

### 3. Higher for Longer: What Are the Macrofinancial Risks?<sup>1</sup>

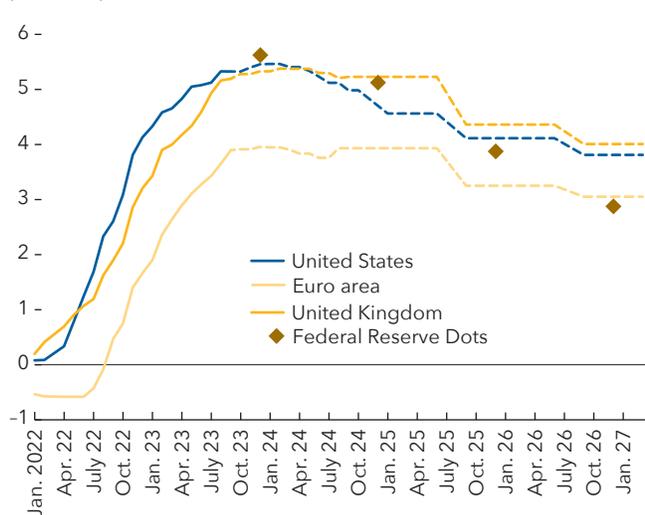
Central banks in the Middle East and Central Asia (ME&CA) face difficult trade-offs and policy challenges at a time when core inflation, though gradually declining, remains above central bank targets in many countries. In this context, a prolonged period of tighter monetary policy to reduce inflation could have unintended consequences for financial systems in the region. This chapter assesses the state and resilience of banking sectors in ME&CA to credit and liquidity risks that could emerge in a “higher-for-longer” interest rate environment. The results suggest that banking systems would be resilient in an adverse scenario of higher interest rates, corporate sector stress, and rising liquidity pressures. However, pockets of vulnerability exist in some countries, particularly among state-owned banks, and capital losses could emerge that, while manageable, could limit lending and add to downside risks to output. Policies to mitigate downside risks center on strengthening macroprudential frameworks, containing the vulnerabilities stemming from the sovereign-bank nexus, enhancing clear and timely communication, establishing emergency liquidity tools to stem systemic financial stress, and developing resolution regimes to reduce the buildup of zombie firms.

#### 3.1. Higher Global Interest Rates Could Expose Fault Lines among Banks

A fundamental question is confronting market participants and policymakers: Is the higher interest rate environment, which recently triggered banking sector stress in some advanced economies, a harbinger of more systemic risks that could test the resilience of ME&CA banking systems and the global financial system more broadly?

Despite some prospects for a moderation in monetary policy tightening ahead, financial market participants expect policy rates to remain elevated for a prolonged period (Figure 3.1). Subsequently, a higher-for-longer interest rate environment could affect financial conditions and trigger strains across financial institutions. This is particularly relevant as vulnerabilities may be hidden (accounting rules or regulatory treatments can temporarily mask exposures and losses) and some holdings are concentrated in certain asset classes, such as government bonds. Recent banking sector stress in some advanced economies provided a stark reminder that funding can evaporate rapidly, and a reliance on foreign funding sources is a key financial vulnerability. Banks could also face a deterioration in asset quality from interest-rate-sensitive

**Figure 3.1. Major Advanced Economies Central Bank Rates Expectations**  
(Percent)



Source: Bloomberg Finance L.P.

Note: Data as of September 21, 2023. Federal Reserve Dots represent the median for Federal Reserve Board members projection for the short term policy rate at selected periods.

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borrowers that suddenly face challenges in servicing their debt. An escalation in such stress could have significant repercussions for banking sector profitability and credit provision and materially affect economic growth and financial stability.

## 3.2. Certain Factors Could Exacerbate Financial Stability Risks

### Reliance on Foreign Funding Increases Vulnerabilities

A high reliance on external funding, such as nonresident deposits and other foreign liabilities, increases banking sector vulnerability to sudden shifts in investor sentiment. For example, nonresident deposits could suddenly reverse during periods of stress or broader global financial turbulence, making outflows of such funding a source of volatility for banks in ME&CA. This is particularly relevant in countries with a greater dependence on external funding sources, such as in the Gulf Cooperation Council (GCC; Bahrain, Qatar) and the Caucasus and Central Asia (CCA; Georgia) region (Figure 3.2, panel 1). Formal deposit insurance varies across the region and is lacking in some countries, leaving some banks vulnerable to large deposit withdrawals. However, the large share of government deposits in the total deposit base (a prevalent feature of bank funding profiles in some countries, such as Qatar and the United Arab Emirates) and government ownership of some major banks (Azerbaijan, Egypt, Saudi Arabia) could mitigate the risk of large deposit withdrawals, given their generally more stable trends.

### The Sovereign-Bank Nexus Can Trigger Adverse Feedback Loops

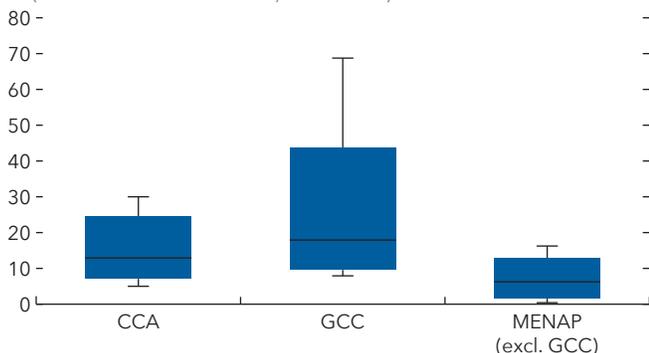
A prolonged period of higher interest rates could trigger adverse feedback loops between the sovereign and the banking sector. In banking systems with elevated bank holdings of domestic sovereign debt (Algeria, Egypt, Pakistan), high government exposure to interest rate risk and worsening sovereign credit conditions could spill over to banks. Subsequently, this would leave banks vulnerable to a further tightening in financial conditions that may erode capital and liquidity positions, particularly if marking-to-market and the sale of government debt is needed to combat funding stress. Moreover, the sovereign-bank nexus could also trigger negative spillovers through other channels. For example, with the Middle East and North Africa (MENA) region emerging market and middle-income countries (EM&MIs) and Pakistan already facing elevated gross financing needs, higher sovereign borrowing costs could fuel debt sustainability concerns and limit access to international financing sources. This may lead to domestic banks increasing their holdings of government debt, affecting bank balance sheets and funding conditions adversely. Ultimately, this would also affect the real economy by crowding out lending to firms and households. Credit to the private sector is often lower in countries where banks are more exposed to sovereign debt (Figure 3.2, panel 2).

