ESTONIAN BANKS: CAPITALIZATION, PROFITABILITY, AND REGULATORY IMPLICATIONS[1]

Estonian banks have remained resilient despite a challenging macroeconomic environment. However, capital adequacy has gradually declined over time and small banks are less capitalized. Reliance on Internal Ratings-Based (IRB) models in some banks has historically resulted in lower risk weights and higher capital ratios. A recent large one-off dividend payout might have indirectly bolstered fiscal revenue but further reduced bank capital ratios. Looking forward, the authorities should encourage banks to channel profits towards capital buffers, while ensuring that credit risk is properly reflected in risk weights across the banking system for both residential mortgages and NFC loans.

A. Background

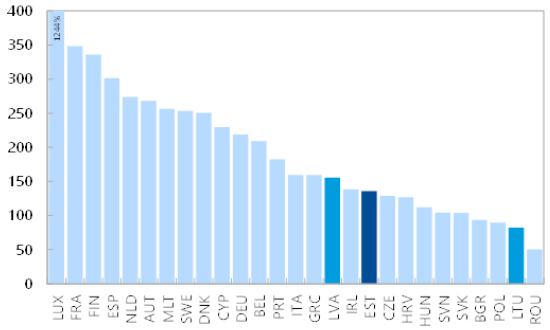
1. Banks represent the largest share of the Estonian financial sector, accounting for about 70 percent of the country's financial assets (Eesti Pank, 2023a). Following a period of rapid growth, banks' assets have increased from around 100 percent of GDP in 2012 to 136 percent currently. Nevertheless, the banking system remains relatively small in comparison with euro area peers (Figure 1).

2. The banking sector is highly concentrated and dominated by foreign-owned banks. It comprises nine licensed banks (down from 42 in 1992), and five branches of foreign banks (Figure 1). Four banks are classified as other-systemically important institutions (O-SII) by Eesti Pank and are supervised by the ECB. The largest bank in terms of assets is Luminor, which was established in 2019 out of the Baltic banking assets of Nordea and DNB and is currently majority owned by US investment firm Blackstone. Luminor has branches in Latvia and Lithuania and has sizeable loan portfolios in these countries. The second and third largest banks are Swedish-owned Swedbank and SEB. The fourth O-SII is Estonian-owned LHV Pank, which is publicly listed on the Tallinn stock exchange. The remaining banks are much smaller, with a combined market share of about 10 percent. In addition, foreign banks that are active in Estonia through branches account for about 3 percent of banking system assets. Their importance has been declining.

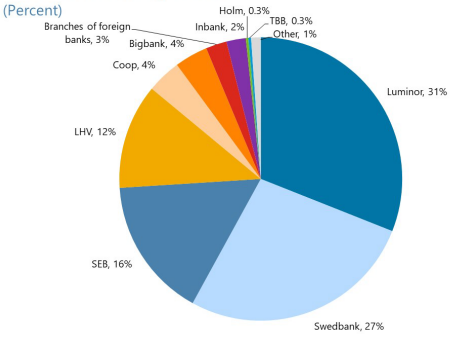
3. Estonian banks operate a conservative, traditional business model. The majority of banks' assets are loans to households and non-financial corporations (NFCs), which constitute 45 percent and 41 percent of total bank lending, respectively. Of the stock of NFC loans, over 42 percent are directed towards the real estate and construction sectors. Thus, developments in the real estate market have the potential to significantly impact the loan portfolio of the banking sector. Reflecting the low indebtedness of the Estonian public sector, loans to the government and holdings of government bonds represent a relatively small portion of banks' assets in international

[1] Prepared by Gianluigi Ferrucci and Sadhna Naik.

Figure 1. Bank Assets to GDP Ratio and Market Share by Assets



Sources: European Central Bank; Eurostat; and IMF staff calculations.



