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Systemic Importance Data Shed Light on Global Banking Risks

by Bert Loudis and Meraj Allahrakha[1]

Annual data released by the Basel Committee on Banking Supervision show that Chinese banks had some of the largest increases in systemic importance scores, and U.S. banks remain among the most systemically important. In 2016, international regulators will use systemic importance data for the first time to determine capital requirements for large banks.

The Basel Committee on Banking Supervision (Basel Committee) released annual systemic importance data for the world's largest banks in November 2015. (The data are as of Dec. 31, 2014.)

Starting this year, regulators will use the new data to determine capital requirements for these banks. The information also helps in analyzing risks that the largest banks pose to financial stability and how those risks are changing. This year, additional data were released to the public, allowing more detailed international comparisons.

Using these data, this brief shows that systemic importance scores rose significantly for three of the largest Chinese banks and Wells Fargo & Co. In addition, U.S. banks continued to have the highest systemic importance scores. The scores show that many of the largest U.S. banks are highly interconnected and lack substitutes for the financial services they offer.

International regulators began disclosing these data in 2013 to identify global systemically important banks (G-SIBs). A G-SIB is a bank whose failure could pose a threat to the global financial system. Beginning in 2016, G-SIBs must meet higher risk-based capital requirements. The Federal Reserve estimated that, once fully phased-in,

OFR's G-SIB Scores Interactive Chart

The OFR has launched an online interactive chart that uses G-SIB data to compare banks' systemic importance and tracks changes in the 12 underlying financial indicators between 2013 and 2014. Go to: www.financialresearch.gov/gsib-scores-chart

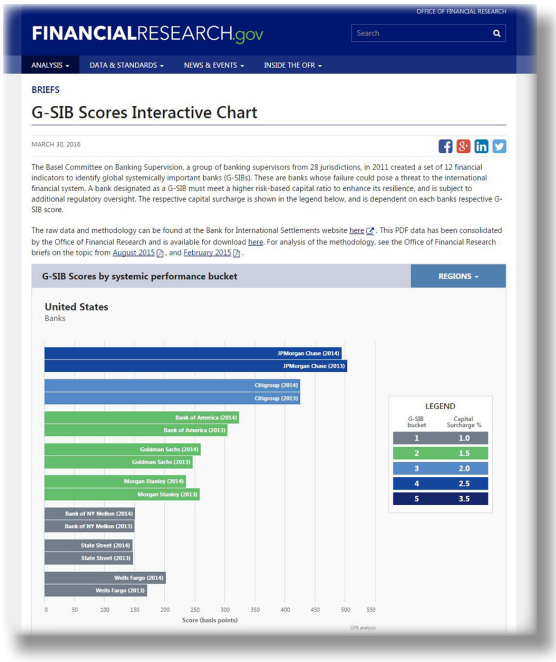


Figure 1. Global Systemically Important Banks (basis points)

