



G-SIB MONITOR

MONETARY AND CAPITAL MARKETS DEPARTMENT

January 9, 2023

Highlights:

- *GSIBs remained resilient to increased market volatility and challenging macroeconomic conditions*
- *Net interest margins increased driven by higher interest rates*
- *Investment banking revenue declined significantly driven by lower deal making activity*

GSIBs remained resilient with strong capital levels and ample liquidity despite lower profitability compared to a year ago. Net interest income growth due to rising interest rates and higher trading income revenue from strong demand for hedging products amid volatile markets drove profitability; and partially offset negative market performance and lower deal making activity resulting from high inflation, rising energy prices, rising geopolitical tensions, and increased expectations of a global economic slowdown. Profitability, measured by operating ROA, declined to 0.83% from 0.94% a year ago, and was lower than pre-pandemic levels. Profitability, measured by operating ROE, also declined to 11.69% from 12.92% a year ago, and was lower than pre-pandemic levels. North American and Chinese GSIBs had the highest operating ROEs in the quarter at 13.56% and 13.01%, respectively, while Japanese GSIBs had the lowest average ROE at 7.16% where profitability remains structurally low (Chart 3.2 and Chart 3.3).

Markets expected lower profitability driven by market volatility and a weaker economic outlook. However, GSIB profitability was higher than expected driven by higher net interest income and trading income. As a result, most GSIBs beat analyst expectations for adjusted EPS in the quarter (Chart 3.1). Stock prices declined across most GSIBs and valuations, measured by the Price to Book ratio, were down across GSIBs except for Japanese GSIBs, and reflected the impact of the current operating environment for banks' earnings (Chart 1, Chart 2 and Chart 3).

GSIBs had strong capital positions to provide support against unexpected losses, however, capital positions were lower compared to a year ago. GSIBs had a combined \$3.3 trn in CET1 capital in the quarter. However, CET1 capital levels declined by \$77 bn in the quarter and by \$226 bn from a year ago, driven by lower capital generation, dividend payments and share buybacks. During the quarter, European (including the UK), Japanese and Chinese GSIBs reduced CET1 capital while North American GSIBs increased CET1 capital levels. RWA declined by \$977 bn driven by derisking strategies in the quarter. However, RWA remained \$2.6 trn higher compared to a year ago driven by loan growth in North American and Chinese GSIBs. RWA were lower for European and Japanese GSIBs as they continued to derisk compared to a year ago (Chart 2.5). CET1 capital ratios were at or above internal targets and minimum regulatory requirements for all GSIBs. The CET1 capital ratio for GSIBs slightly increased to 12.7% from 12.6% from the previous quarter, however, it declined from 15% a year ago driven by a rapid increase in RWA for Chinese GSIBs. CET1 ratios ranged from 9.8% for a Japanese GSIB to 16.2% for a Canadian GSIB (Table 1, Chart 2.1, Chart 2.2, Charts 2.3 and Chart 2.4).

GSIBs had \$66 trn in total assets in the quarter, representing 63% of estimated global GDP in 2022. Chinese, European and North American GSIBs held roughly 30% of total assets each, and Japanese GSIBs held the remaining 10%. Year-over-year, total asset trends were mixed, as total assets grew driven by loan growth in North American (+12%) and Chinese GSIBs (52%) and total assets declined as loan balances contracted for European (-4%) and Japanese GSIBs (-9%) as domestic loan demand slowed. Year-over-year, total deposits declined across GSIBs, with larger declines for Japanese (-16%) and European (-5%) GSIBs.

Credit risk remained low as measured by the average nonperforming loan (NPL) ratio. NPLs averaged less than 1% in the quarter. However, there are starting signs of asset quality deterioration as the estimated new NPL formation measured by the new NPLs relative to average loans increased across GSIBs except for Japanese GSIBs. In the United

States, the ratio of nonaccruals and 30-89, 90 days+ past due loans to total gross loans increased slightly compared to a year ago, and remained at 1%. In Europe, the ratio of stage 2 loans to gross loans decreased for most GSIBs compared to a year ago, and ranged from 2.5% (French GSIB) to 21.5% (Italian GSIB) in the quarter.¹ Two European GSIBs reported an increase of stage 2 loans to gross loans due to changes in methodology and exposure to Russia. Provision expenses increased for most GSIBs driven by loan growth, a less favorable outlook for the domestic and global economies, exposures to commercial real estate in China, sovereign downgrades for Ghana and Pakistan, negative rating migrations on exposure to Russia, and the impact of the mortgage moratorium in Poland. The reserve coverage ratio, measured by the ratio of loan loss reserves to net charge-offs, remained above 100% coverage for North American (286%) and Chinese GSIBs (223%) and remained low for European (67%) and Japanese (60%) GSIBs (Chart 5.1, Chart 5.1a, 5.2, Chart 5.3, and Chart 5.4).