Source: Financial Supervision Authority

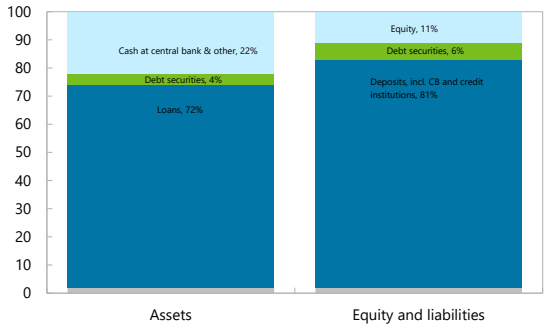
comparison. The primary source of funding for the banks' loan portfolio is deposits, which account for approximately 81 percent of liabilities (see Figure 2).

4. Several macroprudential measures have been in place since 2014. A countercyclical capital buffer (CCyB) of 1 percent has been in effect since July 2022 and subsequently raised to 1.5 percent in December 2023. The four O-SIIs are required by Eesti Pank to maintain additional institution-specific capital buffers of 2 percent, on top of the regulatory and the pillar-2 based capital requirements and buffers.[2] Furthermore, for banks that use the Internal Ratings-Based (IRB) approach to calculate regulatory capital requirements, Eesti Pank requires a minimum risk weight (RW) of 15 percent on mortgage loans extended to Estonian households.[3] Loan-to-value (LTV), debt service-to-income (DSTI), and maximum maturity requirements are also in effect for banks issuing housing loans (Figure 2).

Figure 2. Balance Sheet Structure and Macroprudential Measures Currently in Effect

Banking Sector Balance Sheet Structure, 2023Q2

(Percent; measured as a share of total assets or equity and liabilities)



Source: Financial Supervision Authority.

Macroprudential Measures of Eesti Pank

Measure	Requirement	Details
Countercyclical capital buffer	1% (1.5% from Dec. 1, 2023)	
Other systemically important institutions buffer	2%	Swedbank AS AS SEB Pank Luminor Bank AS AS LHV Pank
Risk weight floor for mortgage loans	15%	Floor applies to credit institutions that use the internal risk based (IRB) approach. Effective as of 2019
Requirements for issuing housing loans		The limits may be breached by 15% of the volume of mortgages issued each quarter
Loan-to-value limit (LTV)	85%	
Debt service-to-income limit (DSTI)	50%	The calculation of payment must use the interest rate set in the contract plus two percentage points or 6%, whichever is higher. The 2pp add-on is discontinued from Apr. 1, 2024
Maximum maturity	30 years	

Source: Eesti Pank, Financial Stability Review, 2023/2

5. Financial soundness indicators suggest that Estonian banks have remained strong, despite facing a challenging macroeconomic environment. The system's capital adequacy ratio

[2] Banks are required to maintain a capital conservation buffer of 2.5 percent of risk-weighted assets on top of the base requirements for own funds (Eesti Pank, 2023b).

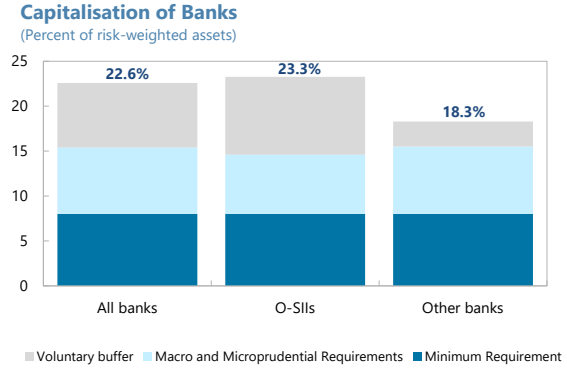
[3] In Estonia, only two banks, Swedbank and SEB, use the IRB approach to calculate regulatory capital requirements.

(CAR) is among the highest in the EU, at 22.6 percent (Figure 3). Profitability is sound and well above EU average, with a return on equity (RoE) that has been consistently around 5–7 percent in recent years – about 2 percentage points higher than in the EU – and that, like elsewhere, has further improved in 2023.[4] Banks are liquid and fully funded by domestic customer deposits. The banking system's liquidity coverage ratio (LCR) is over 175 percent, compared to a minimum requirement of 100 percent, which all banks fulfil with a wide margin.