### Weaker Corporate Credit Quality Could Test Ample Bank Buffers

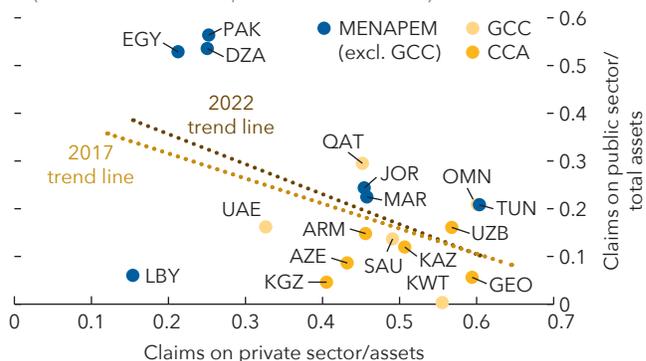
Bank profitability has generally recovered from pandemic lows. State-owned bank performance, however, remains well below prepandemic levels in MENA EM&MIs and Pakistan and, to a lesser extent, in the GCC (Figure 3.2, panel 3), reflecting subsidized loan programs that lend to state-owned enterprises or otherwise lend at preferential rates. By contrast, bank profitability in CCA countries has surged above prepandemic trends, partly because of sizable inflows from Russia amid Russia's war in Ukraine. Even as most pandemic-related forbearance measures have been removed, capital ratios across ME&CA remain well above regulatory minimums. Additionally, nonperforming loan ratios are mostly contained but are elevated for state-owned banks in MENA EM&MIs and Pakistan because of a higher concentration of loans to less profitable state-owned enterprises (Figure 3.2, panel 4). Banks in the region also have ample liquidity buffers, which have been bolstered by higher oil prices in oil-exporting countries.

**Figure 3.2. Banking Sector Funding, Sovereign Nexus, and Buffers****1. Banking Sector Foreign Liabilities**

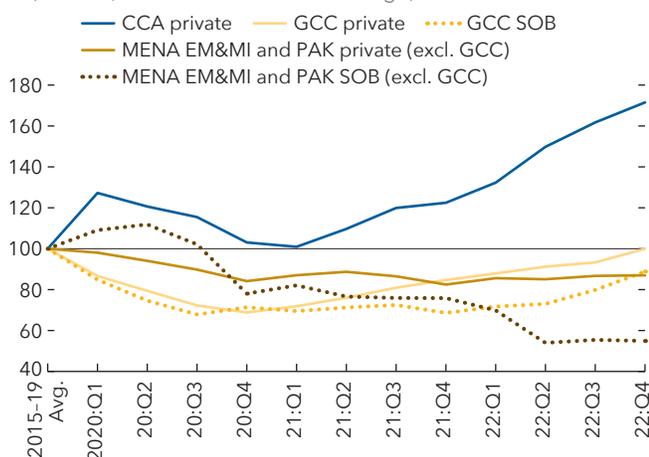
(Percent of total liabilities, as of 2022)

**2. Bank Exposure to Sovereign Debt and Private Sector Credit**

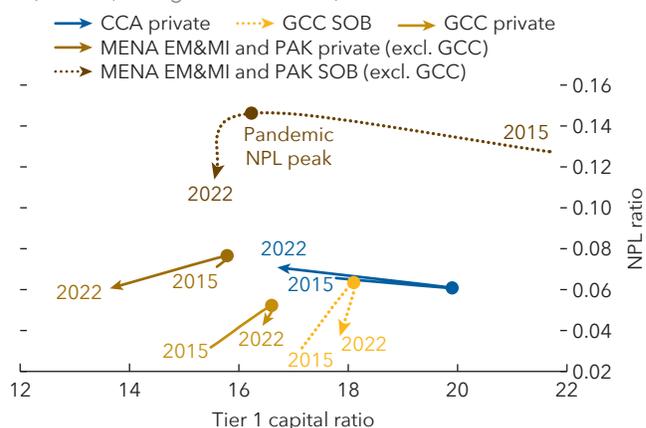
(Share of total assets; dots are as of 2022)

**3. Banking Sector Return on Assets**

(Median, index 100 = 2015–19 average)

**4. Banking Sector Tier 1 Capital and NPL Ratios**

(Median, change from 2015–22)



Sources: Fitch Connect; Haver Analytics; and IMF staff calculations.

Note: Panel 1 shows country-level data for the banking sectors' nonresident liabilities as a percent of total liabilities, with countries grouped by subregion. The line in the middle of the box is the median, the outer edges of the boxes are the 25th and 75th percentiles, and the ends of the lines are the maximum and minimums. In panel 2, some countries are excluded because of missing bank-level data; dots for 2017 are not shown (only the accompanying trend line). A steepening of the trend line over time indicates a strengthening of the sovereign-bank nexus. For panels 3 and 4, state-owned banks are defined as banks with government ownership greater than 50 percent. Data labels in the figure use International Organization for Standardization (ISO) country codes. CCA = Caucasus and Central Asia; GCC = Gulf Cooperation Council; MENA EM&MI and PAK = Middle East and North Africa emerging market and middle-income countries and Pakistan; MENAPEM = Middle East and North Africa emerging markets and Pakistan; NPL = nonperforming loan; SOB = state-owned bank.

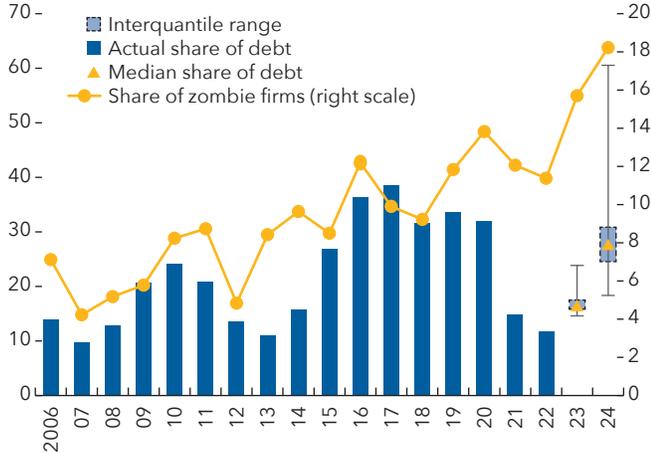
However, as many nonfinancial corporations have emerged from the pandemic with higher leverage and compressed profitability (partly because of rising input costs), the impact from higher-for-longer interest rates through pressures on debt-servicing capacity may not yet be reflected in nonperforming loans. The potential increase in problem loans would result in additional loan loss provisioning, which could negatively affect banks' capital and credit provision to the region.