Profitability was challenged by lower fee income, reduced investment banking activity due lower customer demand, higher provisions for credit losses, and other losses. Net income totaled \$102 bn and increased in the quarter but remained lower than the \$119 bn reported a year ago. Quarterly net income increased for North American, Japanese, and Chinese GSIBs. Quarterly net income decreased for European GSIBs (including the UK) driven by net losses for a GSIB that reported lower revenues across business segments and higher income tax expenses from the assessment of deferred tax assets related to its restructuring plan. Quarterly net income was driven by higher net interest income from rising rates and growing demand for loans, higher trading income and lower administrative and general expenses that offset lower noninterest income, lower investment banking revenue, higher provisions for loan losses, losses from leverage lending (UK, French and German GSIBs), losses from hedging arrangements (UK GSIBs), losses from loans held for sale in connection with the sale of a foreign subsidiary (UK GSIB), losses from the sale of US Treasury and MBS securities (US GSIB) and higher costs from litigation and regulation (US GSIBs) (Chart 3.6, Chart 4.1, Chart 4.2, Chart 5.1, and Chart 5.1a).

Net interest margins increased across GSIBs driven by rising interest rates. Annualized net interest margin (NIM) at the group level was the highest for Chinese GSIBs (2.13% vs. 2.08% a year ago) followed by North American GSIBs (1.73% vs. 1.53% a year ago), European GSIBs (1.03% vs. 0.97% a year ago) and Japanese GSIBs (0.80% vs. 0.73%). French GSIBs did not benefit as much from rising rates due to the fixed-rate nature of their loan portfolio and rising deposit costs. Their fixed-rate loan book did not reprice as fast compared to other GSIBs, and deposit costs increased due to increases in the regulated savings rate mandated by the French government (Chart 3.5).

Trading revenue, mainly driven by fixed income and currency activities (FICC) posted a strong quarter across most US and European GSIBs. Trading revenue increased by as much as 40% YoY for some North American GSIBs and as much as 60% YoY for some European GSIBs. In contrast, investment banking revenue declined for US and European GSIBs from the previous quarter and a year ago given the challenging market environment and lower deal making activity (Chart 4.1 and 4.2).

GSIBs cost control strategies were successful as operating expenses declined by 1% (or \$2 bn) for GSIBs in the quarter and by 3% (or \$6 bn) YoY. At the regional level, operating expenses declined for European, Japanese and Canadian GSIBs as firms carryout cost control measures while operating expenses while operating expenses increased for US GSIBs driven by increases in litigation, regulatory costs, higher compensation expenses for some firms.

GSIBs have ample liquidity with liquidity coverage ratios (LCRs) exceeding minimum regulatory requirements. During the quarter LCRs ranged from 106% for a US GSIB to 192% for a European GSIB. Some GSIBs in China, Europe, Japan and North America reported lower LCRs YoY driven by the combination of lower HQLAs and higher net cash outflows driven by nonoperational deposits. Alternatively, their LCRs were lower as the growth in net cash flows exceeding the growth in HQLAs (Table 1).

Market risk RWA to Total RWAs remained low at less than 5% of total RWA in the quarter. Value-at-Risk (VaR) measures declined for European GSIBs and Level 3 assets also declined as European GSIBs continue to derisk. However, VaR measures and Level 3 assets increased for US GSIBs as derivative assets increased (Chart 4.3, Chart 4.4 and Chart 4.5).

¹ Analysis excludes one Swiss GSIB due to data unavailability.

Outlook

GSIBs expect funding costs to increase as interest rates continue to rise. Management teams expect global recessionary pressures to deteriorate the ability of borrowers to repay their debts, increase credit costs and nonperforming loans, increasing RWAs next year. Management teams also expect bank profitability to be challenged by peaking net interest margin expansion and increased deposit competition.

Share Price Performance and Valuations

Chart 1. Price Trend (1/1/2019 = 100)



Chart 2. Valuation Trajectory (Price / book)

