

ON POINT

ECONOMIC AND POLICY ANALYSIS FROM THE OCC

Global Banking's Improved Capital Levels May Soon be Tested

Considering the uncertain outlook for the global economy, it is important to keep track of the resilience of the global banking system. The pandemic was the first test of this resilience since the 2008 financial crisis in the United States and the subsequent sovereign debt and banking crisis in the European Union. By and large, banks passed the test. Since 2008, banks across the world have raised capital ratios to boost their ability to absorb losses. Bank profitability and asset growth, however, have been markedly higher in the United States than in Europe and Japan. When comparing Global Systemically Important Banks (G-SIB), U.S. banks stand out for their ability to generate revenue from interest-earning assets and fees. European and Japanese banks have lower revenues and subdued profitability, but, even so, all regions have similar indicators of credit risk reflecting better bank resilience.

Different paths to higher capital ratios

After 2008, there was a broad-based effort to recapitalize banks and to boost capital beyond pre-crisis levels. Data from G7 countries¹ show that the increase in capital ratios was especially strong in countries that had lower levels of capitalization in 2009. U.S. banks, which had relatively high capital to risk-weighted assets (RWA) ratios in 2009 are now near the lower end of the range of the G7 countries.² The data also show that, while banks in all G7 countries increased risk-weighted capital ratios, they took markedly different paths. Figure 1 decomposes the 2009 to 2021 change in Tier 1 capital to risk-weighted assets (RWA) ratio into three components: growth in capital, growth in assets, and the change in average risk weights.³ Comparing the United States to other countries in the figure reveals that although U.S. banks had among the smallest increases in the risk-weighted capital ratio, they had robust tier 1

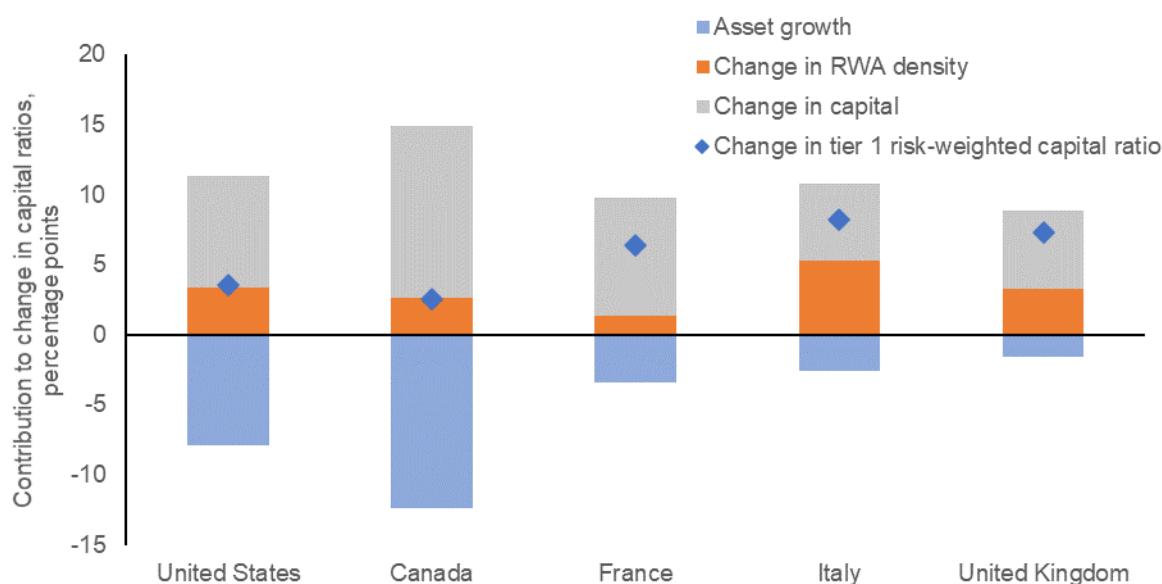
¹ The Group of 7 (G7) member countries are Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States.