### 3.3. Higher-for-Longer Could Hold Back Growth in an Adverse Scenario

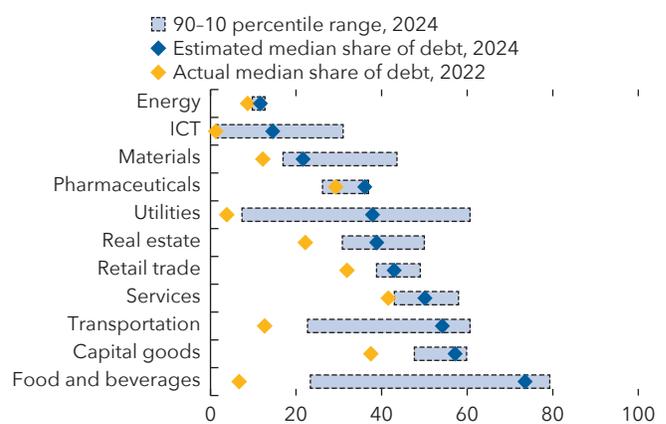
*Higher-for-longer interest rates could strain corporate balance sheets and banks in the region. Stress tests show that while some nonfinancial firms are vulnerable, banking systems would be resilient to individual stress scenarios. Still, vulnerabilities could emerge in certain segments, and some banks would experience capital losses that, although manageable, could limit lending and add to downside risks to output.*

**Figure 3.3. Corporate Stress****1. Corporate Debt Held by Zombie Firms**

(Percent of total debt; simulation results for 2023-24)

**2. Sectoral Share of Debt at Zombie Firms**

(Percent of total debt; simulation results for 2024)



Sources: S&amp;P Capital IQ; and IMF staff calculations.

Note: Country coverage: Azerbaijan, Bahrain, Egypt, Jordan, Kazakhstan, Kuwait, Kyrgyz Republic, Lebanon, Morocco, Oman, Pakistan, Qatar, Saudi Arabia, Sudan, Tunisia, and United Arab Emirates. ICT = information and communication technology.

**Corporate Sector Stress Test: Debt at Risk of Default Could Double**

The COVID-19 shock affected the corporate sector adversely, particularly contact-intensive industries, but strong policy support in ME&CA helped to mitigate the overall impact (October 2021 *Regional Economic Outlook: Middle East and Central Asia*). The corporate sector has broadly recovered since the start of the pandemic, but some nonfinancial firms could still become vulnerable in a higher-for-longer interest rate environment. In this context, stress scenarios were simulated over 2023-24 to estimate the share of corporate debt at risk of default.

The analysis focused on “zombie” firms—firms that are highly leveraged and at a greater risk of default.<sup>2</sup> The share of zombie firms in the region, which has been on an upward trend for more than a decade, stood at about 12 percent in 2022 (Figure 3.3, panel 1). Moreover, zombie firms’ median leverage (proxied by total liabilities to total assets) was twice that of other firms at the end of 2022 (40 percent versus 20 percent) and, while non-zombie firms’ median profitability (proxied by return on assets) recovered after the pandemic, zombie firms’ operating losses continued to deteriorate (see Online Annex 3.1). At the end of 2022, zombie firms held about 12 percent of corporate debt. This share is lower than prepandemic levels for a variety of reasons, including the bankruptcy of some firms and others receiving temporary support, but history suggests that the share of debt held by zombie firms typically peaks several years after a recession.<sup>3</sup>

The adverse scenario was calibrated to the higher-for-longer interest rate environment combined with a sector-specific profitability shock to simulate the impact of a global slowdown (see Online Annex 3.1). The effective interest rate was increased sequentially by 100 basis points per year, reaching an average of more than

<sup>2</sup> Following Acharya and others (2022), zombie firms are those whose average interest coverage ratio (ICR) over two years falls below 2.5 (the mean ICR for BB-rated firms) and simultaneously receive “subsidized” lending (that is, their effective interest rate is below that of top-rated firms). The rationale for the ICR threshold is to focus on firms at the investment grade frontier, which are more likely to default under stress conditions.

<sup>3</sup> Many firms received temporary support during the pandemic, including through various forms of loan relief and tax breaks. Together with lower interest rates over 2020-21, this contributed to temporarily higher ICRs for some zombie firms. While the total debt of firms in the sample declined between 2020 and 2021, the decline was more marked for zombie firms as some failed and went into bankruptcy and healthier firms were more able to access credit.

8 percent by the end of 2024, about 2 percentage points higher than prepandemic levels. The sector-specific profitability shocks were calibrated based on the evolution of earnings (before taxes and interest) in the first two years after the global financial crisis, with most sectors experiencing double-digit negative returns.

The results show that firm profitability could decline, on average, to about 3 percent in 2024, below the prepandemic level of 5 percent. The median interest coverage ratio was estimated to decline from 3.5 to 1.5 at the end of 2024, and the share of debt at risk of default more than doubled, increasing from about 12 percent of total debt in 2022 to almost 30 percent by 2024 (Figure 3.3, panel 1). Looking across sectors, firms in the transportation, capital goods, and food and beverage sectors would be most vulnerable, with the median share of zombie firm debt in the food and beverages sector increasing particularly sharply by 2024 (Figure 3.3, panel 2).

### Banking Sector Stress Test: Resilience Tested under Shocks and High Rates<sup>4</sup>

Four banking sector stress scenarios were simulated amid a higher-for-longer interest rate environment. The first scenario considered a liquidity shock through deposit outflows that could force some banks to realize capital losses on hold-to-maturity securities (see Online Annex 3.2 for the methodology following Copestake, Kirti, and Liu, forthcoming, and Jiang and others 2023).<sup>5</sup> This established a baseline for banks' vulnerability to liquidity shocks. The second scenario added a 200 basis point increase in interest rates to the first scenario.<sup>6</sup> The third scenario mapped the corporate sector stress test results from the previous section to banking sector pressures through higher provisioning requirements, consistent with higher probabilities of default in the corporate sector.<sup>7</sup> The fourth combined scenario features a confluence of shocks with higher interest rates, corporate sector stress, and a liquidity shock. Detailed country-level results are displayed in Online Annex 3.2 (Annex Figure 3.2.1).

The results point to banking sector resilience, though amid risks. Notably, banks in the GCC and in MENA EM&MIs and Pakistan would remain resilient to individual stress scenarios but could be tested by a combined shock (Figure 3.4, panel 1).<sup>8</sup> While banks in the CCA would remain resilient in the stress scenarios described, partly because of their relatively high cash buffers resulting from surging profitability, the CCA is more exposed to risks relating to foreign exchange than other countries in ME&CA (Box 3.1).<sup>9</sup> Regarding the individual stress scenarios, many banks in ME&CA can withstand liquidity or corporate sector stress without realizing capital losses because of generally high profitability among privately owned banks (Georgia, Kazakhstan, United Arab Emirates), ample cash buffers, and a significant share of already marked-to-market securities portfolios in some

<sup>4</sup> The stress tests used in this chapter are designed for cross-country comparability and thus are a useful complement to the more in-depth country-specific analyses conducted during Financial Sector Assessment Programs (FSAPs). For example, the chapter's stress tests used concepts of solvency and liquidity based on academic studies that differ from the related regulatory concepts and definitions that supervisors employ and the FSAPs use. Moreover, because of data limitations, the chapter does not cover the direct impact of higher interest rates on the household sector. For more information, see recently completed FSAPs for Georgia, Jordan, and Kuwait, and Chapter 2 of the October 2023 *Global Financial Stability Report*. The chapter abstracts from the implications of recent increases in sovereign rollover risks for banking sectors in countries whose governments have shortened maturities (see Online Annex 3.5).

