Bank Capital Analysis

A horizontal comparison of capital adequacy

Bank Capital Analysis Semiannual Update

By Sabrina Pellerin

The Bank Capital Analysis provides a horizontal comparison of capital adequacy among banking organizations of varying size and complexity.

As of June 30, 2021, the weighted average supplementary leverage ratio (SLR), also known as the Basel III leverage ratio, for U.S. G-SIBs declined to 5.92 percent, the lowest level since firms have been subject to this requirement, down 133 basis points from December 31, 2020 (Chart 1). This decline is primarily attributed to the expiration of the Federal Reserve's temporary capital relief that permitted firms to exclude U.S. Treasury securities and deposits held at Federal Reserve Banks ("reserves") from the leverage exposure measure of the SLR. This relief was designed to allow for continued financial market intermediation as balance sheets expanded due to COVID-19 relief efforts. The temporary exclusion expired on March 31, 2021. Expiration of this temporary relief resulted in total leverage exposure across the U.S. GSIBs increasing $2.8 trillion dollars, or 17 percent, between March 31, 2021 and June 30, 2021 when firms could no longer report the exclusion.[1] The weighted average Basel III leverage ratio across foreign G-SIBs, some of which are still reporting an exclusion of central bank deposits, declined over this period and remains lower than that of U.S. GSIBs with the exception of Asian GSIBs (Table 1).[2] Additional analysis on the potential impact to capital, if the banking agencies were to provide permanent exclusions for U.S. Treasury securities and reserves, is included in the Supplement of this document.

Chart 1 shows leverage capital trends over time for U.S. banking organizations. While banks of all size groups entered the pandemic with stronger capital ratios than prior to the 07-08 financial crisis, leverage ratios at the largest banks had started flattening and even declining prior to the pandemic. Balance sheet growth stemming from the pandemic policy response put immediate downward pressure on the weighted average tier 1 leverage ratio for all U.S. banking groups but has recently steadied for community and regional banking organizations and increased for large banking organizations. U.S. G-SIBs' weighted average tier 1 leverage ratio declined an additional 38 basis points to 7.12 percent as of June 30, 2021. U.S. G-SIBs' leverage ratios remain below leverage capital ratios for large (9.48 percent), regional (9.05 percent) and community (9.89 percent) banking organizations, as shown in Table 1.

