BOX 1: REVISITING CLIMATE-SENSITIVE EXPOSURES OF HOLDING COMPANIES[1]

This box is motivated by the Central Bank of Malta's (CBM) increased efforts to correctly identify financial services' exposures to climate-sensitive sectors. Building on its own previously published research, this box article seeks to address one of the key limitations that had been previously identified – the lack of visibility of holding companies' exposures captured within the financial sector.[2] As documented in the previous publication, this could have biased results towards the Low CO_2 intensive sectors, since such exposures did not always reflect the main business operations of these companies and their group. To this end, this box attempts to reclassify the exposures of holding companies to the appropriate sectors of economic activity, in line with the group's main business operations.

The Box is structured as follows. Section 1 describes the methodology adopted in reclassifying exposures of holding companies. Section 2 presents the refined results based on December 2022 data, while Section 3 concludes.

1. Methodology: Reclassifying exposures towards holding companies

In approaching this analysis, it is vital to give some perspective to the presence of holding companies on the financial sector's balance sheet.[3] By end 2022, these accounted for 11.2% and 9.8% of the Maltese banking sector's overall loan and securities portfolio, respectively.[4] For non-banks, such exposures represented 9.5% of their overall securities portfolios, with domestically-relevant investment funds playing the biggest role.[5]

As illustrated in Figure 1, different data sources were used to assess granular exposures for the banks' loans and securities portfolios, the latter also for non-banks. Granular loans data was obtained from the CBM's Central Credit Register (CCR) and the ECB AnaCredit database to supplement the banks' statutory returns. For the securities portfolio, security-by-security data was obtained from the ECB's Securities Holdings Statistics by Sector (SHSS) database, also complemented by regulatory returns to enhance data representativeness and coverage. Due to the unavailability of a consistent data source for all exposures, the assessment of domestic and foreign exposures followed a different methodology as described further below.

1.1 Reclassification of domestic exposures

In the case of banks' resident loans, as the economic activity for each loan reported in the CCR is only reported at the first level NACE, the analysis had to look at all domestic loans granted towards the Financial and Insurance activities (NACE K) and Professional, scientific and technical activities (NACE M). Each loan was matched with information obtained from the Malta Business Registry (MBR) database. Both databases were mapped through common identifiers being either the company ID or the