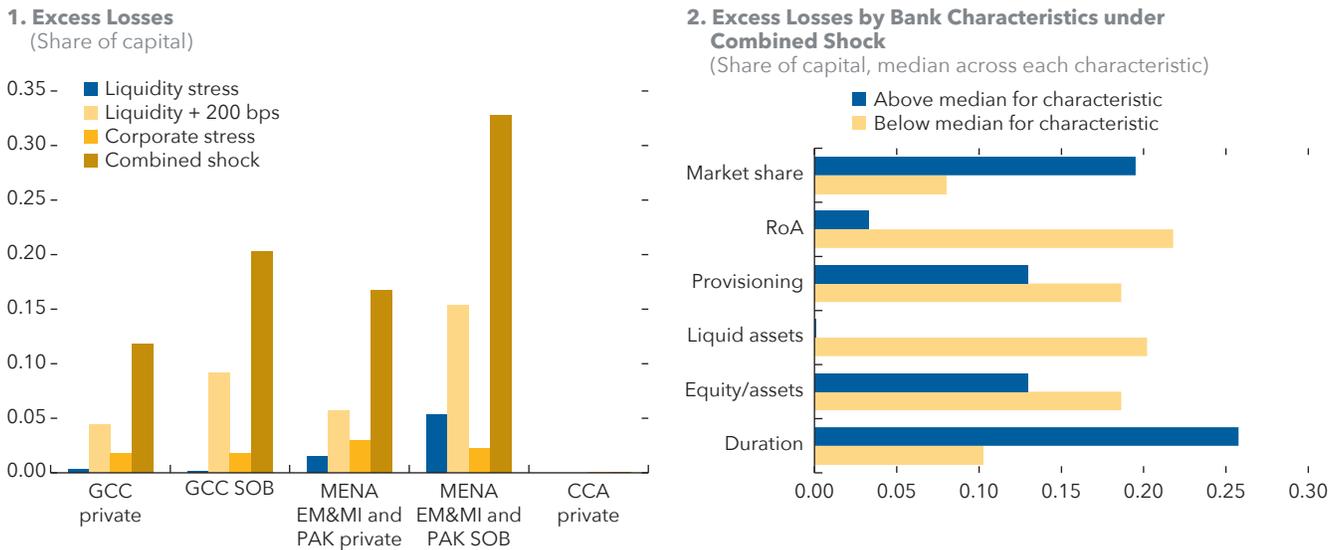
<sup>5</sup> Such a shock could be triggered by spillovers from global financial turbulence and exacerbated by uneven deposit insurance in the region. To capture the differences in the stickiness of funding sources, the liquidity shock imposes stronger withdrawals of foreign deposits and wholesale funding, with its simulated size (withdrawals of 20 percent of resident deposits and 30 percent for foreign deposits and wholesale funding) comparable to recent FSAPs in the region (see IMF 2023) and the worldwide liquidity stress tests of Copestake, Kirti, and Liu (forthcoming).

<sup>6</sup> The 200 basis point shock to the interest rate refers to the potential of further monetary policy tightening (domestic tightening for countries with floating exchange rates; from US monetary tightening for countries with pegged exchange rates), a potential further increase in sovereign spreads for Middle East and Central Asia countries relative to the United States, and an increase in risk premiums as banks' creditworthiness deteriorates.

<sup>7</sup> In the corporate sector stress test scenarios, ICRs deteriorate relative to the status quo. Annex Figure 3.1.2 shows the distribution of ICRs. The change in ICR was mapped into a corresponding change in default probabilities using Damodaran (2023). It was assumed that banks provision fully against these increases in nonperforming loans. Details are provided in the online appendix.

<sup>8</sup> Capital losses would be realized if overall losses are greater than net income.

<sup>9</sup> Strong inflows from Russia amid appreciating exchange rates have led to a large increase in net foreign exchange gains for Caucasus and Central Asia (CCA) banks, which has strengthened profitability.

**Figure 3.4. Capital Losses under Stress Scenarios**

Sources: Bloomberg Finance L.P.; Fitch Connect; and IMF staff calculations.

Note: Panel 1 shows losses, measured in excess of net income, as a fraction of Tier 1 regulatory capital. State-owned banks are defined as banks with at least 50 percent government ownership. Panel 2 shows median loss for banks above/below median of a particular characteristic. Market share is defined as within-country market share. Return on assets is defined as net income over total assets. Duration is measured at the country level as the weighted average duration of outstanding local currency government bonds. GCC countries include Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. MENA EM&MI and PAK includes Egypt, Jordan, Morocco, and Pakistan. CCA includes Georgia and Kazakhstan. bps = basis points; CCA = Caucasus and Central Asia; GCC = Gulf Cooperation Council; MENA EM&MI and PAK = Middle East and North Africa emerging market and middle-income countries and Pakistan; RoA = return on assets (defined as net income over total assets); SOB = state-owned bank.

countries (primarily in the GCC). However, across most scenarios, state-owned banks are more vulnerable than privately owned banks in MENA EM&MIs and Pakistan and to a lesser extent the GCC, reflecting their lower profitability and higher levels of securities holdings, which increases interest rate risk.<sup>10</sup> Specifically:

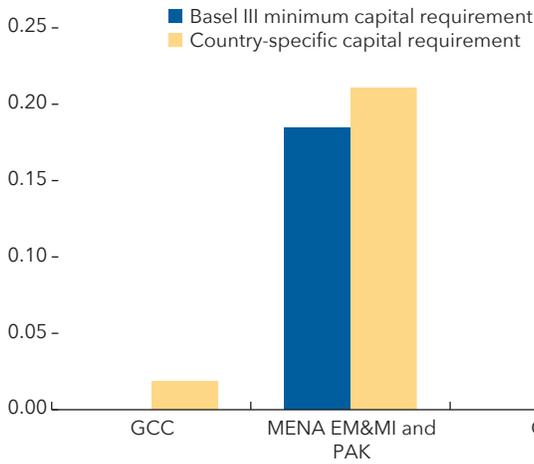
- Losses would be relatively small in the liquidity stress scenario. However, if liquidity stress is coupled with higher interest rates, losses would be much larger, particularly for state-owned banks. The main drivers of these losses are rising unrealized capital losses on banks' holdings of fixed-income securities, particularly long duration securities (Jordan, Morocco, Saudi Arabia). Countries with lower ex ante capital buffers are also more exposed (Egypt, Morocco).
- The corporate sector stress scenario suggests that banks have ample buffers, reflecting relatively high provisioning in the region (Kuwait) and low exposures to the private sector in countries with a strong bank-sovereign nexus (Egypt, Pakistan).
- The combined scenario leads to the largest capital losses. Privately owned banks in MENA EM&MIs and Pakistan and the GCC experience losses of 16.7 percent and 11.8 percent, respectively, with state-owned banks experiencing losses about twice as large as privately owned banks.
- Across all scenarios, losses in the CCA would be negligible because of large cash buffers and high profitability. Nevertheless, significant vulnerabilities could emerge following an external shock because of high levels of dollarization, risks from borrowers' unhedged foreign exchange exposures, and foreign exchange funding stress (Box 3.1).<sup>11</sup>

<sup>10</sup> In the corporate scenario, state-owned banks are slightly less vulnerable because they have a lower share of loans relative to total assets than privately owned banks. Thus, their additional provisioning needs are lower.