² This is partially due to differences in average risk weights; the same International Monetary Fund (IMF) data puts the tier 1 capital to total assets ratio at 8.5 percent for U.S. banks, with the next highest G7 country, Italy, at 6.1 percent.

³ The decomposition is based on the methodology in the paper by Benjamin Cohen, "[How Have Banks Adjusted to Higher Capital Requirements?](#)" in the BIS quarterly review of September 2013.

capital and asset growth. Banks in Europe experienced low growth in assets and, especially in the case of Italy, shifted exposures into assets with lower risk weights.⁴

Figure 1: Decomposing the Change in Capital Ratios, 2009–2021



Sources: IMF Financial Soundness Indicators, Haver Analytics, and OCC calculations

Note: The RWA density is the sum of a bank's risk-weighted assets divided by the bank's total assets.

Revenues higher at North American banks than European and Japanese banks

Return on assets (ROA) for the U.S. banking system generally exceeds 1 percent by a substantial margin according to IMF data. Canada's banks generate an ROA around 1 percent, but ROA has hovered around 0.5 percent in the other G7 countries. This raises the question as to why North American banks are so much more profitable than their foreign peers. We use bank-level data from U.S. G-SIBs and other large internationally active banks from Canada, Europe, and Japan to investigate this in more detail.

There has been a perception that European banks failed in their efforts to cut operating costs over the past decade or so.⁵ However, our data show that the ratios of operating cost to operating income⁶ for eurozone banks are no higher than for North American banks. When we looked at measures of operating cost as a percentage of assets, European banks tended to have lower ratios pointing to higher efficiency. Hence, even though European bank executives may have missed some of their cost-cutting targets, cost efficiency alone cannot explain the

⁴ The analysis does not substantially change if we use 2019 as the end-year to exclude balance sheet growth that is associated with an inflow of deposits during the COVID pandemic.

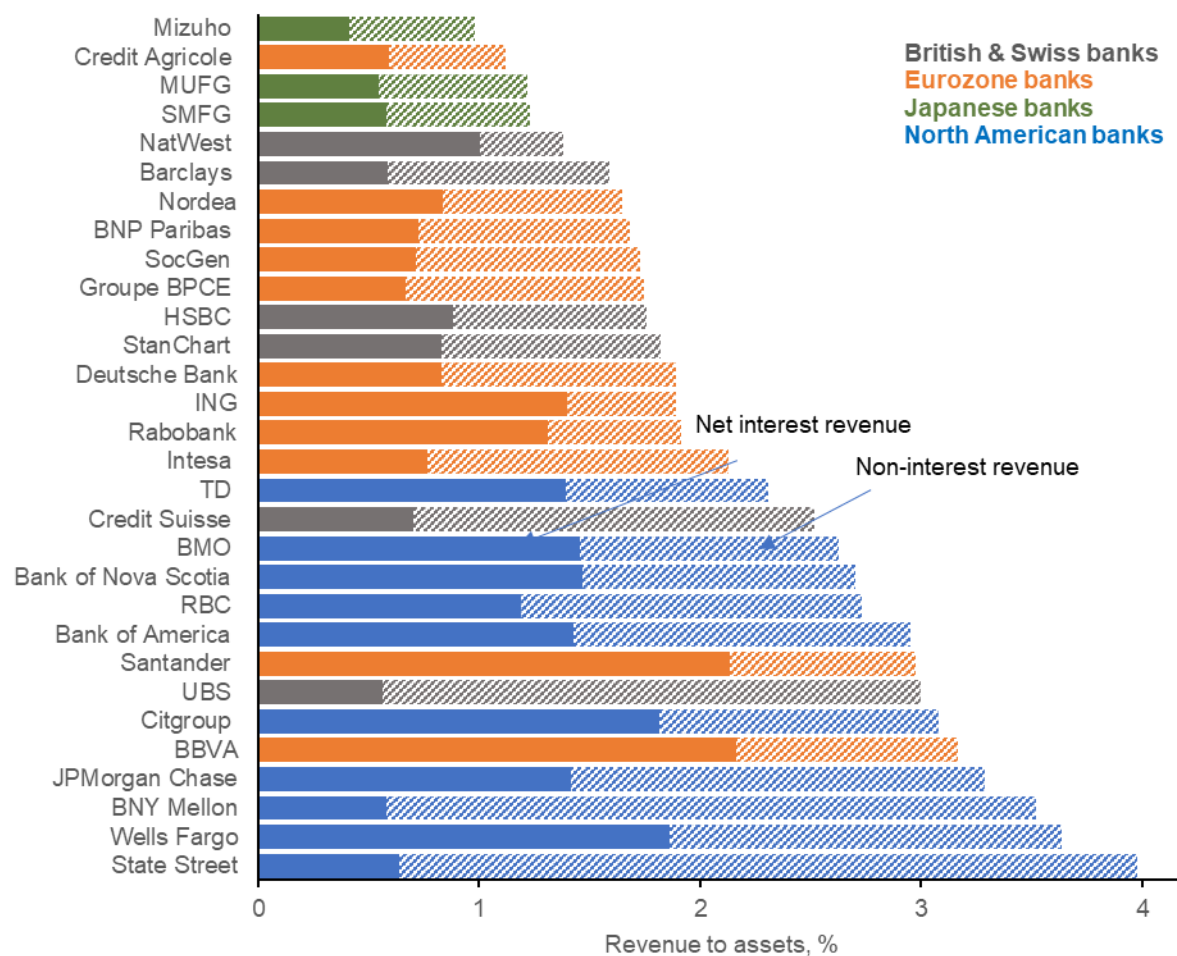
⁵ See for example: [Fixing Europe's Zombie Banks: How to Deal with Poor Performance, Defeatism and Complacency](#), The Economist, April 6, 2019.