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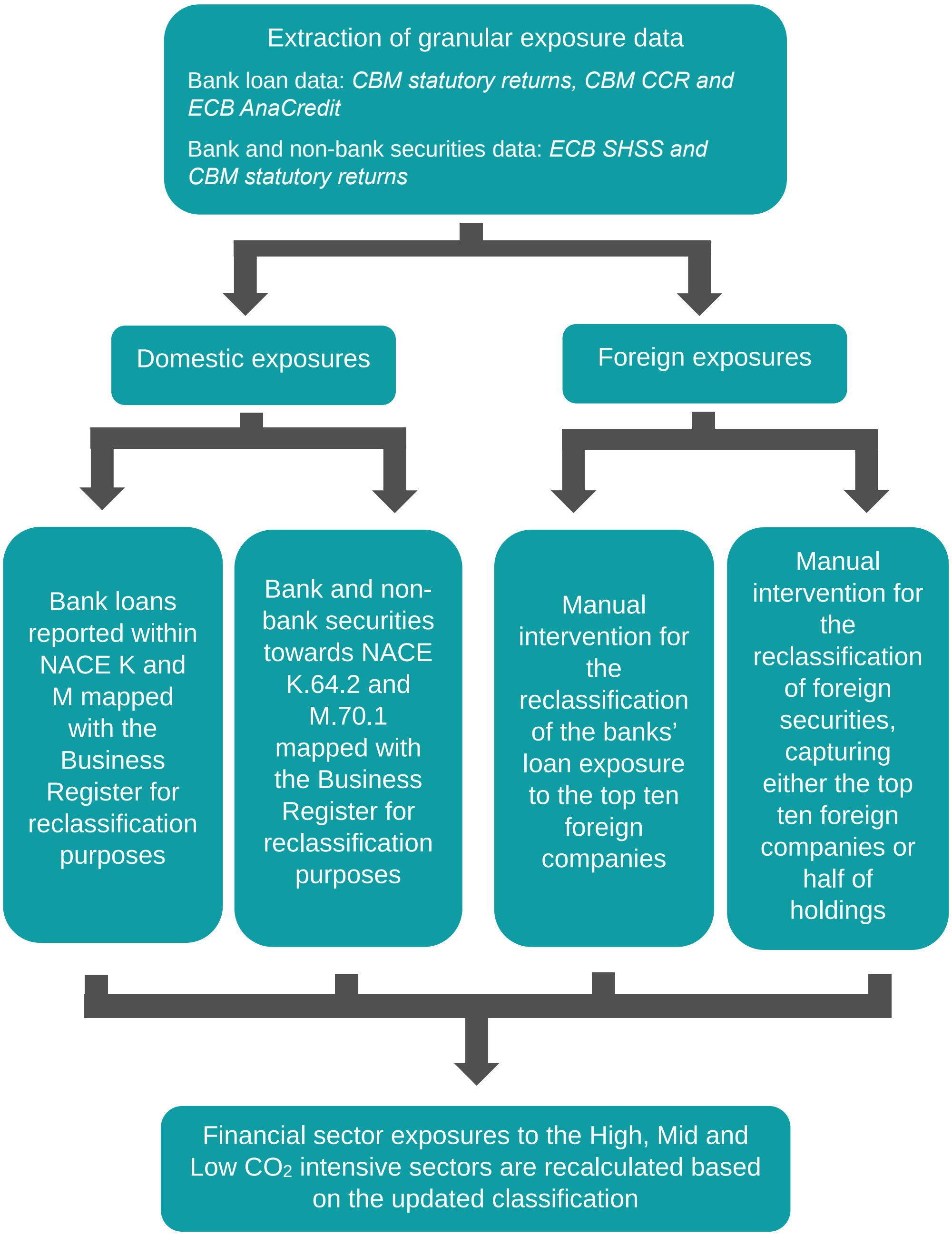
[2] The Maltese Financial Sector's Exposure to Climate-sensitive Sectors (2021).

[3] These include activities reported within NACE K.64.2 and M.70.1. As defined in the Eurostat NACE Rev 2, NACE K.64.2 captures activities of holding companies, *"whose principal activity is owning the group and that do not administer or manage the group"*, while NACE M.70.1 refers to activities of head offices which *"includes overseeing and managing the related units, exercising operational control and day-to-day management"*. Given these are firms which mainly perform financial and operational management functions within a group of firms, the sector of activity in which they are included might not reflect the economic activities to which the group is exposed.

[4] Exposure towards NFCs, financial corporations, other financial intermediaries (OFIs), and insurance corporations, were taken into consideration (excluding exposures to governments) as defined in the ESA 2010 classification.

[5] For the purpose of this analysis, the exposures of the non-bank sector comprise those of the domestically-relevant insurance companies and domestically-relevant investment funds as classified in the *Financial Stability Report* 2022. This includes 37 domestic investment funds and nine domestic insurance companies.