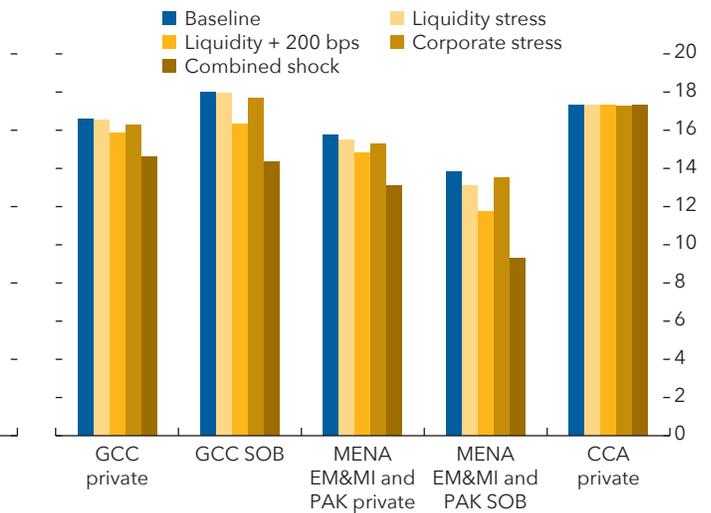
<sup>11</sup> Teodoru and Akepanidaworn (2022) show that the simultaneous realization of foreign exchange-induced credit risks and acute foreign exchange funding stress would have compounding effects, and the largest and state-owned banks seem to be the most vulnerable.

**Figure 3.5. Bank Undercapitalization and Impact on Capital Ratios****1. Banks that Become Undercapitalized in the Combined Scenario**

(Share of total, weighted by assets)

**2. Capital Ratios across Scenarios**

(Tier 1 capital ratios, in percent)



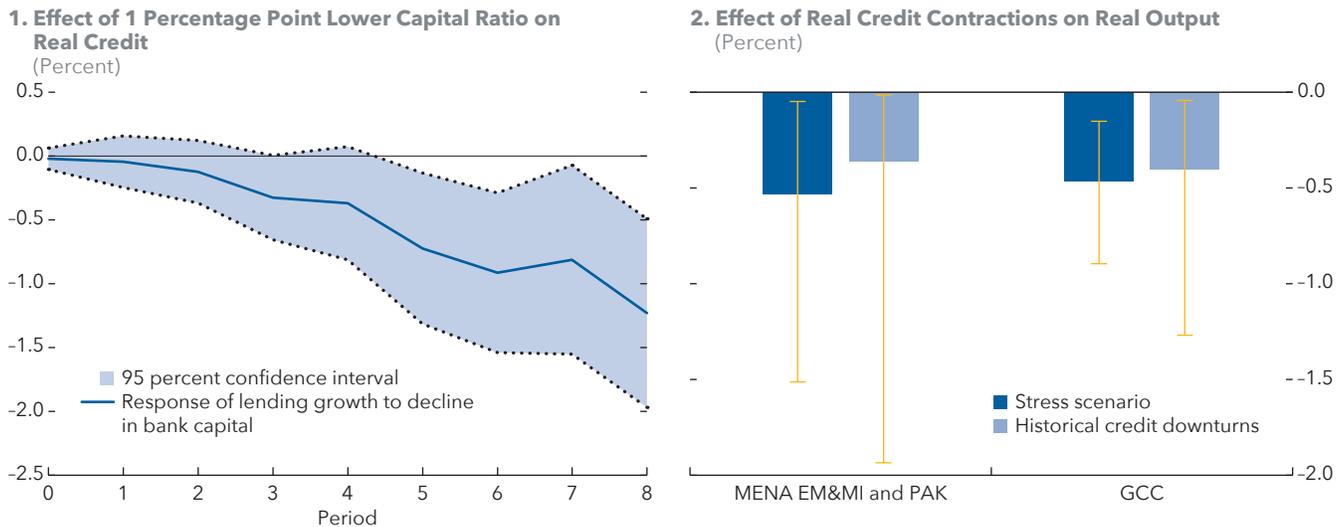
Sources: Bloomberg Finance L.P.; Fitch Connect; and IMF staff calculations.

Note: Panel 1 reports the share of banks weighted by total assets that become undercapitalized across regions. Basel III minimum capital requirements refers to 4.5 percent minimum common equity Tier 1 capital plus an extra 1.5 percent of additional Tier 1 capital plus a 2.5 percent capital conservation buffer, which most countries in the region have implemented. Country-specific capital requirement adds the country-specific Tier 1 capital requirement and capital conservation buffer. Panel 2 reports Tier 1 capital ratios for banks across current baseline and four stress scenarios. GCC countries include Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. MENA EM&MI and PAK includes Egypt, Jordan, Morocco, and Pakistan. CCA includes Georgia and Kazakhstan. bps = basis points; CCA = Caucasus and Central Asia; GCC = Gulf Cooperation Council; MENA EM&MI and PAK = Middle East and North Africa emerging market and middle-income countries and Pakistan, excluding the GCC; SOB = state-owned bank.

Excess losses vary across banks depending on their characteristics (see Figure 3.4, panel 2). Losses tend to be more concentrated in banks with relatively illiquid balance sheets, low profitability, low provisioning levels, and higher leverage, with larger losses concentrated in banks with higher market shares. Moreover, banks in countries with greater duration of outstanding sovereign bonds are more exposed because these banks face much higher sensitivity to interest rate increases.

While few banks would become undercapitalized in the combined scenario, capital buffers would be significantly eroded, especially in countries that begin with relatively low capital ratios (Egypt, Morocco, Pakistan). Relative to Basel III minimum capital requirements,<sup>12</sup> 18 percent of banks in MENA EM&MIs and Pakistan would become undercapitalized in the combined scenario (Figure 3.5, panel 1). By contrast, all banks in the GCC and the CCA would remain above minimum requirements. The share of undercapitalized banks would increase slightly in the GCC and MENA EM&MIs and Pakistan when country-specific minimum capital requirements are imposed. Aggregate Tier 1 capital ratios would decline by 2.6 and 4.5 percentage points for privately owned and state-owned banks in MENA EM&MIs and Pakistan, respectively. Similarly, state-owned banks are also more vulnerable than privately owned banks in the GCC, with ratios declining by 3.7 and 2.0 percentage points, respectively (Figure 3.5, panel 2).