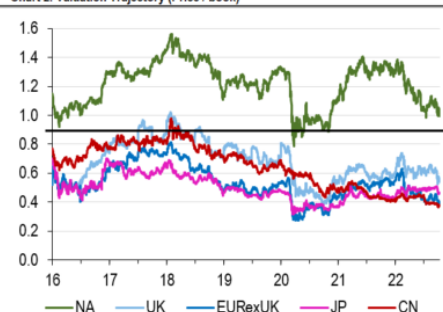


Chart 3. Price to Book vs 2022 ROE

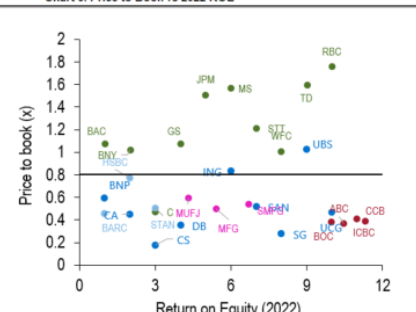


Table 1. Selected Financial Data

| Ticker | Bank Name | GSIB Score End-2021 Data | Market Cap (USD Bn) 12/20/22 | Price to Book 12/20/22 | % Price Change (YTD) 12/20/22 | CDS 12/20/22 | 2yr Default Prob (%) | Implied Cost of Debt (%) | Implied Cost of Equity (%) | Dividend Yield (%) | CET1 Ratio (%) | Liquidity Coverage Ratio (%) | Net Income (USD Bn) | Total Asset (USD Bn) | S&P Rating |
|----------------|---------------------------------|--------------------------------|------------------------------------|------------------------------|--|-----------------|-------------------------|-----------------------------|-------------------------------|-----------------------|-------------------|------------------------------------|------------------------|-------------------------|------------|
| BAC | Bank of America | 331 | 260 | 1.1 | -27.3 | 90 | 0.5 | 4.7 | 9.0 | 2.7 | 11.0 | 123.0 | 7.1 | 3,073 | A- |
| BNY | Bank of New York Mellon | 156 | 36 | 1.0 | -23.5 | 76 | 1.3 | 4.0 | 8.5 | 3.3 | 10.0 | 116.0 | 0.4 | 428 | A |
| C | Citigroup | 367 | 85 | 0.5 | -27.0 | 98 | 0.6 | 4.5 | 8.6 | 4.6 | 12.3 | 117.0 | 3.5 | 2,381 | BBB+ |
| GS | Goldman Sachs | 266 | 122 | 1.1 | -9.4 | 99 | 0.4 | 4.5 | 9.3 | 2.9 | 14.3 | 124.0 | 3.1 | 1,556 | BBB+ |
| JPM | JP Morgan | 447 | 386 | 1.5 | -16.9 | 82 | 0.3 | 4.2 | 8.7 | 3.0 | 12.5 | 113.0 | 9.7 | 3,774 | A- |
| MS | Morgan Stanley | 206 | 145 | 1.6 | -12.6 | 95 | 0.4 | 4.1 | 9.0 | 3.6 | 14.8 | 136.0 | 2.6 | 1,160 | A- |
| STT | State Street | 146 | 29 | 1.2 | -16.1 | 53 | 2.4 | 4.1 | 9.8 | 3.2 | 13.2 | 106.0 | 0.7 | 304 | A |
| WFC | Wells Fargo | 172 | 157 | 1.0 | -13.9 | 82 | 0.5 | 4.3 | 9.1 | 2.9 | 10.3 | 123.0 | 3.5 | 1,878 | BBB+ |
| TD | Toronto Dominion | 137 | 117 | 1.6 | -9.4 | 43 | 0.2 | 4.1 | 8.6 | 4.4 | 16.2 | 128.0 | 2.5 | 1,437 | AA- |
| RBC | Royal Bank of Canada | 172 | 130 | 1.8 | -4.5 | 70 | 0.2 | 3.9 | 9.3 | 4.1 | 12.6 | 125.0 | 2.8 | 1,438 | AA- |
| North America | | 240 | 1,468 | 1.2 | -16.1 | 78.7 | 0.7 | 4.2 | 9.0 | 3.5 | 12.7 | 121.1 | 35.9 | 17,428 | |
| BARC | Barclays | 281 | 30 | 0.5 | -16.7 | 107 | 0.5 | 4.1 | 14.0 | 4.0 | 13.8 | 151.0 | 2.0 | 1,922 | BBB |
| HSBC | HSBC Group | 371 | 122 | 0.8 | 12.1 | 97 | 0.4 | 4.2 | 13.4 | 3.0 | 13.4 | 127.0 | 2.4 | 2,992 | A- |
| STAN | Standard Chartered | 142 | 22 | 0.5 | 38.5 | 108 | 0.6 | 3.4 | 13.6 | 1.6 | 13.7 | 156.0 | 1.1 | 864 | BBB+ |
| United Kingdom | | 265 | 174 | 0.6 | 11.3 | 104.1 | 0.5 | 3.9 | 13.7 | 2.9 | 13.6 | 144.7 | 5.5 | 5,778 | |
| BNP | BNP Paribas | 345 | 69 | 0.6 | -12.9 | 65 | 0.5 | 2.5 | 11.2 | 6.9 | 12.1 | 131.0 | 2.8 | 2,946 | A+ |
| CA | Credit Agricole | 223 | 31 | 0.5 | -24.0 | 56 | 0.8 | 2.7 | 11.3 | 11.0 | 11.0 | 147.4 | 1.4 | 2,212 | A+ |
| CS | Credit Suisse | 168 | 12 | 0.2 | -67.2 | 397 | 2.9 | 2.0 | 8.0 | 3.5 | 12.6 | 192.0 | -4.2 | 712 | BBB- |
| DB | Deutsche Bank | 258 | 23 | 0.4 | -4.8 | 125 | 0.8 | 2.6 | 12.9 | 1.9 | 13.3 | 136.0 | 1.2 | 1,467 | A- |
| GROUP BPCE | | 138 | | | | | 0.1 | | 10.1 | | 14.9 | 139.0 | 1.3 | 1,519 | |
| ING | ING Group | 149 | 45 | 0.8 | -3.8 | 79 | 0.4 | 2.5 | 11.2 | 5.1 | 14.7 | 133.0 | 1.0 | 1,037 | A- |
| SAN | Banco Santander | 174 | 50 | 0.5 | -4.4 | 69 | 0.6 | 2.1 | 17.2 | 3.9 | 12.2 | 169.0 | 2.4 | 1,778 | A+ |
| SG | Societe Generale | 201 | 21 | 0.3 | -24.2 | 69 | 0.8 | 2.5 | 12.9 | 7.2 | 12.9 | 143.0 | 1.5 | 1,560 | A |
| UBS | UBS Group | 198 | 63 | 1.0 | 2.8 | 91 | 1.4 | 1.3 | 9.9 | 2.8 | 14.4 | 162.7 | 1.7 | 1,112 | A- |
| UCG | Unicredit Group | 123 | 27 | 0.5 | -2.6 | 121 | 0.7 | 3.9 | 14.9 | 4.1 | 16.0 | 182.0 | 1.7 | 923 | BBB |
| Europe | | 198 | 342 | 0.5 | -15.7 | 119.2 | 0.9 | 2.5 | 12.0 | 5.2 | 13.4 | 153.5 | 10.9 | 15,265 | |
| MUFJ | Mitsubishi UFJ Financial Group | 269 | 80 | 0.6 | 31.0 | 54 | 0.2 | 0.4 | 10.6 | 3.9 | 9.8 | 158.6 | 2.5 | 3,180 | A- |
| MFG | Mizuho Financial Group | 181 | 34 | 0.5 | 20.8 | 58 | 0.2 | 0.4 | 9.5 | 4.8 | 11.4 | 125.6 | 0.8 | 1,960 | A- |
| SMFG | Sumitomo Mitsui Financial Group | 180 | 52 | 0.5 | 26.1 | 53 | 0.2 | 0.5 | 10.2 | 4.6 | 13.7 | 130.2 | 1.5 | 2,179 | A- |
| Japan | | 210 | 167 | 0.5 | 26.0 | 54.7 | 0 | 0 | 10 | 4 | 12 | 138 | 5 | 7,319 | |
| ABC | Agricultural Bank of China | 203 | 141 | 0.4 | -3.0 | 92 | 0.1 | 2.4 | 8.4 | 9.3 | 11.1 | 132.0 | 10.0 | 4,754 | A |
| BOC | Bank of China | 293 | 124 | 0.4 | -2.1 | 103 | 0.0 | 1.8 | 7.5 | 9.4 | 11.3 | 132.6 | 7.8 | 4,025 | A |
| CCB | China Construction Bank | 224 | 150 | 0.4 | -14.6 | 89 | 0.2 | 2.1 | 8.0 | 9.2 | 13.9 | 147.4 | 12.5 | 4,820 | A |
| ICBC | Industrial & Comm Bank of China | 293 | 206 | 0.4 | -13.9 | 90 | 0.1 | 2.0 | 7.2 | 9.1 | 13.7 | 120.7 | 13.8 | 5,558 | A |
| China | | 253 | 621 | 0.4 | -8.4 | 93.4 | 0.1 | 2.0 | 7.8 | 9.3 | 12.5 | 133.2 | 44.1 | 19,157 | |
| Total | | 233 | 2,771 | 1 | -1 | 90 | 0 | 3 | 11 | 5 | 13 | 138 | 101.1 | 64,946 | |