Figure 1
OVERVIEW OF THE PROCESS INVOLVED IN RECLASSIFYING EXPOSURES TO HOLDING COMPANIES



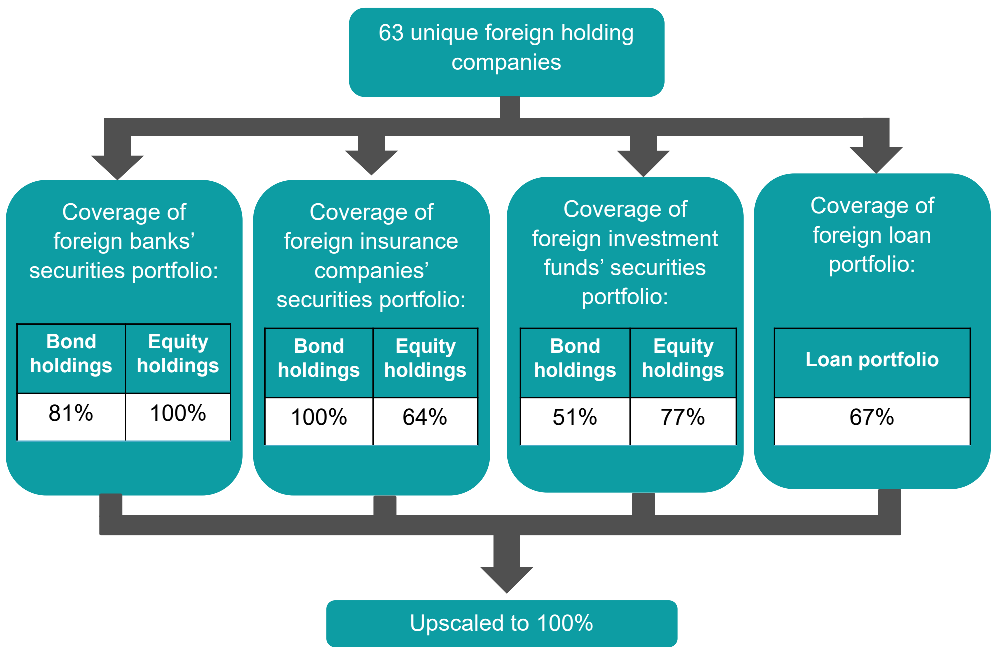
VAT number. This required the mapping of more than 600 unique borrowers, having a total of more than 1,300 domestic loans amounting to €1.2 billion. When no group NACE information was available, these exposures were classified according to publicly available information on these companies.

The MBR was also used for the reclassification of securities issued by holding companies. Given that security-by-security data is reported at the most granular NACE level, only exposures of domestic holding companies were required to be reclassified. These amounted to almost €80 million, spread across roughly 30 Maltese holding companies, and representing nearly 7% of the overall domestic securities holdings. These were nearly equally split between bonds and equities. From an industry perspective, these represented around 4%, 6%, and 11% of domestic securities held by banks, domestically-relevant insurance companies and investment funds, respectively. The reclassification necessitated the mapping of the issuer name, as reported in the SHSS with the information available in the MBR. Like the strategy adopted for the resident loan portfolio, in instances where reclassification could not be carried out through the available databases, publicly available information or other institutions' statutory reporting was used to ensure a harmonised classification throughout the entire exercise.

1.2 Reclassification of foreign exposures

Data availability issues hindered the use of the same methodology adopted for the allocation of domestic exposures. To this end, since a manual search of all individual exposures was not plausible given the large volume of data to be handled, a materiality approach was adopted. As a result, a manual examination of the exposures of the ten largest foreign companies, or at least half of foreign holding companies' presence within the portfolios of banks, domestically-relevant insurances and investment funds, whichever provided the highest coverage, was undertaken.[6] For the securities portfolio, this required the identification and ultimate reclassification of exposures pertaining to 53 foreign holding companies (see Figure 2). In most cases, this reflected almost two thirds of the financial sector's securities exposures. At the same time, for the loan exposures, ten entities were

Figure 2
RECLASSIFICATION OF FOREIGN HOLDING COMPANIES



[6] More than ten foreign holding companies present within the bond portfolio of domestically-relevant investment funds to capture half of their foreign bond portfolio.

analysed which represented around two thirds of the overall foreign loans granted towards both NACE sectors K and M, as reported in the CCR. The reclassification was conducted using publicly available information or information available from the CCR, the Anacredit database, the SHSS or statutory reporting. The observed share was imposed onto the remainder of the data to upscale the reclassification to its population size.

Once all respective exposures, both domestic and foreign, were reclassified, the Maltese financial sector's concentration to the High, Mid and Low CO_2 intensive sectors as defined in the Bank's 2021 study was recalculated (see Annex).