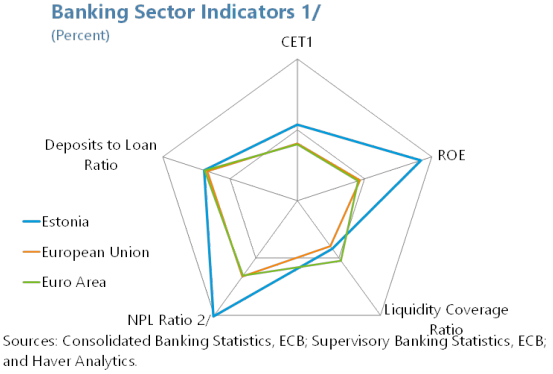
6. Although resident deposits fully cover the loan book of the banking sector as a whole, there are differences across banks. Several banks fund their activities by taking in deposits from EU residents, including through online platforms. The volume of non-resident deposits has remained broadly constant over the past two years, accounting for about 12 percent of total liabilities in 2023. Deposits sourced through online platforms are 3 percent of total sector deposits (Finantsinspektsioon, 2023). Depositors from Germany and the Netherlands are particularly active suppliers of funds through this channel.

7. Non-performing loans are low at 1.2 percent of total loans, lower than before the pandemic. For context, in the wake of the 2008 global financial crisis, when Estonian house prices fell by over 40 percent, the share of 60 days past due loans peaked at 7.5 percent of the total loan book. Given that corporate taxation favors retention of profits, Estonian firms have low leverage and considerable capital buffers. Stress tests that predate Russia's war on Ukraine and the current economic difficulties indicated that Estonian banks should be able to withstand plausible economic shocks (IMF, 2022).

Figure 3. Key Performance Indicators of Estonian Banks



Source: Financial Supervision Authority; Bank of Estonia; and IMF staff calculations.



Sources: Consolidated Banking Statistics, ECB; Supervisory Banking Statistics, ECB; and Haver Analytics.
1/ Scaled by different factors for visualization purposes.
2/ Displays inverted NPL ratio.

B. Recent Developments

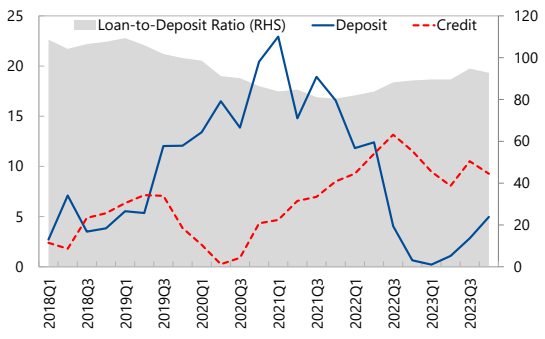
8. Estonian banks are operating in an increasingly challenging macroeconomic environment. Financing conditions have tightened, and new lending has decelerated according to

[4] Compared to other measures of profitability, ROE indicators also reflect the high capital levels accumulated post-GFC to build buffers and enhance financial stability, a trend not specific to Estonia but seen across all banks, especially in Europe.

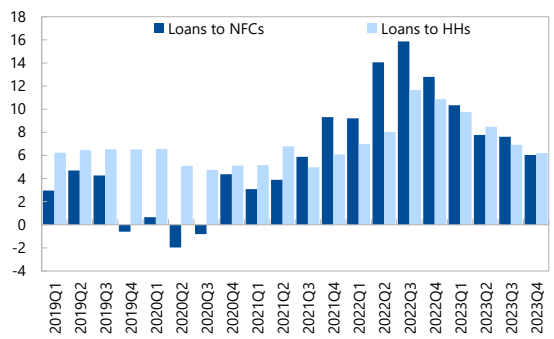
the ECB bank lending survey. Demand of loans for house purchases and, especially, business investment has slowed sharply, on the back of tight monetary policy and negative sentiment hindering investment (Figure 4).

9. A resilient labor market until recently and low corporate leverage have cushioned the impact of higher interest rates on borrowers' balance sheets so far. Labor market conditions are now weakening, though only moderately. Furthermore, over 90 percent of corporate bank loans have floating interest rates, and thus the rise in policy rates has passed through quickly into the debt servicing costs of companies. The average interest rate on the stock of corporate loans rose from 2.6 percent in 2021 to 6.2 percent in the third quarter of 2023. The increase in interest expenses has had the largest impact in sectors where financial leverage is high and interest is a large part of expenses, such as energy, real estate, transport and storage, and accommodation and food services.