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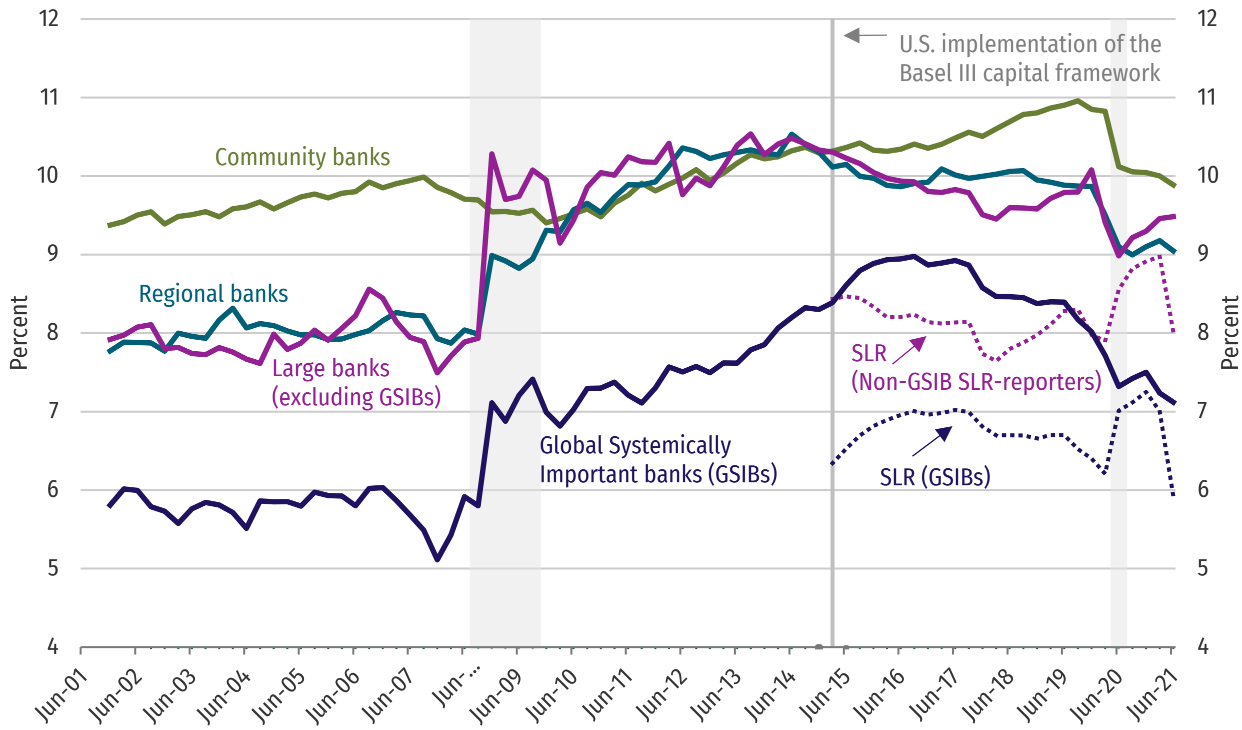
[1] Total leverage exposure, the denominator of the SLR, includes certain off-balance sheet exposures in addition to on-balance sheet assets.

[2] Jurisdictions in other countries have also temporarily permitted the exclusion of central bank deposits from the Basel III leverage ratio, but the exclusion is not reported similarly across foreign GSIBs and the effective dates differ.

Chart 1
Supplementary Leverage Ratio (SLR) and Tier 1 Leverage Ratio
U.S. banking organizations by supervisory portfolio group (% weighted average)



Notes: Tier 1 capital as a percent of total leverage exposure (for SLR) and as a percent of average total assets (for Tier 1 Leverage ratio). SLR reported only by banking organizations that generally have assets greater than $250 billion or on-balance sheet foreign exposures above $10 billion. Portfolio groups are established by the federal banking agencies and reflect the group banking organizations were in as of 9/27/2021.
Sources: Federal Reserve Y-9C Reports, FFIEC Call Reports, and S&P Global Market Intelligence LLC.

Table 1
Capitalization Ratios
Global Systemically Important Banks (G-SIBs) and U.S. Large, Regional, and Community Banking Organizations[i]

