</td>
<td>62.25</td>
<td>70.79</td>
<td>62.81</td>
<td>64.34</td>
</tr>
<tr>
<td>Non-interest expense to gross income</td>
<td>52.21</td>
<td>56.80</td>
<td>64.34</td>
<td>67.63</td>
</tr>
<tr>
<td>Non-interest income to gross income</td>
<td>37.75</td>
<td>29.21</td>
<td>37.72</td>
<td>36.33</td>
</tr>
<tr>
<td>Net impairment charges to gross income</td>
<td>6.28</td>
<td>0.70</td>
<td>0.50</td>
<td>0.57</td>
</tr>
</tbody>
</table>

### Notes:

1. Satabank plc is excluded from 2016 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 license was withdrawn on 30 June 2020.

2. Data for International Banks excludes the branches of foreign banks.

3. Based on profit after tax.

4. For the core domestic banks the ratio includes ‘Reserve for General Banking Risks’ as per the revised Banking Rule 09/2019.

5. The liquid assets to total assets and liquid assets to short-term liabilities figures from 2017 are based on COREP returns.