Red Highlights

Green Highlights

Note: Regional averages are asset-weighted average of each bank in the region

Note: As of 3Q22, unless otherwise noted. Market pricing is as of December 20, 2022. Regional averages are asset-weighted. Throughout this note, "EUR" includes all European banks. "NA" includes US and Canadian banks, "JP" = Japanese and "CN" = Chinese banks. "TOT" is the total across all G-SIBs.

Source: Bloomberg and IMF Staff Analysis.

Common Equity Tier 1 Capital (CET1)

G-SIBs capital ratios remained strong in the quarter

Chart 2.1. CET1 Progression: US
(Percent of risk-weighted assets)

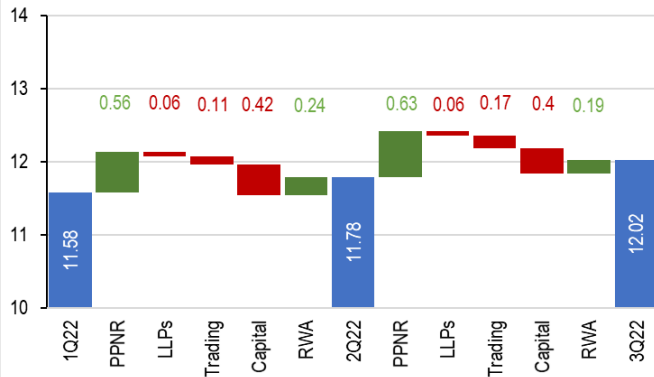


Chart 2.2. CET1 Progression: Europe and UK
(Percent of risk-weighted assets)