G-SIBs	Tier 1 Capital[ii] ($Billions)	Total Assets[iii] ($Billions)	Risk-Weighted Assets[iv] ($Billions)	Leverage Exposure[v] ($Billions)	Tier 1 Risk-Based Capital Ratio[vi] (Percent)	Tier 1 Leverage Ratio[v] (Percent)	SLR[v] (Percent)	Goodwill and Other Intangibles[vii] ($Billions)	Deferred Tax Assets[viii] ($Billions)	Price-to-Book Ratio[ix]	Price-to-Adjusted Tangible Book Ratio[ix]
U.S. G-SIBs											
Bank of America Corporation	202	3,030	1,552	3,444	13.03	6.88	5.87	71	10	1.38	2.03
Bank of New York Mellon Corporation	26	467	170	346	15.24	5.98	7.47	20	0	1.09	2.18
Citigroup Inc.	170	2,328	1,271	2,904	13.35	7.35	5.84	26	25	0.78	1.08
Goldman Sachs Group, Inc.	99	1,388	667	1,777	14.77	7.28	5.54	5	3	1.38	1.51
JPMorgan Chase & Co.	241	3,684	1,602	4,457	15.07	6.56	5.42	50	1	1.83	2.30
Morgan Stanley	85	1,162	463	1,440	18.28	7.45	5.88	26	0	1.70	2.30
State Street Corporation	16	327	122	232	12.85	5.25	6.75	10	0	1.22	2.11
Wells Fargo & Company	163	1,946	1,189	2,300	13.71	8.53	7.09	29	0	1.09	1.31
U.S. G-SIBs ($ Total, % Weighted Average)	**1,001**	**14,331**	**7,035**	**16,901**	**14.23**	**7.12**	**5.92**	**237**	**41**	**1.30**	**2.07**
European and Canadian G-SIBs											
Banco Santander (Spain)	92	1,860	694	1,832	13.27		5.01	20	29	0.66	1.28
Barclays (UK)	77	1,901	423	1,844	18.27		4.20	11	6	0.52	0.67
BNP Paribas (France)	118	3,168	836	2,999	14.09		3.92	13	7	0.62	0.74
Crédit Agricole Group (France)	120	2,727	687	2,108	17.50		5.81	22	9	NA	NA
Credit Suisse (Switzerland)	60	862	307	992	19.45		6.00	5	5	0.54	0.68
Deutsche Bank (Germany)	62	1,566	409	1,305	15.22		4.80	8	8	0.40	0.53
Group BPCE (France)	81	1,722	521	1,422	15.56		5.71	6	5	NA	NA
HSBC (UK)	158	2,976	862	2,968	18.27		5.30	21	5	0.67	0.78
ING Bank (Netherlands)	64	1,160	366	1,132	17.60		5.69	2	2	0.77	0.81
Royal Bank of Canada (Canada)	65	1,311	435	1,310	14.96		5.00	12	6	2.02	2.45
Société Générale (France)	NA	1,770	429	1,474	NA		4.60	8	5	0.39	0.49
Standard Chartered (UK)	46	796	280	935	16.28		4.70	5	1	0.44	0.51
Toronto Dominion (Canada)	59	1,355	373	1,241	15.91		4.80	15	3	1.62	2.12
UBS (Switzerland)	59	1,087	293	1,040	20.17		5.70	6	9	0.91	1.23
UniCredit (Italy)	68	1,126	389	1,122	17.38		6.03	3	15	0.41	0.56
European and Canadian G-SIBs ($ Total, % Weighted Average)	**1,129**	**25,385**	**7,304**	**23,723**	**15.46**		**4.76**	**157**	**115**	**0.62**	**0.74**
Asian G-SIBs											
Agricultural Bank of China Limited (China)	348	4,437	2,749	4,732	12.65		7.35	4	21	0.41	0.44
Bank of China Limited (China)	319	4,076	2,506	4,315	12.72		7.39	4	8	0.38	0.39
China Construction Bank (China)	377	4,620	2,733	4,842	13.80		7.79	3	16	0.54	0.57
Industrial and Commercial Bank of China (China)	466	5,441	3,264	5,788	14.28		8.05	4	12	0.49	0.51
Mitsubishi UFJ FG (Japan; JPY, Local GAAP)	149	3,263	1,002	2,614	14.84		5.68	13	1	0.44	0.49
Mizuho FG (Japan; JPY, Local GAAP)	89	2,044	607	1,860	14.71		4.79	5	0	0.43	0.46
Sumitomo Mitsui FG (Japan; JPY, Local GAAP)	102	2,164	611	1,771	16.76		5.77	7	0	0.44	0.47
Asian G-SIBs ($ Total, % Weighted Average)	**1,850**	**26,045**	**13,471**	**25,921**	**13.73**		**7.14**	**41**	**58**	**0.44**	**0.47**
U.S. banking organizations by size group ($ Total, % Weighted Average)											
G-SIBs	1,001	14,331	7,035	16,901	14.23	7.12	5.92	237	41	1.30	2.07
LBOs[x] (>$100B, excluding GSIBs)	368	4,089	2,898		12.68	9.48	8.02	100	10		
RBOs ($10B - $100B)	229	2,621	1,780		12.86	9.05		63	4		
CBOs (<$10B)	267	2,768	1,422		14.31	9.89		20	4		