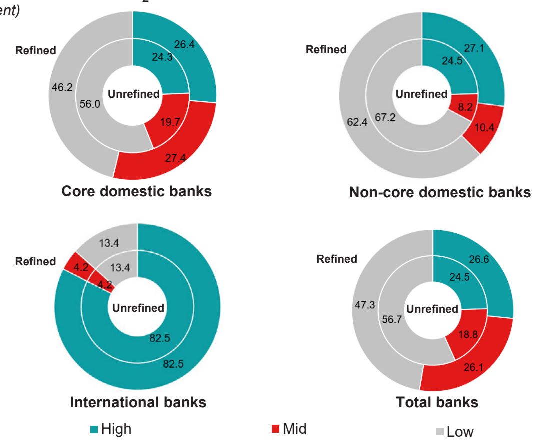
2. Results from the refined classification of exposures

2.1 Banking sector's exposures

2.1.1 Banks' lending portfolio

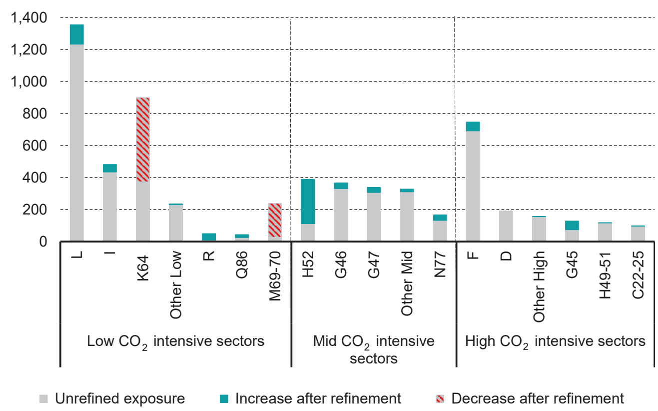
The reclassification of resident loans, as at December 2022, reported under the financial and insurance sector (NACE K) and the professional, scientific, and technical activities (NACE M) led to the share of resident lending towards the Low CO_2 intensive sectors to drop by 9.4 percentage points to 47.3% of the overall resident loan book (see Chart 1). This resulted in the share of lending to Mid CO_2 and High CO_2 intensive sectors to represent more than half of the resident loan book. The most significant shift occurred into the Mid CO_2 intensive sectors, with their share rising by 7.3 percentage points to 26.1%. This increase primarily stemmed from the reclassification of resident loans towards the 'H52 – Warehousing and Support Activities for Transportation' and, to a lesser extent, into the wholesale and retail trade activities (i.e., NACE G46 and G47), as well as rental and leasing activities (NACE N77) (see Chart 2). The increase in loans granted to

Chart 1
RESIDENT LOANS HELD EXPRESSED AS A SHARE OF THE LOAN PORTFOLIO PER CO_2 INTENSIVE SECTOR AND BANK CATEGORY
(per cent)



Sources: BR/06 and CCR; Central Bank of Malta calculations.

Chart 2
RECLASSIFICATION IN RESIDENT LOANS OF THE MALTESE BANKING SECTOR BY NACE
(EUR millions)



Sources: CCR; Central Bank of Malta calculations.

sectors classified as High CO_2 intensive was more contained, with the share rising by 2.1 percentage points to just above a quarter of the resident loan book. This stemmed predominantly from the construction sector (NACE F) and the wholesale and retail trade and repair of motor vehicles (NACE G45). As a result, the construction sector (NACE F) continued to strengthen its position as the primary recipient of bank financing amongst the High CO_2 intensive sectors, followed by the energy-related sector (NACE D), the wholesale and retail trade and repair of motor vehicles (NACE G45).

From a bank category perspective, 92.3% of resident loans issued are reported on the books of the core domestic banks. Consequently, this group of banks is the main driver behind developments reported for the overall banking sector as explained above and shown in Chart 1. The non-core domestic banks, which granted about 7.5% of the overall resident loans, have a higher share of resident loans towards Low CO_2 intensive sectors. This share fell by almost 5 percentage points post-reclassification, to 62.4% of their resident loan book. This change mainly reflected increases in the Mid CO_2 intensive sectors, which however still accounted for 10.4%. This increase was driven by a significant shift in loans towards 'Rental and Leasing Activities' (NACE N77) and, to a lesser extent, the wholesale trade, except for motor vehicles and motorcycles (NACE G46). Lending to High CO_2 intensive sectors also rose, with the share rising by 2.6 percentage points, to represent more than a quarter of the non-core domestic banks' resident portfolio. This increase was driven by higher loans issued to companies operating in the wholesale and retail trade and repair of motor vehicles (NACE G45) as well as resident companies operating in the construction sector (NACE F). Meanwhile, international banks accounted for only 0.2% of the overall resident loans issued in the Maltese banking sector. The reclassification exercise did not have any material impact on these banks' resident loan portfolio such that these remained concentrated in the High CO_2 intensive sectors at 82.5%.