<sup>12</sup> Estimated scenario-related losses are compared with Tier 1 capital. Basel III stipulates 4.5 percent common equity Tier 1 plus 1.5 percent additional Tier 1 capital and a 2.5 percent capital conservation buffer. Based on a desk survey, most countries included in the stress testing exercise require minimum Tier 1 capital higher than 8.5 percent. For the country-specific capital requirements, domestic systemically important banks' surcharges and other buffers are treated as buffers and not as capital requirements in line with IMF (2023).

**Figure 3.6. Impact on Credit and Output**

Sources: Fitch Connect; Haver Analytics; and IMF staff calculations.

Note: Panel 1 reports the estimated impulse response of real credit to lower bank capital ratios (see estimation details in Online Annex 3.3).

Standard errors are clustered by bank and time. Dotted lines display 95 percent confidence bands. Panel 2 reports distribution of output losses from credit contractions under stress scenarios (dark blue plot) and during historical credit downturns (light blue plot). The output losses displayed reflect the median and 95th percentile of losses across countries in each subregion. GCC = Gulf Cooperation Council; MENA EM&MI and PAK = Middle East and North Africa emerging market and middle-income countries and Pakistan, excluding the GCC.

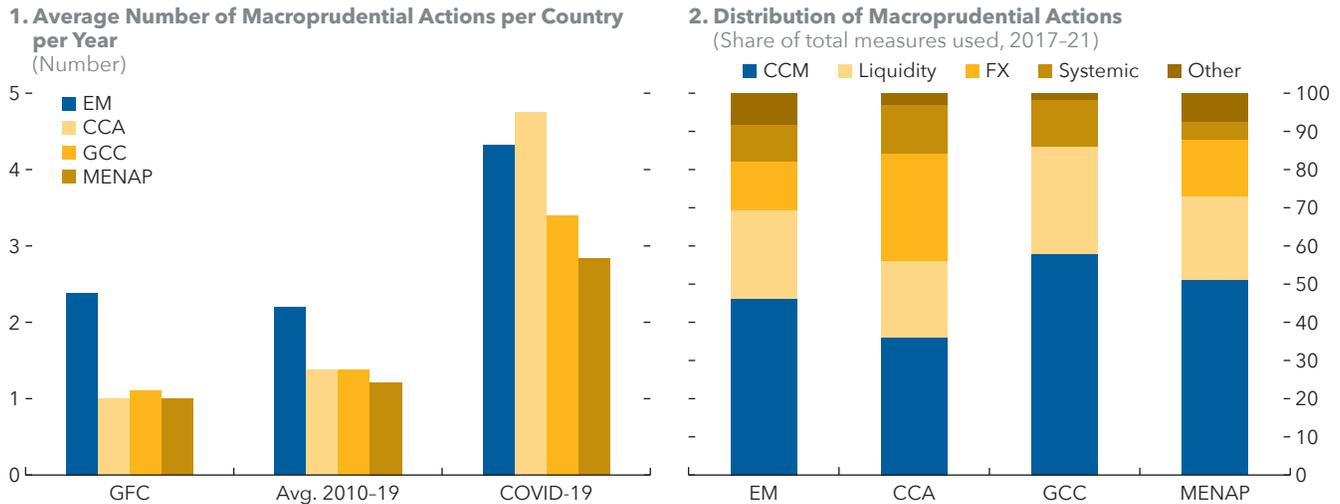
### Stress in the Banking Sector Could Weigh on Credit Provision and Growth

The erosion of bank capital under the stress scenarios is likely to result in a reduction in lending to the private sector as banks aim to rebuild buffers. Notably, a local projection approach (Jordà 2005) suggests that a 1 percentage point decline in capital ratios has been historically correlated with a contraction in real credit, reaching 1.2 percent after eight quarters (Figure 3.6, panel 1). Based on the combined scenario from the previous section, these estimates imply that real credit could contract by 4.3 percent in MENA EM&MIs and Pakistan and 3.2 percent in the GCC over a two-year horizon.<sup>13</sup>

Amid lower credit provision, which may affect financial inclusion as marginal borrowers lose access to credit, economic activity could also decline markedly. Results from a macroeconomic model show that the decline in bank lending in line with the combined scenario from the previous section could translate into output losses of a magnitude similar to those seen during past credit downturns in MENA EM&MIs and Pakistan, and the GCC (see Figure 3.6, panel 2).<sup>14</sup> In fact, the median output loss from the decline in lending is estimated to be about 0.5 percent in MENA EM&MIs and Pakistan, and in the GCC. That said, while the median output losses are comparable to those seen during credit downturns over the past two decades, there is significant statistical variation across these estimates, suggesting that the resulting downside risks from an adverse scenario could potentially

<sup>13</sup> The banking stress test does not explicitly model interbank linkages, due to lack of data, which could further amplify downward spirals in the case of banking sector stress. Hence, these estimates should be interpreted as lower bounds. Amplification could also occur through nonbank financial institutions, although this is expected to be limited because they have a low market share in most countries of the region.

<sup>14</sup> See Online Annex 3.4 for a description of the model and estimation details. In the combined scenario, average real credit losses estimated for banks across each subregion and their associated uncertainty bands are applied to all countries with available macroeconomic data in each subregion to estimate output losses for each country. A historical credit downturn is defined to be a sequence of at least one negative credit shock estimated using all available data since the fourth quarter of 2001. It is important to note that the estimated output losses from credit shocks would come on top of any other declines in output that might result from all other (noncredit) shocks that affect aggregate demand, such as tighter financial conditions and slowing global demand.

**Figure 3.7. Macprudential Frameworks**

Source: IMF staff calculations.