[i] G-SIBs: The Financial Stability Board (FSB) publishes the list of Global Systemically Important Banks (G-SIBs) each November. The June 30, 2021 Bank Capital Analysis uses the list of G-SIBs released on November 11, 2020. The list included eight U.S. banking organizations and 22 non-U.S. organizations, and is available on the FSB's website: www.fsb.org. Note that the other groups of U.S. banks reflect the supervisory portfolios of the federal banking agencies as of September 27, 2021. Data sources: FR Y-9C and S&P Global Market Intelligence LLC for U.S. G-SIBs and S&P Global Market Intelligence LLC for foreign G-SIBs. Large Banking Organizations (LBO): Banking organizations greater than $100 billion, excluding G-SIBs and subsidiaries of G-SIBs and non-U.S. banks. There are 15 bank holding companies and one depository institution with no holding company included in the LBO group. Data source: FR Y-9C. Regional Banking Organizations (RBO): Banking organizations between $10 and $100 billion, excluding subsidiaries of G-SIBs, non-U.S. banks and LBOs. There are 82 bank holding companies and five depository institutions with no holding company included in the RBO group. Data source: FR Y-9C (FFIEC Call Report for RBOs without holding companies). Community Banking Organizations (CBO): Banking organizations less than $10 billion, excluding subsidiaries of G-SIBs, non-U.S. banks, LBOs and RBOs. There are 4,101 depository institutions included in the CBO group. Data source: FFIEC Call Report, as banking organizations less than $3 billion in assets do not report the FR Y-9C.

[ii] Tier 1 Capital is common equity capital less goodwill, certain other intangible assets, disallowed deferred tax assets (DTAs), plus additional qualifying tier 1 capital components. Advanced approaches banking organizations, generally those above $250 billion in assets, must include most effects of accumulated other comprehensive income (AOCI), such as unrealized gains and losses on available-for-sale securities, in Tier 1 Capital, while non-advanced approaches organizations may neutralize the effects of most components of AOCI in Tier 1 Capital. Tier 1 capital is the numerator of the Tier 1 Risk-Based Capital Ratio, which uses risk-weighted assets (RWA) in the denominator, and of the Tier 1 Leverage and Supplementary Leverage Ratios (SLR). Note that regulatory capital measures are based on principles agreed to by the Basel Committee on Banking Supervision (BCBS) and implemented by regulators in member countries. In the U.S., capital requirements are established by the three Federal banking agencies. U.S. regulations include standardized approaches and advanced approaches. The requirements for Board-regulated institutions are in 12 CFR 217. The general phase-in period for the capital rules in the U.S. was 2014-2018, but outstanding proposals may result in future changes. The phase-in period may differ for non-U.S. G-SIBs. The regulatory capital data for non-U.S. G-SIBs may be transitional or fully phased-in, depending upon data availability.

[iii] Total Assets as reported in regulatory financial statements, which are subject to jurisdictional accounting standards.

[iv] In the U.S., advanced approaches banks calculate RWA and risk-based ratios using the standardized and advanced approaches and use the lower of the two ratios (the higher RWA amount).