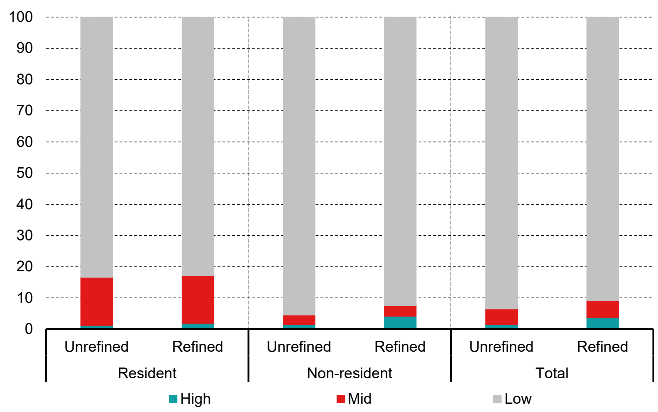
The reclassification exercise had a very marginal impact on foreign loans, with the share of Mid CO_2 intensive sectors increasing by just 1.1 percentage points to 45.2%, being the largest share for these foreign loans, at the expense of loans issued towards Low CO_2 intensive sectors, whose share fell to 31.2%. Meanwhile, the share of High CO_2 intensive sectors remained unchanged at 23.7%.

2.1.2 Banks' securities portfolio

As at the end of 2022, the banking sector's overall securities holdings were valued at €3.3 billion, of which €2.3 billion represented holdings of the core domestic banks, with the rest almost equally split between the non-core domestic banks and international banks. Representing 16.1% of the banking sector's entire securities portfolio, investments in domestic securities is somewhat limited, almost entirely reflecting core domestic banks' activity.

Following the reclassification, both banks' resident and non-resident securities holdings remained concentrated in the Low CO_2 intensive sector at nearly 83% and 92% of the corresponding portfolio, respectively (see Chart 3). All three bank categories reported the bulk of their securities in the Low CO_2 intensive sectors (see Chart 4).

Chart 3
CHANGE IN SHARE OF SECURITIES HELD BY THE BANKING SECTOR BY RESIDENCY PER CO_2 INTENSITY
(per cent)



Sources: Securities Holdings Statistics; Central Bank of Malta calculations.

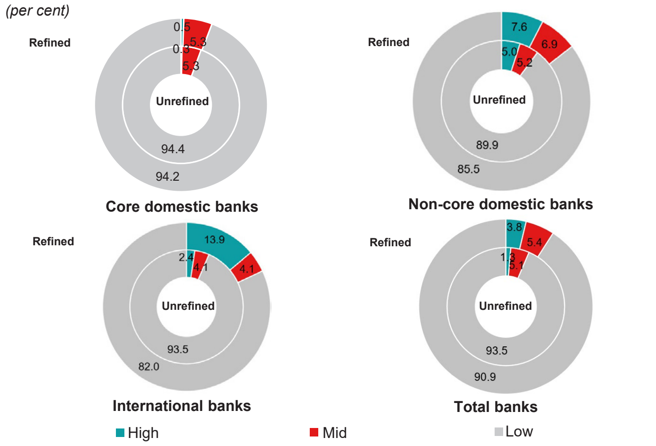
This was to some extent also reinforced by the fact that some of the holding companies were related to banking groups, thus remaining within the financial sector (NACE K64) after the reclassification exercise.

Nevertheless, the value of overall securities exposed to the High CO_2 intensive category more than doubled, with their share advancing by 2.4 percentage points to 3.8% of overall securities in December 2022 (see Chart 4). This owed to the fact that group activity of some holding companies, especially those of foreign origin, is primarily of a higher CO_2 intensity. As can be observed in Chart 5, these were primarily involved in the manufacturing sector (NACE C22-25 and C29-30), and to a lower extent energy (NACE D) and construction (NACE F) industries.