Note: CCA = Caucasus and Central Asia; CCM = credit and capital-related measures; EM = emerging market; FX = foreign exchange; GCC = Gulf Cooperation Council; GFC = global financial crisis; MENAP = Middle East, North Africa, Afghanistan, and Pakistan.

be much larger. For example, at the 95th percentile of estimated output losses across countries following the credit contraction in the combined scenario, there could be a 1.5 percent output contraction in MENA EM&MIs and Pakistan and a 0.9 percent contraction in the GCC over two years.<sup>15</sup>

### Macroprudential Frameworks in ME&CA: Where Do We Stand?

In the aftermath of the global financial crisis, central banks across the world ramped up efforts to deploy macroprudential tools to prevent the buildup of systemic risk and deal with financial stability concerns. However, the use of macroprudential policies in ME&CA has been generally slow. For example, almost all the countries in the region have some form of broad-based tool available that covers capital buffers such as the countercyclical capital buffer, but most countries have left the setting at zero since inception. Furthermore, while most countries have implemented some form of borrower-based tool for the household sector, such as a cap on debt-service-to-income ratios, tools to guard against pockets of vulnerabilities and elevated credit risk in the nonfinancial corporate sector have generally been less used. In addition, some countries in the GCC (for example, Saudi Arabia) have not used measures to reduce banks' foreign currency liquidity risks, and some MENA countries (Algeria, Lebanon, Morocco, Tunisia) have taken fewer actions to reduce risks from domestic systemically important financial institutions. Overall, progress on macroprudential actions in ME&CA has often lagged other regions and the range of tools deployed also varies across subregions (Figure 3.7). Such differences may reflect the nature of the risks faced by banks in each subregion but could also leave key gaps in addressing potential vulnerabilities.

### Policies to Safeguard Financial Stability

*Several region- and country-specific actions could help reduce downside risks in a higher-for-longer interest rate environment. Policy recommendations center on strengthening macroprudential frameworks, mitigating risks from the sovereign-bank nexus, enhancing clear and timely communication, establishing emergency liquidity tools to stem systemic financial stress, and developing resolution regimes to reduce the buildup of zombie firms.*

<sup>15</sup> In the most adverse scenario for the CCA discussed in Box 3.1, the decline in capital ratios would imply a 4.1 percent reduction in real credit. This could lead to a 0.4 percent decline in output, with significant downside risks; the 95th percentile of estimated output declines across CCA countries is 1.3 percent over two years.

Developing and strengthening **macroprudential frameworks** in the region remains a priority. These include the following:

- In the MENA region and Pakistan, ramping up the use of broad-based macroprudential tools, such as the countercyclical capital buffer (established across most of the GCC and CCA, but not yet deployed), would help to prevent a sharp credit contraction during downturns. Countries where corporate debt-at-risk is elevated, or zombie firms are prevalent (for example, Kuwait, Jordan, and United Arab Emirates) should consider using borrower-based tools such as caps on debt-service-to-income ratios and loan-to-value ratios.
- Implementing additional measures that target large, domestic systemically important institutions, such as increased capital surcharges (as is used across most GCC countries)—particularly in MENA EM&MIs where implementation of domestic systemically important institution frameworks is lagging—would help reduce concentration and interconnectedness risks.
- In the GCC, guarding against unexpected liquidity stress will be important, particularly related to foreign liabilities. For example, consideration could be given to tools that account for concentrated nonresident deposits bases in liquidity coverage and net stable funding ratios. More generally, most GCC countries are more integrated with the international financial system than other countries in the region and are more exposed to foreign flows, raising the importance of implementing enhanced macroprudential foreign exchange measures, such as reserve requirements.
- In the CCA, countries would benefit from continuing to pursue ongoing macroprudential measures to build up resilience across credit cycles, especially in the current context of large inflows from Russia, and incentivize de-dollarization to reduce foreign exchange mismatches and enhance corporate and bank risk management.<sup>16</sup>
- Furthermore, although still nascent across most ME&CA countries, links between the banking sector and nonbank financial institutions should be monitored, especially where regulators see signs of risks migrating toward the sector.

Policymakers should continue to address the vulnerabilities related to the elevated **sovereign-bank nexus**. Given the complicated and multifaceted nature of the nexus in some countries, the policy response to mitigate risks must be tailored to country-specific circumstances:

- In the near term: In countries where banking systems face elevated interest rate risk (for example, Jordan), preserving bank capital to absorb losses is critical. Conducting bank stress tests by considering the multiple channels of the nexus would help countries to understand the nature and severity of these risks. In the current environment of high interest rates, central banks will need to pay special attention to bank asset classification and provisions and to exposures to interest rate and liquidity risks. Where risks are elevated, restricting profit distribution plans could be the first line of defense.
- Over the medium term: In countries with limited fiscal space and tight borrowing constraints, macroeconomic policies that strengthen debt sustainability would help contain government financing needs and thus a worsening of the sovereign-bank nexus. In addition, in countries where bank holdings of sovereign bonds exceed certain concentration limits (for example, Egypt, Pakistan), authorities should consider ways to lessen the sovereign-bank nexus gradually, with a precondition that macroeconomic policies are also set appropriately. This could include imposing capital surcharges on banks' sovereign bond holdings above certain thresholds, which can moderate the nexus in a way that increases resilience if phased-in appropriately.<sup>17</sup>
- Over the medium term and across all countries in the region, efforts to foster a deep and diversified investor base to help reduce the sovereign-bank nexus and strengthen market resilience should continue, particularly in countries where state-owned entities dominate the marketplace (Egypt, Tunisia, but also the MENA region

<sup>16</sup> See Khandelwal and others (2022) for more details on macroprudential policy recommendations for CCA countries.

<sup>17</sup> See the April 2022 *Global Financial Stability Report* for a detailed discussion of capital surcharges on banks' sovereign bond holdings above certain thresholds, including how to minimize potential adverse impacts.

and Pakistan more broadly). Building adequate buffers at state-owned banks, providing clear and well-defined mandates, and aligning supervisory tools such as stress tests with banks' unique risk profiles would enhance resilience further.<sup>18</sup>

A rise in financial stability risks from persistently high core inflation and higher-for-longer interest rates would complicate the task of central banks, and it puts a premium on clear **communication**. Clearly communicating central bank objectives and policy functions will be crucial to avoiding unnecessary uncertainty. In this respect, some countries would benefit from improving their communication on macroprudential frameworks, for example, by issuing a financial stability report. Policymakers must also act swiftly to prevent systemic events that may adversely affect market confidence in the resilience of financial systems. If policymakers adjust the monetary policy stance for financial stability purposes, they should clearly communicate their resolve to bring inflation back to target as soon as possible once financial stress lessens.

In parallel, policymakers should stand prepared to deal with financial instability, if it occurs. If faced with systemic financial stress, crisis management measures, such as emergency liquidity support, may be needed. Furthermore:

- In countries where central banks lack explicit authority to provide emergency liquidity assistance (Algeria, Morocco, Oman), governments should prioritize establishing a clear framework for dealing with liquidity distress in the banking system.
- In countries where central bank laws allow for the provision of emergency liquidity but lack details on operational directives and requirements (Egypt and Jordan in the MENA region; Georgia and Tajikistan in the CCA), providing specific instructions to banks and having internal guidelines would help in building additional capacity on the use of emergency liquidity facilities, including foreign exchange liquidity.<sup>19</sup>

Across all countries, central banks' liquidity support measures should aim to address liquidity, not solvency issues, which are best left to the relevant fiscal (or resolution) authorities. A significant part of the risk needs to remain in the marketplace to minimize moral hazard, and each intervention should have a well-defined end date, allowing market forces to reassert themselves once acute strains subside. Interventions should also be parsimonious to avoid conflicting with the monetary policy stance, especially in a tightening cycle. This means that liquidity support should be appropriately priced to avoid attracting opportunistic demand not in need of support. Liquidity support and broader crisis management tools also need to comply with Islamic banking rules in the region (IMF 2019).