[v] Leverage Ratios and Leverage Exposure: In the U.S., but not in other BCBS member countries, all banking organizations must report the Tier 1 Leverage Ratio (tier 1 capital/average assets for the leverage ratio). U.S. Category I, II and III banking organizations must also calculate the SLR, known outside the U.S. as the Basel III Leverage Ratio. The minimum required Basel III Leverage Ratio is 3 percent for G-SIBs and Category I-III organizations, and the BCBS leverage framework requires a buffer above the minimum Basel III Leverage Ratio for G-SIBs. In the U.S., the buffer, referred to as the enhanced SLR, is 2 percentage points for the holding company and 3 percentage points for the insured depository institution. The denominator of the SLR, called total leverage exposure, is a broader measure than the denominator for the Tier 1 Leverage Ratio. Total leverage exposure adjusts regulatory balance sheet assets for derivatives exposure, securities financing exposure and commitments. All G-SIBs report total leverage exposure using the same reporting form (Pillar 3 Report). U.S. G-SIBs report the SLR ratio in the FR Y-9C and the SLR details in the FFIEC 101 report. S&P Global Market Intelligence LLC reports the fully phased-in Basel III leverage ratio. In response to the COVID-19 pandemic, SLR-reporting U.S. banking organizations were temporarily permitted to exclude on-balance sheet amounts of U.S. Treasury securities and deposits at Federal Reserve Banks from the calculation of leverage exposure, the denominator of the SLR, starting with June 30, 2020 financials through March 31, 2021 (see Board of Governors' April 14, 2020 Interim Final Rule available here). Jurisdictions in other countries also temporarily permitted the exclusion of central bank deposits from the Basel III leverage ratio, but the exclusion is not reported similarly across foreign GSIBs and the effective dates differ. More detail is available here.

[vi] This ratio measures tier 1 capital to RWA.

[vii] Goodwill and other intangibles, such as deposit intangibles, purchased credit card relationships and nonmortgage servicing assets.

[viii] Deferred tax assets (DTAs) are the amounts by which taxes payable in future periods may be decreased due to temporary timing differences. DTAs may also include carryforwards of unused tax losses and carryforward of unused tax credits, and are net of any valuation allowance.

[ix] Median price-to-book ratios and price-to-adjusted book ratios are used instead of averages for subgroups and for U.S. comparative groups. The price-to-book ratio is price as a percent of book value per share. Book value is calculated using financial period end common equity and common shares outstanding values. The price-to-adjusted tangible book ratio is calculated using financial period end tangible common equity (common equity is adjusted for goodwill, other intangibles and DTAs) and common shares outstanding values. Price-to-book ratios for the Chinese G-SIBs reflect H-shares. Data are not available for the Credit Agricole Group and Group BPCE.

[x] The SLR reported for the LBO group is the weighted average SLR for five of the 16 LBOs (U.S. Bancorp, The PNC Financial Services Group, Inc., Capital One Financial Corporation, Truist Financial Corporation, and Northern Trust Corporation) that are required to report the SLR.

Sources: Federal Reserve Y-9C Reports, FFIEC Call Reports, FFIEC 101 Reports, S&P Global Market Intelligence LLC.

Bank Capital Analysis: *Supplemental*

A horizontal comparison of capital adequacy

This supplement to the Bank Capital Analysis Report provides additional data and insights on factors influencing capital adequacy, such as changes to regulatory requirements and shareholder distributions.

While balance sheets significantly expanded across all bank portfolio groups following the onset of the COVID-19 pandemic – pressuring capital ratios – the extent of capital relief received and the way in which the funds were deployed varied across bank size groups.