Figure 4. Bank Lending Developments



Sources: Bank of Estonia; and Haver Analytics.



Sources: Haver Analytics; and IMF staff calculations.

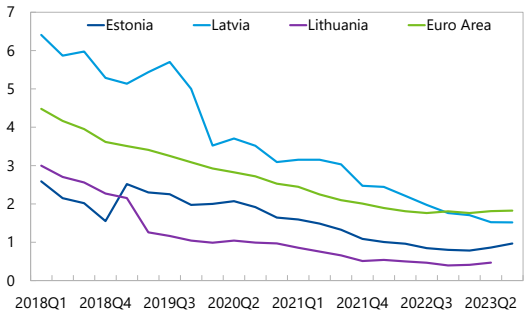
10. NPLs could increase in the wake of the prolonged recession. Banks' loan portfolios have withstood the pandemic and the war shocks well, including due to the structure of the economy (in which COVID-sensitive sectors were relatively less important than in other countries while direct and indirect exposures to Russia were limited, despite the strong trade links and supply-side disruptions, see Figure 5). An exception is the accommodation sector, which makes up only a small part of the banks' loan portfolios (1.4 percent of banks' total loan book) and whose assets have fully recovered. However, signs are emerging that credit quality has started to deteriorate in some sectors, e.g., transport, construction, manufacturing, and some professional services. These sectors account for around 40 percent of banks' loan books. It is therefore important to closely monitor these developments for financial stability.

11. Like elsewhere, bank profits have increased markedly, driven by rising net interest income, but the surge is largely cyclical. Tighter monetary policy and the general rise in interest rates have boosted the interest income of Estonian banks (Figure 5). This is a result of banks' loan portfolios in Estonia being mainly floating interest rates. As base interest rates have risen steeply since August 2022, interest income of banks has also increased sharply. However, banks' funding costs are also rising, as depositors switch from demand to term deposits. This pattern is more

pronounced for smaller banks than for systemically important banks, since the latter have higher shares of demand deposits.

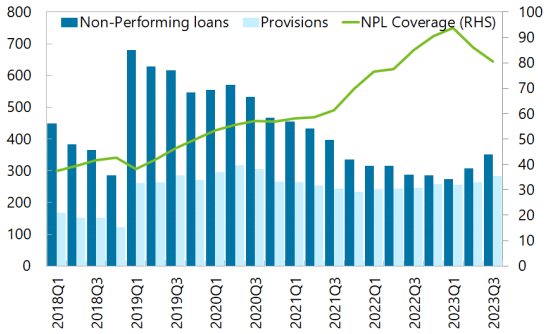
Figure 5. Asset Quality and Return on Equity

Non-Performing Loans
(Percent of outstanding loans)



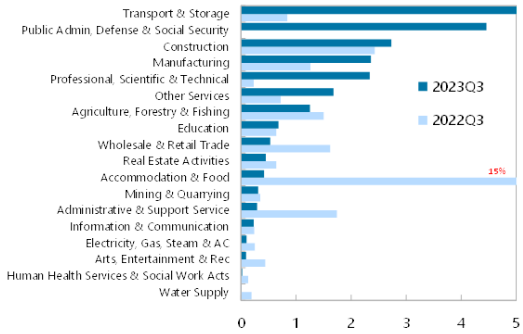
Source: Financial Soundness Indicators Database, IMF; European Central Bank; and Haver Analytics.

Provisions and Non-Performing Loans
(LHS - Mil. Euros; RHS - Percent)



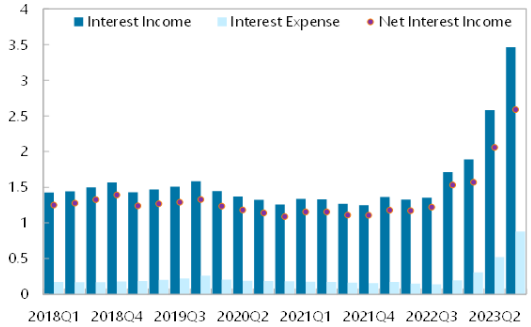
Sources: Financial Soundness Indicators Database, IMF; and IMF staff calculations.