Ex post solvency concerns require robust **resolution frameworks**, and many countries across the region have made progress and enhanced insolvency procedures to deal with legacy nonperforming loans. If borrower defaults rise, domestic banks may face incentives to delay the recognition of loan losses by evergreening credit to firms at advantageous rates. This can lead to long-lasting buildups of nonperforming loans, which constrain bank lending, and the resulting emergence of zombie firms would weigh on aggregate productivity growth. Therefore, resolution regimes should be structured to enable a swift resolution of nonperforming loans to prevent banks from building up impaired legacy assets on their balance sheets.

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<sup>18</sup> See Adams and others (2022) for more details on policy proposals related to state-owned banks.

<sup>19</sup> The regional and country recommendations are based partially on data from the IMF's Monetary Operations and Instruments database.

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### Box 3.1. Banking Sector Stress Test for the Caucasus and Central Asia

The Caucasus and Central Asia (CCA) is facing different financial stability challenges compared with other banking sectors in the region, including relatively high levels of dollarization, associated exchange rate risks,<sup>1</sup> and strong recent inflows from Russia.<sup>2</sup> To better assess financial stability risks in the CCA, the following assumptions are added to the baseline banking sector stress test:<sup>3</sup>

- Inflows from Russia normalize, and profitability returns to its prepandemic average amid a normalization of net foreign currency gains.
- An adverse external shock triggers a rise by 150 percent in sovereign spreads.<sup>4</sup>
- Exchange rates depreciate by 30 percent, stressing unhedged corporate and household borrowers.

The results show that CCA banks are resilient in a liquidity stress scenario because of high profitability and cash buffers, with losses of between 4 and 7 percent of regulatory capital. Given significant unhedged foreign exchange exposures, a large currency depreciation would lead to a surge in nonperforming loans among corporations, requiring additional provisioning, with losses rising to 7.3 percent of regulatory capital (Box Figure 3.1.1, panel 1). Combined liquidity and corporate stress could lead to losses as large as 15.3 percent of regulatory capital. While only 1.8 percent of banks (weighted by assets) would become undercapitalized, capital ratios would decline by 2.6 percentage points in aggregate, from 17.4 percent to 14.8 percent (Box Figure 3.1.1, panel 2).

Vulnerabilities related to dollarization and unhedged foreign exchange borrowers are key drivers of the losses. In the corporate stress scenario, the aggregate Tier 1 capital ratio would drop by 1.2 percentage points. Without currency depreciation, the decline would be negligible as banks would have sufficient buffers to absorb higher provisioning needs, even if profitability returns to prepandemic averages (a 44 percent decline from current levels). Overall, CCA banks would remain resilient against small shocks, with their main vulnerabilities stemming from an adverse shock that triggers a surge in sovereign spreads and sizable currency depreciations.

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<sup>1</sup> See Teodoru and Akepanidaworn (2022) for a more detailed discussion of dollarization and exchange rate risks in the Caucasus and Central Asia.

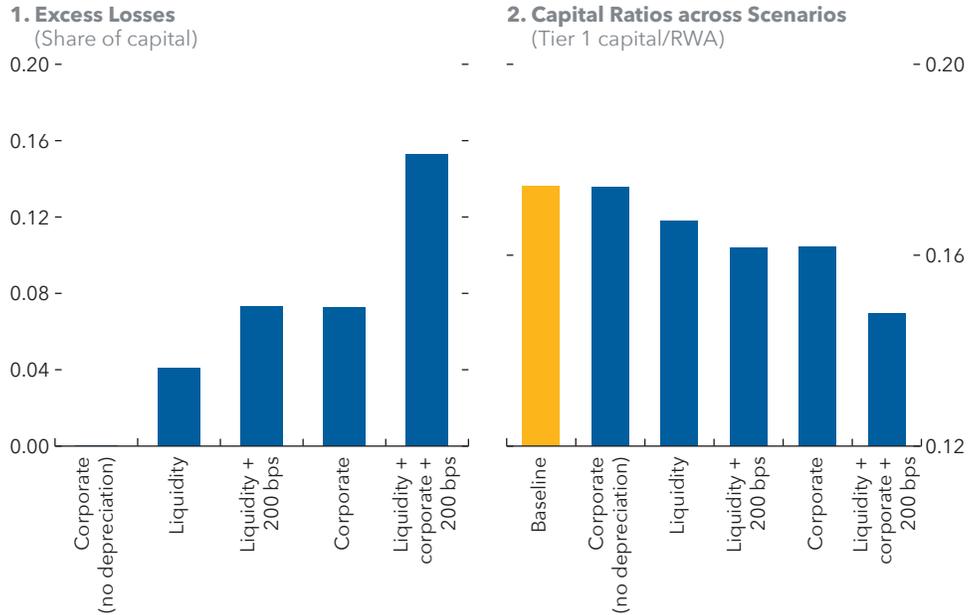
<sup>2</sup> Because of limitations in the availability of recent banking data, the analysis covers Georgia and Kazakhstan.

<sup>3</sup> Foreign exchange liquidity is a potential vulnerability that is not part of the stress test. The bank-level data used do not include a breakdown of liquid assets between local currency and foreign currency liquid assets. Thus, it is not possible to evaluate the extent to which banks have sufficient foreign exchange liquidity, especially in US dollars. See Online Annex 3.1 for further details. Teodoru and Akepanidaworn (2022) highlight that the simultaneous realization of foreign exchange credit and liquidity risks would have compounding effects on the banking sectors in the Caucasus and Central Asia, with the largest and state-owned banks being most vulnerable.

<sup>4</sup> The magnitude of the increase is consistent with the external shock scenario in the 2021 Financial Sector Assessment Program for Georgia (IMF 2021).

## Box 3.1. (continued)

Box Figure 3.1.1. Losses and Capital Ratios in the Caucasus and Central Asia



Sources: Fitch Connect; IMF, Financial Soundness Indicators database; and IMF staff calculations.  
 Note: Panel 1 reports estimated losses—in excess of banks' net income—across five scenarios. Losses are scaled as a share of Tier 1 regulatory capital. The corporate (no depreciation) scenario assumes a growth shock only to corporations. The full corporate scenario adds a further rise in nonperforming loans because of borrowers' unhedged foreign exchange exposures. Panel 2 reports current baseline Tier 1 capital ratio for Caucasus and Central Asia banks and counterfactual capital ratios across scenarios. Countries included are Georgia and Kazakhstan. bps = basis points; RWA = risk-weighted assets.