- In the first half of 2020, as the impact of the COVID-19 pandemic drove unemployment rates to record highs and created widespread economic instability, the Federal Reserve took numerous emergency actions to support continued market functioning. As a result, bank balance sheets grew significantly placing pressure on capital ratios. This led federal regulatory agencies to relax certain capital requirements to promote continued financial market intermediation. One such measure was to temporarily exclude U.S. Treasury securities and deposits held at Federal Reserve Banks ("reserves") from the leverage exposure measure (the denominator) of the Supplementary Leverage Ratio (SLR).[3] This relief applied to 13 banking organizations (U.S. GSIBs and five non-GSIB Category III or higher firms subject to the SLR).
- The pandemic policy response resulted in an $885 billion aggregate increase in U.S. Treasury securities and reserves across the U.S. GSIBs as of December 31, 2020 (using a 2017-2019 average starting point). The temporary exclusion of all U.S. Treasury securities and reserves collectively decreased leverage exposure by $2.4 trillion (18 percent) for U.S. GSIBs and boosted their SLR to a peak of 7.25 percent at December 31, 2020.
- The temporary exclusion expired on March 31, 2021, which resulted in the weighted average SLR for U.S. GSIBs declining 133 basis points to an all-time low of 5.92 percent at June 30, 2021 (see Chart S.1, Column A). With levels of both reserves and Treasuries remaining elevated, the Federal Reserve announced plans to invite public comment on possible longer-term modifications to the SLR.[4]
- Chart S.1 includes adjusted SLRs for U.S. GSIBs based on two possible scenarios: excluding only reserves (Column B) and excluding both reserves and U.S. Treasury securities (Column C) from the leverage exposure measure of the SLR. Excluding only reserves and excluding both reserves and U.S. Treasuries from the SLR requirement would raise the weighted average SLR for U.S. GSIBs by 42 basis points to 6.34 percent (Column B) and 99 basis points to 6.91 percent (Column C), respectively, using data as of June 30, 2021.

[3] See Board of Governors' April 14, 2020 Interim Final Rule available here: https://www.govinfo.gov/content/pkg/FR-2020-04-14/pdf/2020-07345.pdf.

[4] See Board of Governors' March 19, 2021 Press Release available here: https://www.federalreserve.gov/newsevents/pressreleases/bcreg20210319a.htm.

- The deposit surge stemming from pandemic-induced policies and a flight to quality led to a surplus of liquidity in the banking system (Chart S.2). Large and regional banks experienced the highest percentage of their asset growth in cash held as reserves: U.S. GSIBs', LBOs' and RBOs' reserve holdings increasing by $687 billion (132 percent), $243 billion (209 percent), and $173 billion (437 percent), respectively, from year-end 2019.
- While banks of all sizes deployed a large percentage of the increase in funds to their securities portfolio, 17 percent of the U.S. GSIBs' asset growth was due to absorbing an additional $472 billion (57 percent increase) in U.S. Treasury Securities over the pandemic timeframe.
- Community and regional banks were responsible for most of the loan growth since year-end 2019 with 38 percent and 32 percent of their asset growth, respectively, due to an increase in loans. Notably, community banks originated the largest relative volume of Paycheck Protection Program (PPP) loans throughout the pandemic. With over half of PPP loans forgiven as of June 2021, asset growth attributed to loan growth from PPP in Chart S.2 is likely understated across portfolios, but more significantly for community banks that played a relatively larger role in the program.