2.2 Non-banking sector's exposures

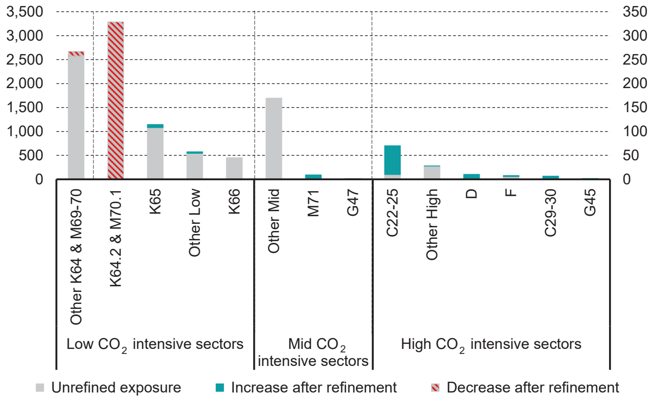
In December 2022, the securities holdings of the non-bank sector amounted to €2.0 billion, of which €650.9 million reflected domestic exposures. The reclassification resulted in exposures of both domestic and foreign holding companies to be distributed in other sectors, primarily in the retail trade (NACE G), energy (NACE D), mining and quarrying (NACE B), and accommodation (NACE I) sectors (see Chart 6). Since most of these sectors are emission intensive, securities holdings falling in the Mid

Chart 4
SECURITIES PORTFOLIOS ALLOCATED ACCORDING TO CO_2 INTENSITY
(per cent)



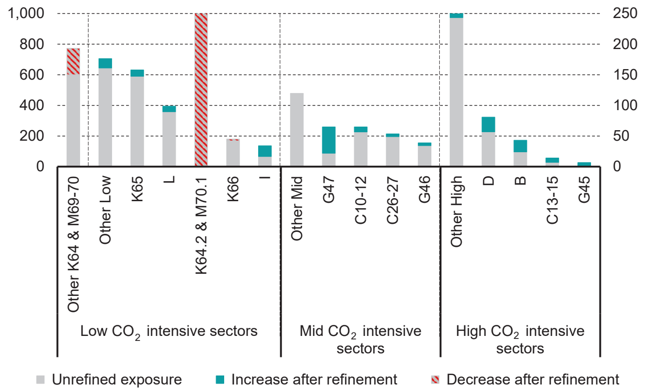
Sources: Securities Holdings Statistics; Central Bank of Malta calculations.

Chart 5
RECLASSIFICATION IN OVERALL BANK SECURITIES PORTFOLIO BY NACE
(EUR millions)



Source: Securities Holdings Statistics; Central Bank of Malta.
Note: Figures are plotted on the RHS except for Other K64 & M69-70.

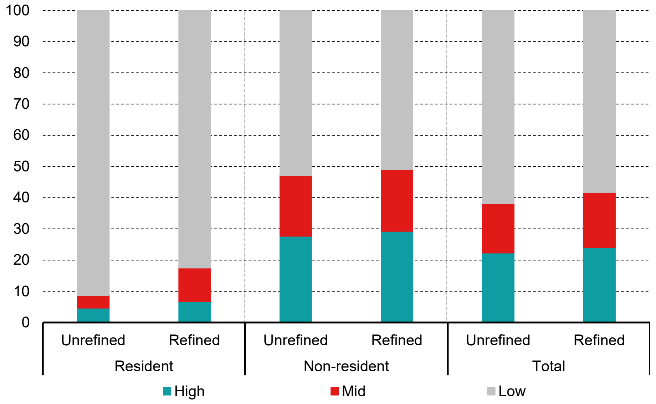
Chart 6
RECLASSIFICATION IN OVERALL NON-BANK SECURITIES PORTFOLIO BY NACE
(EUR millions)



Source: Securities Holdings Statistics; Central Bank of Malta calculations.
Note: Figures are plotted on the RHS except for Other K64 & M69-70.

and High CO_2 intensive categories expanded by around 21% and 20%, to account for 16.8% and 19.1% of non-banks' overall holdings, respectively. Nevertheless, the share in the Low CO_2 intensive sectors remained significant at more than 64% of overall securities.