⁶ Operating cost includes non-interest, non-impairment expense, operating income refers to net income from operations before impairment and extraordinary items.

difference in profitability between internationally active North American banks and their peers in other advanced economies.

If the performance difference is not driven by cost, it must be driven by revenue. Figure 2 shows that U.S. and Canadian banks have higher revenues as a percentage of assets than banks in other regions. Although the composition of revenues differs for individual banks, the North American banks have both higher net interest and non-interest earnings than their peers. Among the European banks, there are notable exceptions that illustrate the overall picture. The Spanish banks BBVA and Santander earn a sizeable share of their net interest income outside of Spain and the eurozone, while the Swiss banks, UBS, and Credit Suisse, generate substantial fee income from investment banking and wealth management, which is unique among European banks.

Figure 2: Revenue Differentiates North American Banks from Peers, 2021



Sources: S&P Global and OCC calculations; data is for 2021.

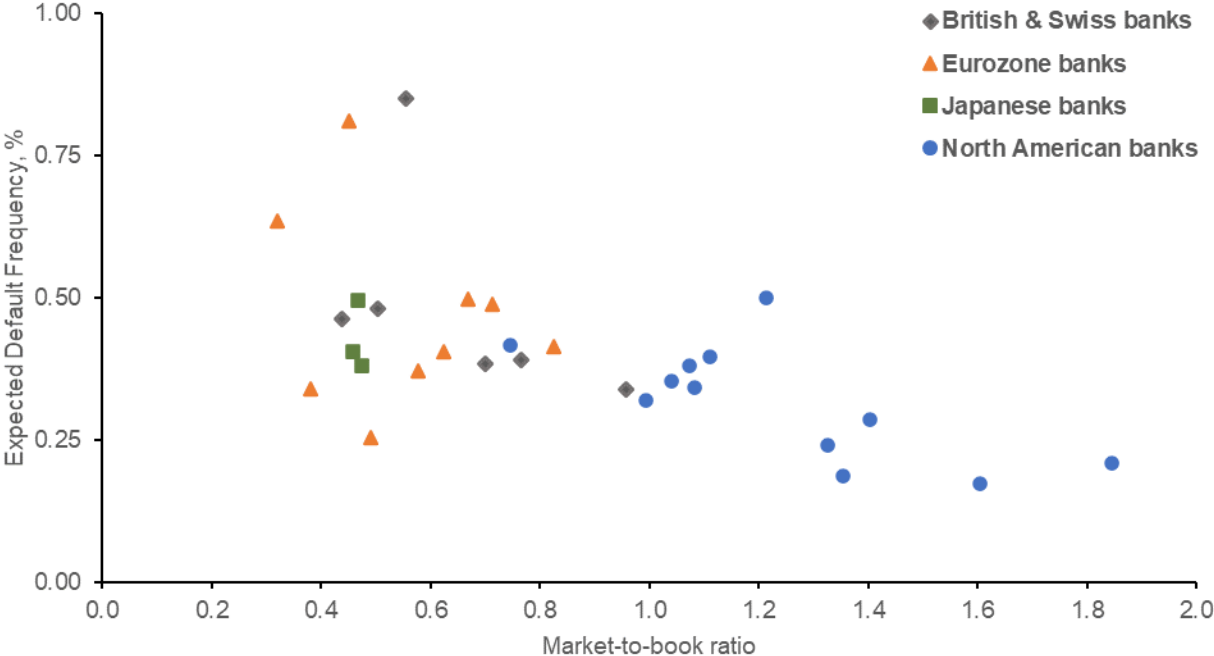
Growth and resiliency

Higher revenue generating capacity and higher profits enabled U.S. and Canadian banks to support growth while maintaining their capital ratios. That applies both at the system level and at individual banks. In the sample of internationally active banks, average asset growth over the past five years exceeds 7 percent for North American banks, while it was less than 4.5 percent

for Japanese banks and only 2.5 percent for European peers. To fully explain the growth differences between U.S. banks and their foreign peers requires an in-depth analysis, but it is likely due to a combination of factors. Multiple European banks have had to focus more financial and managerial resources on addressing the hangover from the 2008 financial crisis than their North American peers, while a more dynamic economic environment in the U.S. and Canada supported demand for banks' services in North America.