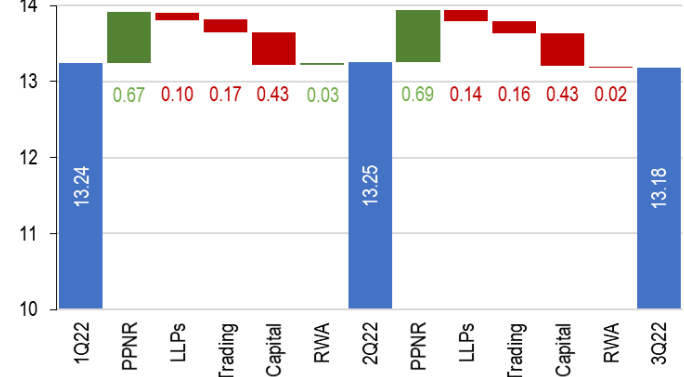


Chart 2.3. CET1 Progression: Japan
(Percent of risk-weighted assets)

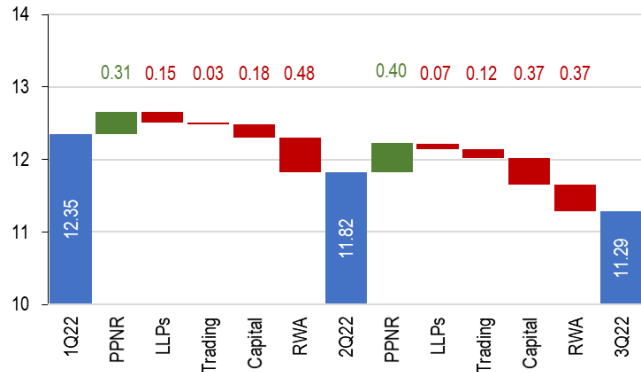
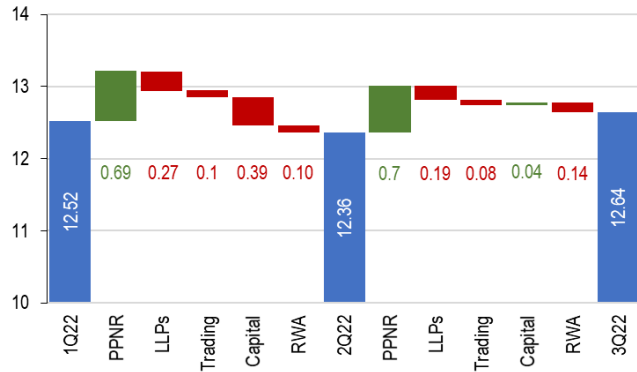
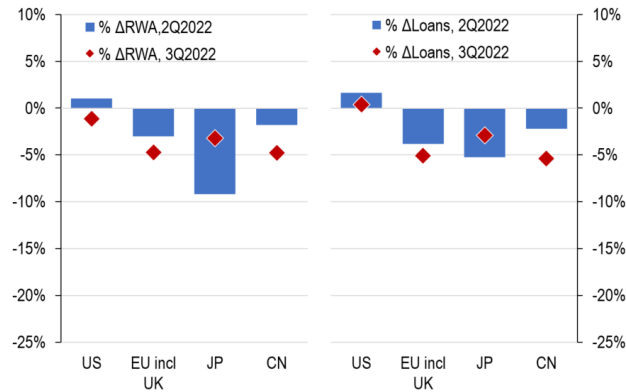


Chart 2.4. CET1 Progression: China
(Percent of risk-weighted assets)



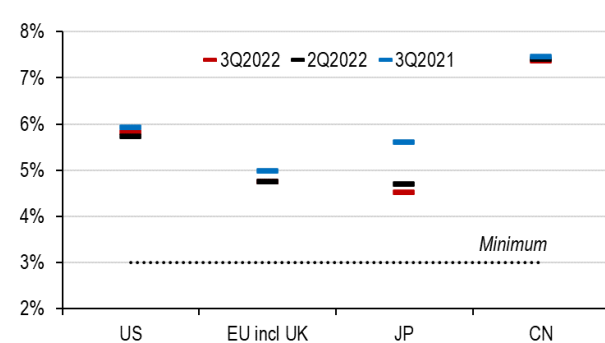
Derisking continued as shown by declining RWA

Chart 2.5. Sequential Growth of Loans and RWA, 2022:Q3 vs. 2022:Q2 (QoQ Percent)



Leverage ratios remained above regulatory minimums

Chart 2.6 Average Leverage Ratio, 2022:Q3 to 2021:Q3
(Percent of leverage exposures)



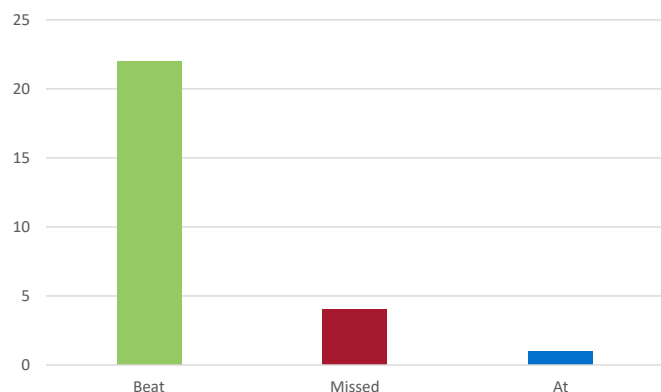
Sources: Bank financial statements, SNL, Bloomberg, Basel Committee, national supervisors, and IMF Staff.