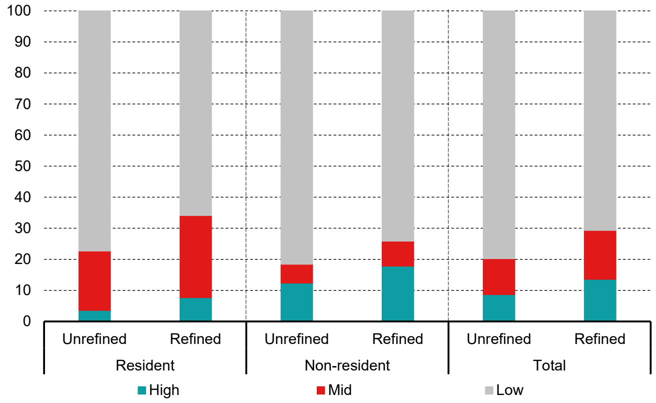
Chart 7
CHANGE IN SHARE OF SECURITIES HELD BY INSURANCE COMPANIES BY RESIDENCY PER CO_2 INTENSITY
(per cent)



Sources: Securities Holdings Statistics; Central Bank of Malta calculations.

As can be observed in Chart 7, the reclassification for the domestically-relevant insurance companies mostly impacted their domestic holdings, such that their exposure to companies operating in the Mid and High CO_2 intensive categories grew. These nevertheless represented a somewhat conservative share of 6.6% and 10.8% of overall resident holdings, respectively. Similarly, the exercise mostly impacted the domestic portfolio of investment funds, as the Mid and High CO_2 intensive categories both expanded to make up 7.7% and 26.4% of their resident investments, respectively (see Chart 8).

Chart 8
CHANGE IN SHARE OF SECURITIES HELD BY INVESTMENT FUNDS BY RESIDENCY PER CO_2 INTENSITY
(per cent)



Sources: Securities Holdings Statistics; Central Bank of Malta calculations.

2.3 Overall impact of the reclassification

The reclassification exercise led to the share of overall banks' loan portfolio in the High CO_2 intensive sectors to increase by 1.1 percentage points to 24.9%. Similarly, the share of bank loans granted to Mid CO_2 intensive sectors also grew, to account for 36.5%, up from the 32.2% prior to the reclassification exercise. As a result, the share of loans granted to entities operating in the Low CO_2 intensive sectors fell by around 5.3 percentage points to 38.6%.

Banks' share of securities holdings of High CO_2 intensive sectors increased by 2.4 percentage points to 3.8%. Meanwhile, a small impact was observed within the Mid CO_2 intensive category, with their share rising by a mere 0.3 percentage point to 5.4%. As a result, most of the portfolio remained concentrated in securities of Low CO_2 intensive sectors.

Similar results were observed for the securities portfolio of the non-bank sector. About two thirds of the portfolio remained within Low CO_2 intensive sectors. At the same time, the share of exposure towards the High CO_2 intensive industries rose to 19.1%, from the 15.9%, as a result of the reclassification, whilst that for Mid CO_2 intensive industries increased by 2.9 percentage points to 16.8%.

On aggregate, more than half of the Maltese financial sector's exposures remained concentrated in sectors of a Low CO_2 intensity, despite shrinking by 4.8 percentage points to 52.6% in December 2022. The largest increase for the financial industry was registered in activity of a Mid CO_2 intensity, with the share climbing from 24.3% to 27.6%, while exposures to the High CO_2 intensive sectors continued to represent less than one fifth of overall exposures during the same period.