Non-Performing Loan Ratios by Sector
(in percent)



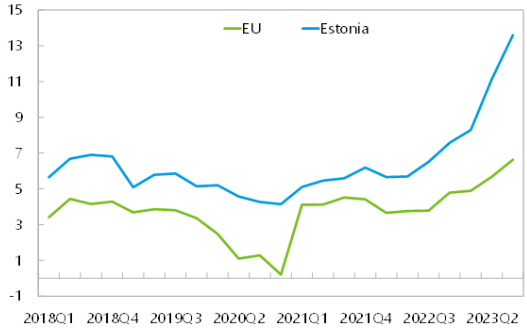
Sources: European Banking Authority; and Haver Analytics.

Interest Income and Expenses
(in percent of total assets)



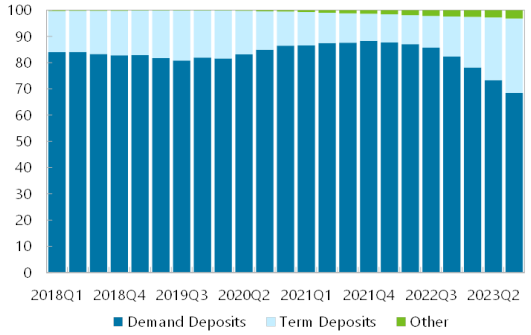
Sources: European Central Bank; and Haver Analytics.

Return on Equity
(Percent of assets)



Sources: European Central Bank; and Haver Analytics.

Deposit Structure
(in percent; measured as a share of total)



Sources: Bank of Estonia; Haver Analytics; and IMF staff calculations.

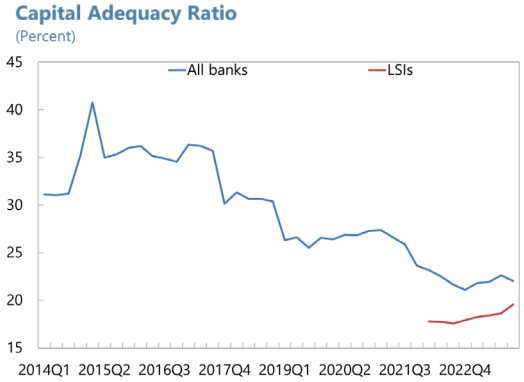
C. Capital Adequacy

12. Despite remaining high, capital adequacy of Estonian banks has been steadily declining over time. The Common Equity Tier 1 (CET1) ratio has exhibited a notable downward trajectory, falling from over 40 percent in 2014 to 21.5 percent recently (Figure 6). This decline can be attributed to several factors, including growing bank leverage and the expansion of banks' loan

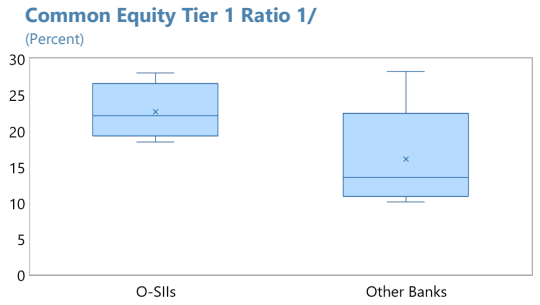
portfolios. Additionally, reforms to corporate taxation have incentivized banks to prioritize dividend payouts over profit retention, further impacting capital ratios.[5]

13. Supervisory measures aimed at ensuring fair treatment of risk exposures across banks have also contributed to the observed decline in banks' capital ratios in the most recent period. Analysis of bank-level balance sheet data reveals that the significant drop in the aggregate capital adequacy ratio since 2021 has been primarily driven by the decline of the CET1 ratio of Swedbank. In turn, the substantial increase in Swedbank's risk-weighted assets was the main factor underlying the decline in the bank's capital adequacy ratio. A similar pattern was observed for SEB, albeit to a lesser degree. In contrast, the CET1 ratio of Luminor remained broadly stable during the period, and that of LHV increased slightly.