Note: CET1= common equity tier 1 ratio; RWA = risk-weighted assets PPNR = pre-provision net revenue; LLPs = loan-loss provisions; Trading = gains on trading and investment; Capital = capital management (dividends, buybacks, other comprehensive income)

Earnings Overview

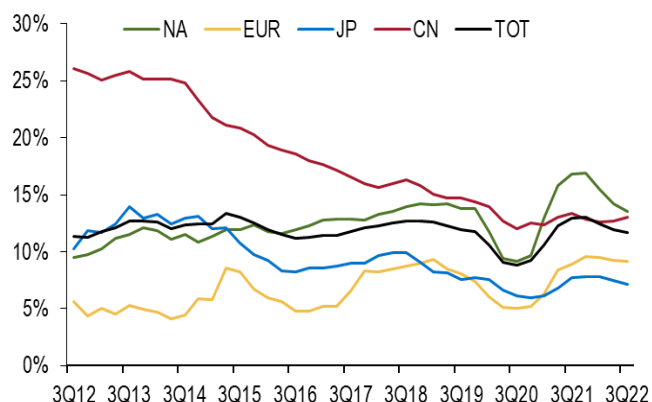
Most G-SIBs outperformed earnings

Chart 3.1. Adjusted Earnings per Share vs. Consensus Estimates
(Number of institutions)



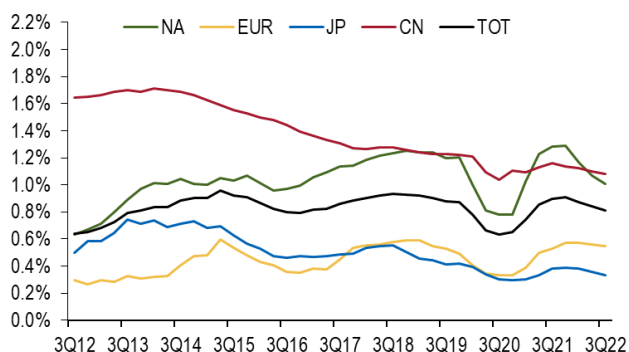
Profitability declined across GSIBs

Chart 3.2. Operating ROE
(Percent of average equity, ex conduct charges)



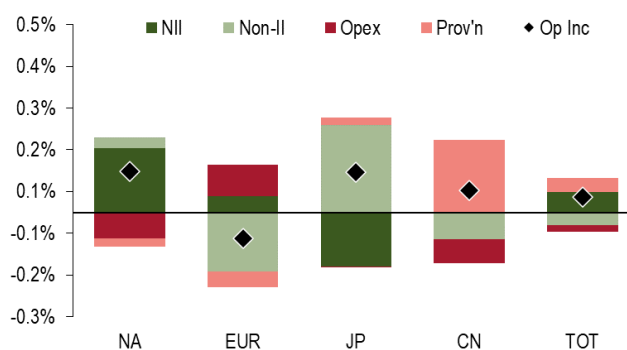
... driven by lower noninterest income

Chart 3.3. Change in Operating ROA
(Percentage points, ex conduct charges)



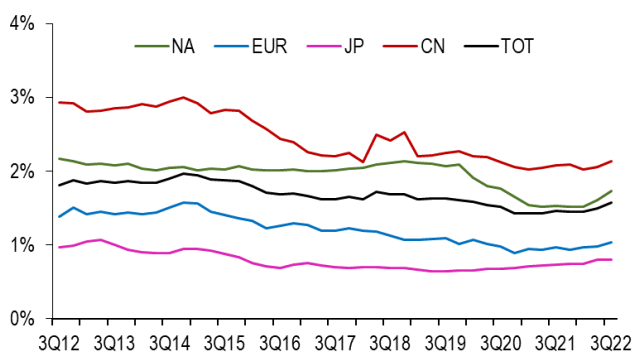
..higher provision expense and higher operating expenses for US GSIBs

Chart 3.4. Decomposition of Change in Operating ROA, 2022:Q3 vs. 2022:Q2 (Percentage points)



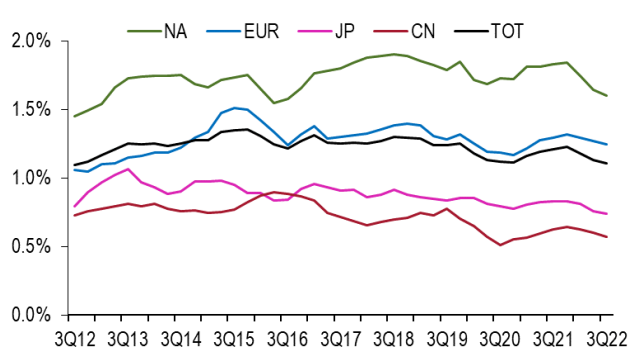
...NIM benefited from rising rates ...