3. Conclusion

This analysis sought to refine the results originally reported by reclassifying the holding companies' loan and securities' exposures into sectors which more appropriately reflect the business activity of their group. This offers a better picture on the extent of possible transition risks for financial stability in Malta. Despite representing just 10.7% of financial institutions' balance sheets, the refinement methodology did result in a significant and more accurate activity-based reclassification of the exposures of holding companies. Indeed, their reclassification resulted in an increased share of exposures to the more climate-sensitive sectors, particularly those defined as being High CO_2 intensive. Nevertheless, following the reclassification exercise, both banks and non-banks reconfirmed the majority of their exposures towards Low CO_2 intensive sectors. This reaffirms the main conclusions of the previous study, that given their concentration in the Low CO_2 intensive sectors, domestic institutions may be less sensitive to regulations and abrupt measures aimed at reaching net zero and hence making Maltese financial institutions somewhat less susceptible to transition risk. Nevertheless, domestic institutions should maintain a cautious approach to mitigate any potential adverse effects on their balance sheets that may occur due to their material exposure to the more climate-sensitive sectors.

Existing data gaps limit the possibility of a more precise reclassification of exposures of holding companies. Nevertheless, the analysis could in the future, benefit from an improvement in data availability to possibly update the underlying methodology of identifying climate-sensitive sectors to better capture climate transition risk. This includes expanding the scope of emissions to capture those of a less direct nature, as well as possibly other forms of greenhouse gases including methane and nitrous oxides. Further studies could also review the concentration of exposure to transition risks, as well as possible links and interlinkages among financial institutions. Another study could assess the banking sector's initiatives in achieving a more sustainable asset portfolio, through the review of their strategies in financing the green transition through an increasing footprint of green loans and investments.

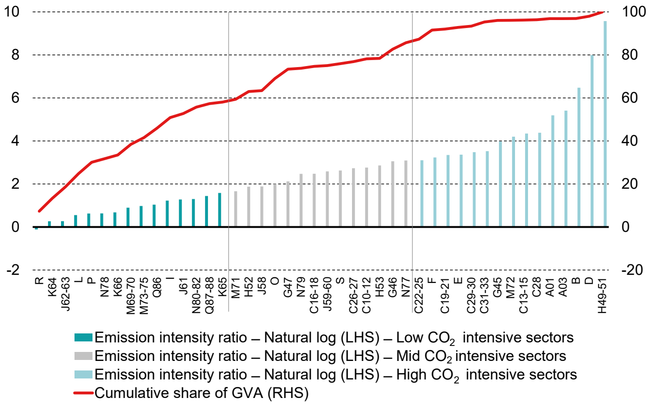
Annex

Table A1
NACE CLASSIFICATION PER CLIMATE-RELATED SENSITIVE SECTORS

NACE Code	Sector	NACE Rev. 2 classification		
		High CO_2 intensive sectors	Mid CO_2 intensive sectors	Low CO_2 intensive sectors
A	Agriculture, forestry, and fishing	A01, A03		
B	Mining and quarrying	B		
C	Manufacturing	C13-C15, C19-C21, C22-C25, C28,C29-C30, C31-C33	C10-C12, C16-C18, C26-C27	
D	Electricity, gas, steam and air conditioning supply	D		
E	Water supply; sewerage waste management and remediation activities	E		
F	Construction	F		
G	Wholesale and retail trade; repair of motor vehicles and motorcycles	G45	G46, G47	
H	Transportation and storage	H49-H51	H52, H53	
I	Accommodation and food service activities			I
J	Information and communication		J58, J59-J60	J61, J62-J63
K	Financial and insurance activities			K64, K65, K66
L	Real estate activities			L
M	Professional, scientific, and technical activities	M72	M71	M69-M70, M73-M75
N	Administrative and support services activities		N77, N79	N78, N80-N82
O	Public administration and defence; compulsory social security		O	
P	Education			P
Q	Human health and social work activities			Q86, Q87-Q88
R	Arts, entertainment and recreation			R
S	Other services activities		S	

Sources: Eurostat; Central Bank of Malta.

Chart A1
EMISSION INTENSITY RATIO BY SECTOR AND RESPECTIVE SHARE IN OVERALL GROSS VALUE ADDED (GVA)
(tonnes CO_2 per EUR GVA; per cent)



Sources: Eurostat; Central Bank of Malta calculations.
Note: Data as at 2019.