Regardless of the exact source of the difference in revenues and growth, equity markets continue to signal unease about the prospects for banks outside of North America. Figure 3 shows, along the horizontal axis, that market-to-book ratios for European and Japanese banks have been substantially below those of North American banks. While almost all North American banks have had market-to-book ratios above one on average for the past five years, European and Japanese bank ratios are all below one. A market-to-book ratio above one indicates, broadly speaking, that investors expect banks' return on equity to exceed returns on capital attainable in the broader market.

Figure 3 Market Value and Risk, 2017-2022



Sources: S&P Global, Moody's Analytics, and OCC calculations (five-year averages of monthly data from August 2017 through July 2022); the sample includes the same banks as in figure 2 except Groupe BPCE, Nordea, and Rabobank are excluded and Goldman Sachs, Morgan Stanley, and UniCredit are included.

Figure 3 also shows that, while market participants have low expectations for the future profitability of European and Japanese banks, this does not translate into an elevated risk of bank failure. The vertical axis in the figure measures banks' expected default frequency (EDF), an estimate of the likelihood that a bank will be unable to repay its debt without government support. Estimates are based on both accounting and market data and therefore reflect market perceptions of credit risk. In our sample, a few European banks, one German, one Italian, and one British bank, have the highest EDFs toward the upper left and Canadian banks have the lowest EDFs as shown in the lower right of the figure. However, most banks have an EDF between .25 and 0.5 percent regardless of origin.

Most banks have seen an increase in their EDF since Russia invaded Ukraine in February of 2022. For example, EDF increased for Southern European banks in parallel with a deterioration of sovereign credit spreads in their home countries, while others have seen an increase in perceived credit risk for idiosyncratic reasons. Economic developments, including lower growth, higher interest rates, and falling asset prices, will likely test bank resilience in the year to come, but for now, EDFs remain an order of magnitude smaller than those observed after 2008.

The Point

Robust regulatory capital supports bank resiliency across North America, Europe, and Japan, despite sizable differences in growth and earnings performance. The strength of this resilience may be tested if Europe and the United States slip into recession in the coming months as some forecasters expect.