Figure 6. Bank Capital Adequacy



Sources: Financial Supervision Authority; and IMF staff calculations.



Sources: Financial Supervision Authority; and IMF staff calculations.
1/ The height of the box indicates the interquartile range, the whiskers indicate the min and max values, the line within the box indicates the median and the 'x' marker represents the mean.

D. Heterogeneity of Capital Levels Across Banks

14. Small banks are, on aggregate, less capitalized than large banks. Examination of capital distribution among banks shows considerable variation in capital adequacy across systemically important banks and other banks. The capital adequacy ratio for the non-systemically important banks is about 4 percentage points lower than the average (Figure 6).

[5] The Estonian income tax system introduced in the early 2000s, under which profits are only taxed when dividends are paid out, encouraged banks to hold on to their profits rather than distributing them, which increased equity. The lowering of the corporate income tax rate on regularly-distributed dividends from 20 percent to 14 percent starting from 2019 and the requirement for Estonian banks to make quarterly advance payments of corporate income tax at 14 percent from the profits earned in previous quarter, which could be offset against the income tax paid on regular dividend payments, created incentives for some banks to distribute their profits and reduce their equity, see IMF (2021) and Eesti Pank (2023b). Furthermore, the 14 percent preferential rate on banks—which, unlike the corporate income tax on non-financial corporations, is levied on entire profits through quarterly advances as opposed to distributed profits—will be raised to 18 percent from 2025, possibly further incentivizing dividend distribution (see IMF, 2023, Box 1).

15. The capital adequacy ratio differs significantly across smaller banks as well. For instance, the CET1 ratio of smaller banks ranges between 10.1 and 28.2 percent and the median is significantly lower than for O-SIIs (Figure 6).

E. Risk Weights on Mortgage and Corporate Lending at IRB Banks: A Counterfactual Analysis

16. The high capital adequacy ratios of some Estonian banks partly stem from their relatively low risk-weighted assets. This is largely due to the implementation of the Internal Ratings-Based (IRB) approach for certain segments of their loan portfolios, resulting in lower risk charges and capital requirements for credit risk. In this section, we employ a counterfactual exercise to illustrate how IRB methodologies may result in lower risk weights and higher capital ratios.

17. Two Estonian O-SII banks utilize IRB methodologies to assess the risk weights of two main asset categories in their lending portfolios: i) mortgage loans on residential real estate (RRE) to households, and ii) lending to NFCs. These two banks account for about three quarters of the total stock of housing loans in Estonia and about one third of the stock of NFC lending.

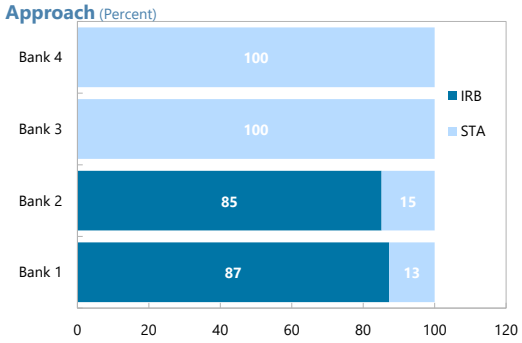
18. The risk weights, determined by internal models, incorporate historical loss experiences in housing loans and NFC lending. Given the favorable borrowing environment in Estonia, characterized by declining shares of overdue and non-performing loans in recent years, the average IRB-based risk weights have shown a systematic downward trend. While these risk weights may be associated with more prudent lending practices relative to those of banks which do not adopt IRB-based risk weights, they may also not fully reflect the riskiness of the underlying exposures in the current economic downturn. However, this analysis does not assess the riskiness of the loan books of banks.

19. Following a steady decline in the RW applied to RRE exposure by IRB banks, Eesti Pank introduced a 15 percent floor on the average risk weights for mortgage loans in September 2019. However, no such floor currently exists for IRB-based risk weights for NFC loans.