Chart S.1
Supplementary Leverage Ratio Scenario Analysis
As of June 30, 2021

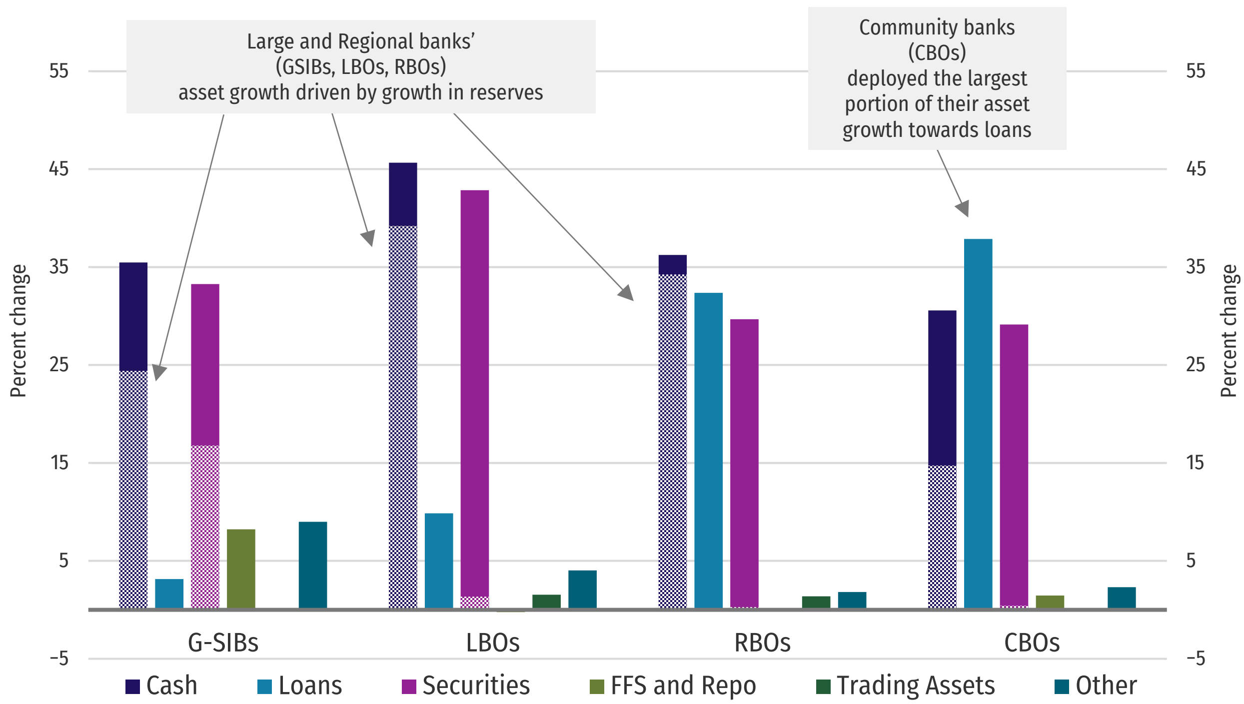
	As reported		Hypothetical adjustments			
	SLR (as reported)	**Change from 4Q20 (bps)**	**SLR** (excludes reserves only)	**Diff (bps)**	**SLR** (excludes reserves and U.S. Treasuries)	**Diff (bps)**
U.S. G-SIBs	(Column A)		(Column B)		(Column C)	
Bank of America Corporation	5.87	▼ (131.01)	6.11	▲ 23.73	6.71	▲ 83.40
Bank of New York Mellon Corporation	7.47	▼ (115.66)	7.47	— 0.00	8.34	▲ 86.39
Citigroup Inc.	5.84	▼ (117.21)	6.14	▲ 29.62	6.78	▲ 93.37
Goldman Sachs Group, Inc.	5.54	▼ (141.43)	5.99	▲ 44.86	6.46	▲ 91.32
JPMorgan Chase & Co.	5.42	▼ (148.82)	6.02	▲ 60.13	6.62	▲ 120.73
Morgan Stanley	5.88	▼ (151.00)	5.99	▲ 11.06	6.55	▲ 67.58
State Street Corporation	6.75	▼ (137.17)	6.75	— 0.00	7.30	▲ 55.34
Wells Fargo & Company	7.09	▼ (96.93)	7.88	▲ 79.73	8.25	▲ 116.77
U.S. G-SIBs (% Weighted Average)	**5.92**		**6.34**		**6.91**	

Notes: As custodial banking organizations, Bank of New York Mellon Corporation and State Street Corporation are permitted to permanently exclude deposits held with qualifying central banks from the leverage exposure measure of the SLR; therefore, reserves are not excluded in the hypothetical adjustments.
Source: Federal Reserve Y-9C Reports, FFIEC Call Reports (for reserves) and FFIEC 101 Reports.

Chart S.2

Asset Utilization by Bank Portfolio Group

Change in balance sheet component as a percentage of the change in assets, December 31, 2019 to June 30, 2021



Notes: The shaded portion of Cash represents the increase in cash held as reserves. The shaded portion of Securities represents the increase in U.S. Treasury Securities.

Sources: Y-9C for Global Systemically Important Banks (GSIBs), large banking organizations (LBOs) and regional banking organizations (RBOs) and Reports of Condition and Income (call reports) for community banking organizations (CBOs).