Chart 3.5. Annualized Net Interest Margin, by Region
(Percent)



... while non-interest income declined due to lower activity in a challenging market environment

Chart 3.6. Non-Interest Income to Average Assets, by Region
(Percent)



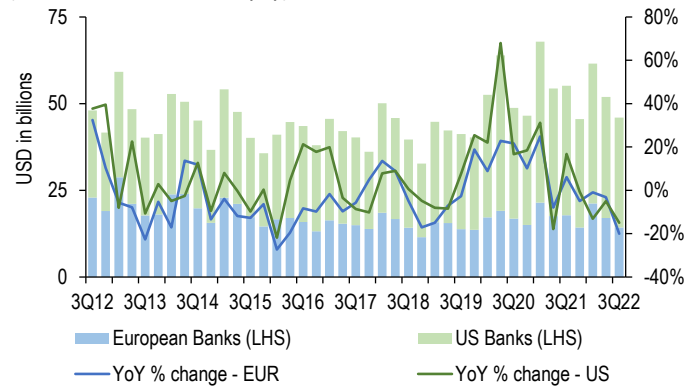
Sources: Bank financial statements, SNL, Bloomberg, and IMF Staff.

Note: Panel 1 is based on consensus expectations as of March 31, 2021. Panels 2 to 4 shows 'underlying' operating performance which excludes tax, non-operating items and misconduct charges. In panels 4, NII = Net interest income; Non-II = Non-interest income; Opex = Operating expense; Prov'n = Provision for loan losses; Op Inc = Operating income before taxes and extraordinary items.

Market Revenues and Market Risk

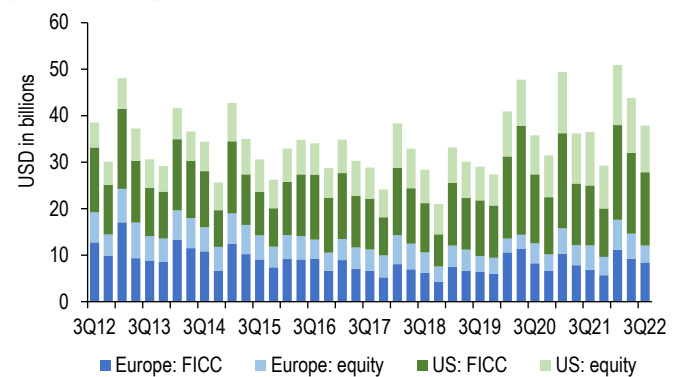
Lower deal making activity drove the decline in investment banking revenue

Chart 4.1. Investment Banking and Trading Revenues
(USD in billions; Percent yoy)



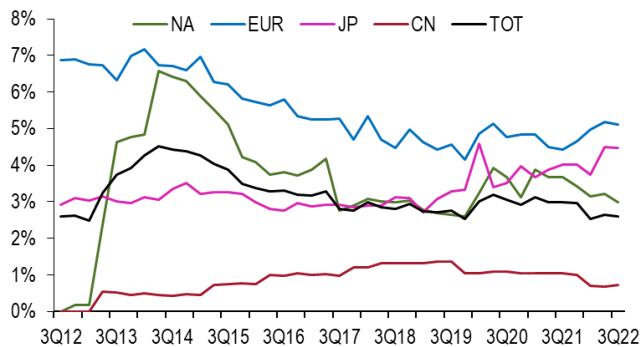
..while US FICC posted a strong quarter

Chart 4.2. Trading Revenues, by FICC and Equities
(USD in billions)



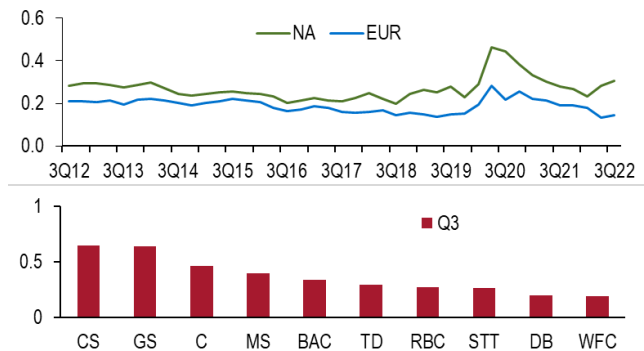
Market RWAs remained unchanged YoY

Chart 4.3. Market RWA / Total RWA
(Percent)