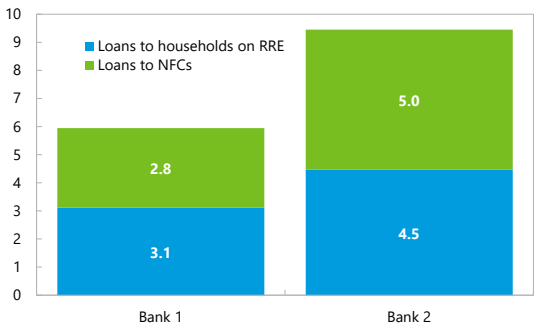
20. Risk weight floors are applied in several Nordic countries, and they tend to be higher than in Estonia. For instance, Sweden has set risk weight floors at 25 percent for mortgage exposures on RRE and 35 percent for commercial real estate since 2013. The Netherlands applies a variable floor to risk weights for RRE, which differentiates the RW based on the loan-to-value (LTV) of the mortgage. The RW of the individual loan increases from 12 percent for a loan with an LTV ratio of less than 55 percent up to 26.85 percent for a loan with an LTV ratio of 100 percent. As a further comparison, the standard methodology, applied by non-IRB banks in Estonia, imposes a risk weight of 35 percent to RRE exposures.

21. Information on the size of banking books under IRB and the risk weights used is not readily available. However, with some assumptions based on evidence from banks' financial accounts, we can infer that these segments constitute a significant portion of the two IRB banks' lending portfolios (Figure 7).

Figure 7. Estimated Share of Banking Book Under Standardized and IRB Approach



Sources: Financial Supervision Authority; and IMF staff calculations.



Sources: Financial Supervision Authority; and IMF staff calculations.

22. Using a similar approach, we can approximate the magnitude of the risk weights utilized by the two IRB banks. These estimates can then be compared with those derived from a parallel analysis conducted by Kask, Kosenko, and Raudsaar (2024; henceforth KKR, 2024). For mortgage loans, our estimated average IRB-based risk weights exceed those obtained in KKR (22 percent compared to 15 percent).[6] Conversely, for NFC loans, our average IRB-based risk weights are somewhat lower than KKR (74 percent versus 65 percent), but we obtain comparable system-wide averages for risk weights under the standardized approach (see Table).

Risk Weights
(Percent)

	IRB banks		Standardised approach	
	KKR (2024)	IMF staff estimate	KKR (2024)	IMF staff estimate
Mortgage loans	15	22	35	35
NFC loans	74	65	86	85

Sources: Kask, Kosenko, and Raudsaar (2024); and IMF staff calculations.

23. We run two counterfactual exercises to simulate the impacts of greater equalization of risk weights among Estonian banks.

24. The first exercise explores the effects of imposing a 35 percent floor on mortgage loans for the two IRB banks. This would increase the risk weights and reduce the capital ratios by 113bps and 153bps for Bank 1 and Bank 2, respectively. At the systemic level, this change would result in a 67bps decrease in the overall capital ratio (Figure 8).

[6] In KKR (2024), the starting point for mortgage loans is the regulation, as the focus of the analysis is on pricing of a new loan. As such, the risk weights of 15 percent for IRB banks and 35 percent under the Standardized approach are not fully comparable with those employed in this study, which are estimated system averages. For NFC loans, the risk weights are system averages in both studies.

25. The second exercise considers the impact of a higher risk weight to NFC loans provided by IRB banks. Since there is no regulatory floor for such exposures, we consider the impact on banks' capital ratios that results from bringing the IRB risk weights on NFC loans in line with the average of the Estonian banking system. It is worth noting that while the assumed 85 percent ratio for calibration broadly matches Bank 1's estimated IRB-based risk weight on this portfolio segment (83 percent), it significantly exceeds our estimate of Bank 2's IRB-based risk weight, which stands at approximately 55 percent.