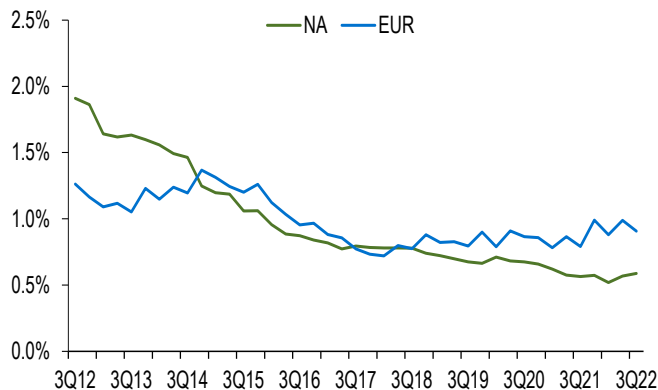
While Value-at-Risk increased for North American GSIBs

Chart 4.4. Average Value-at-Risk / Total Assets
(Basis points)



As Level 3 assets increased

Chart 4.5. Level 3 Assets / Total Assets
(Basis points)

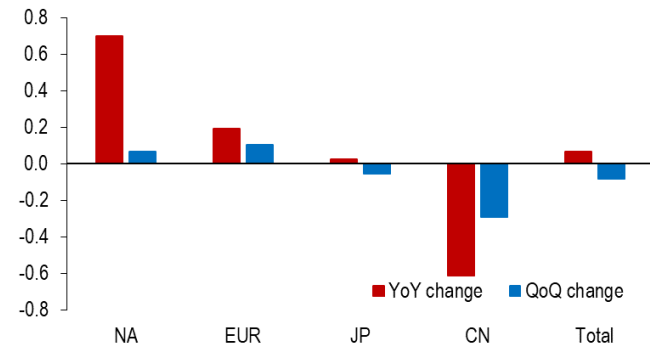


Asset Quality and Credit Costs

Provision expenses increased for North American and

Chart 5.1. Change in Provision Expense / Loans

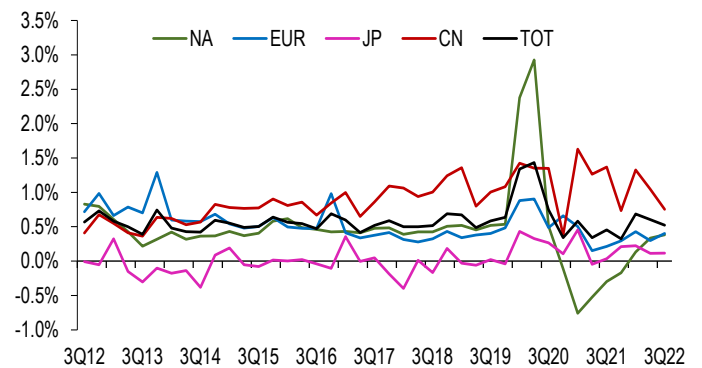
(Percent)



European GSIBs

Chart 5.1a. Provision Expense / Average Loans (Annualized)

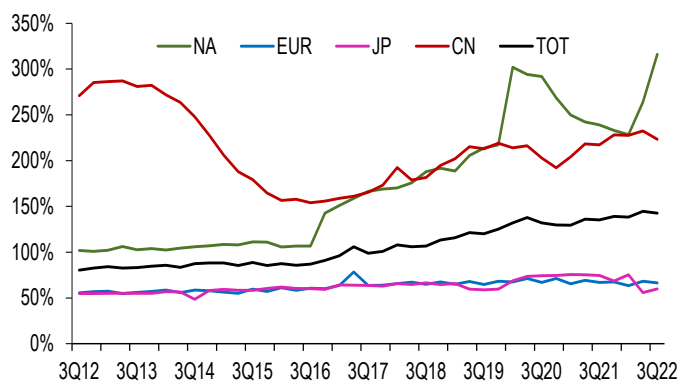
(Percent)



...and reserve coverage ratios remained high North American and Chinese GSIBs

Chart 5.2. Loan-Loss Reserves / NPLs

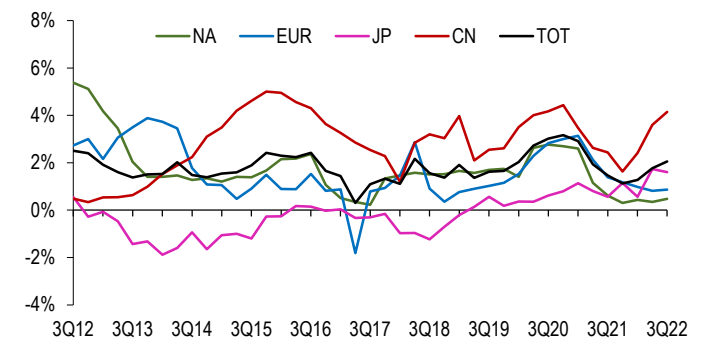
(Percent)



New NPL formation increased across GSIBs

Chart 5.3. New NPL formation/Average Loans (Annualized)

(Percent)



Net NPL ratios remained low

Chart 5.4. Average Net NPL Ratio, 2010:Q4 to 2022:Q3

(Percent)