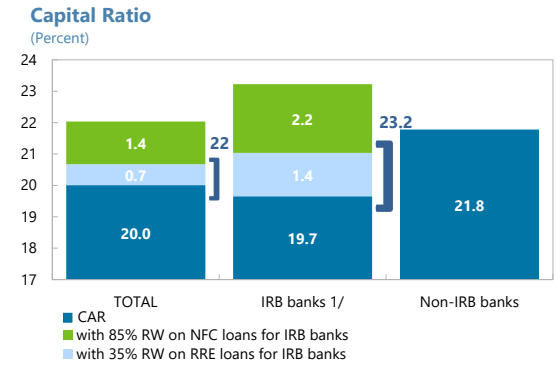
26. The resulting capital charges would be significant, given the existing gap in risk weights (Figure 8). For the system as a whole, the impact would be a 144bps reduction in the capital ratio. The combined effect of the two exercises, presented in Figure 8, shows that adopting more conservative risk weights for these two categories of bank lending would lower the overall capital adequacy ratio of the banking system by approximately 200bps, from 22 percent currently, to 20 percent.

F. Taxation of Extra Profits

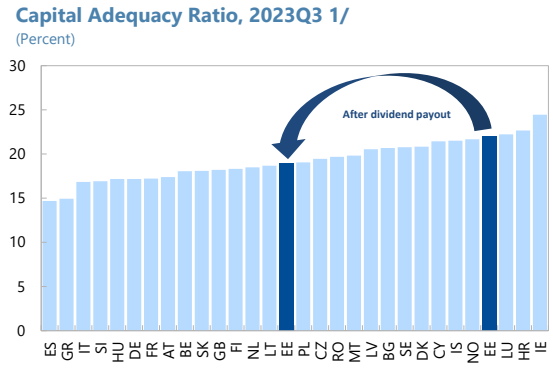
27. Several EU countries have implemented new taxes on banks' extra profits or have raised the tax rates on existing taxes. There is significant heterogeneity across countries in the tax design. The Baltic economies stand out in contrast to the rest of the EU, because of the significantly higher impact of the bank tax on banks' capital adequacy for a given level of fiscal revenues.

28. In Estonia, no direct tax has been levied on bank profits. However, a large taxable, one-off dividend payout, on top of the ordinary annual dividend distribution, is expected to temporarily support government's fiscal revenue but further reduce bank capital ratios by 3 percentage points (Figure 8).[7] The combined effect of the higher calibrated risk weights and the dividend payout would significantly reduce Estonian banks' capital headroom. An important caveat is that the dividend payout is not exogenous to the capital ratios, and it may have not occurred had the risk weights been higher and the capital ratios lower.

Figure 8. Counterfactual CAR



Sources: Financial Supervision Authority; and IMF staff calculations.
1/ Weighted by total assets.



Source: Financial Soundness Indicators, IMF; and IMF staff calculations.
1/ Ratio for NO, DE, SK, IT and LU shows latest available data point.

[7] For the estimate, it is assumed that the full payout would have accrued to capital, if not paid as dividend.

G. Conclusions and Recommendations

29. Despite facing a challenging macroeconomic environment, Estonian banks have remained resilient, maintaining soundness throughout. While capital levels have remained adequate, there has been a gradual decline in capital adequacy in recent years and solvency ratios exhibit significant variation across different banks. Mirroring global trends, Estonian banks achieved record profits in 2023, with Non-Performing Loan (NPL) ratios remaining low despite higher interest rates.

30. Reliance on Internal Ratings-Based (IRB) models has historically resulted in lower risk weights and higher capital ratios. A 15 percent floor on average risk weights for mortgage loans, introduced by the authorities in 2019 is lower than those in some Nordic countries with equally dynamic property markets. Additionally, the floor is notably lower than the risk weight from the standardized methodology, employed by the rest of the banking system. A recent large one-off dividend payout is expected to bolster fiscal revenue while further diminishing bank capital ratios by an estimated 3 percentage points.

31. In light of these developments, the resilience of the banking sector can be enhanced in several ways. First, taxes on windfall profits or initiatives encouraging higher taxable dividend payouts should be avoided, acknowledging the cyclical nature of the current upswing in bank profits and the pivotal role they play in bolstering capital buffers, particularly during periods of economic downturn. Second, bank exposures should be reviewed to ensure that credit risk is properly reflected in risk weights across the banking system. Finally, building on recent progress there is scope for reviewing macro- and micro-prudential requirements for less significant institutions, ensuring that current regulations promote financial stability uniformly across the banking sector.

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