Bank Holding Company	Size	Interconnectedness			Substitutability			Complexity			Cross-Jurisdictional Activity		2014 Score	Bucket
	Total exposures	Intrafinancial system assets	Intrafinancial system liabilities	Securities outstanding	Payments activity	Assets under custody	Underwriting activity	Amount of over the counter derivatives	Adjusted trading and available for sale securities	Level 3 assets	Foreign claims	Total cross-jurisdictional liabilities		
Weight (percent)	20	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	10	10		
JPMorgan Chase	417.5	483.0	530.2	432.7	1248.3	1495.7	759.9	843.7	811.6	631.5	294.5	328.8	494.7	4
HSBC	362.9	350.7	370.8	281.4	331.1	451.5	666.9	352.7	147.6	220.7	742.3	800.1	438.4	
Citigroup	308.5	332.1	426.0	341.1	1061.7	887.6	574.2	710.3	423.3	538.4	398.1	397.5	426.0	3
BNP Paribas	305.1	322.9	471.9	275.2	203.6	392.0	303.8	552.9	630.7	416.5	574.1	482.9	404.7	
Deutsche Bank	224.7	326.1	217.3	187.9	635.4	189.7	526.6	741.9	213.9	432.8	479.3	356.8	360.0	
Barclays	262.7	358.0	366.5	199.7	190.0	14.5	626.3	600.1	344.0	630.9	396.6	352.1	349.4	
Bank of America	313.4	319.6	211.4	337.0	359.9	9.9	690.5	672.6	576.4	278.7	167.3	146.4	324.5	2
Credit Suisse	147.7	276.4	180.1	188.2	132.8	11.7	371.2	632.7	269.6	498.3	320.3	371.4	269.5	
Goldman Sachs	165.5	342.2	105.3	221.4	43.7	71.8	535.8	691.3	373.4	559.0	159.3	152.3	260.5	
Mitsubishi	315.4	217.1	207.7	212.7	288.4	108.8	129.1	147.5	307.3	148.0	349.9	262.4	242.1	
Morgan Stanley	142.9	232.1	109.9	166.0	45.0	111.6	513.1	446.2	720.4	277.1	167.3	156.7	235.7	
Ind. and Comm. Bank of China	420.7	369.6	243.9	210.5	179.1	66.6	127.9	5.3	253.2	312.7	70.5	97.9	218.9	1
Royal Bank of Scotland	191.0	251.7	229.2	110.8	236.5	12.1	231.6	599.9	94.0	103.5	274.3	222.8	212.5	
Société Générale	190.8	155.6	199.5	164.2	129.7	331.7	177.7	290.8	330.6	108.9	247.5	214.7	210.3	
Bank of China	327.6	283.2	235.0	192.1	272.4	72.8	109.6	7.7	151.2	61.4	165.3	340.2	208.4	
Banco Santander	197.1	174.8	251.7	260.8	61.2	81.2	55.6	64.6	133.2	38.9	479.5	462.5	208.4	
Wells Fargo	244.5	174.8	158.7	398.0	132.5	177.2	259.7	72.9	339.5	404.6	48.0	77.5	202.6	
UBS	110.0	162.4	134.0	151.9	87.1	240.6	216.6	312.9	217.5	149.0	271.3	286.4	189.2	
Crédit Agricole	233.3	216.0	216.3	214.3	106.2	202.5	125.4	204.3	160.7	99.8	178.2	188.2	186.3	
China Construction Bank	341.4	332.4	180.1	187.1	88.9	48.9	99.5	3.7	42.5	367.4	29.7	63.0	167.6	
Unicredit	140.1	192.1	242.1	152.4	45.4	22.8	135.2	39.2	129.4	105.1	254.2	410.2	165.4	
Agricultural Bank of China	321.6	184.2	144.7	164.5	143.7	56.7	75.6	2.1	29.9	627.2	15.2	33.5	164.4	
Mizuho	200.7	88.2	165.7	159.3	219.0	82.3	119.4	120.5	214.8	148.2	176.2	140.0	159.6	
Groupe BCPE	181.0	233.6	240.0	237.8	152.1	6.4	68.3	168.5	57.5	233.8	144.0	75.1	151.3	
Bank of NY Mellon	46.7	62.2	230.9	45.1	844.3	1746.3	7.6	15.3	62.8	1.1	45.0	91.3	150.8	
State Street	32.6	40.2	198.8	40.5	274.3	1535.3	0.0	16.0	85.3	68.2	35.7	72.9	147.3	
Sumitomo Mitsui	178.3	261.1	168.0	176.3	88.2	7.6	61.7	71.0	247.7	114.4	169.6	94.0	141.8	
Standard Chartered	96.8	205.6	168.9	97.3	123.3	64.8	75.6	92.4	142.3	46.7	263.7	280.2	141.5	
ING Group	157.6	137.5	116.8	112.5	97.1	14.1	46.8	55.7	64.4	24.4	284.7	278.5	132.4	
Nordea Bank	88.6	134.4	67.7	197.5	136.1	52.9	101.5	100.1	119.5	42.0	229.2	250.7	129.2	

Sources: Company G-SIB disclosures, authors' analysis

the requirements will nearly double the risk-based capital ratios for some U.S. G-SIBs.

The new data identify 30 banks across the world as G-SIBs, including eight U.S. bank holding companies.[2] An earlier OFR brief described the 2013 data.[3]

Unlike the 2013 data, the new data include detailed information about 25 U.S. banks and 35 foreign banks that were required to disclose data but were not deemed G-SIBs. These new data help in comparing the world's largest banks. In most cases, the data show a clear distinction in systemic importance between G-SIBs and the other banks that disclosed such data. However, for a handful of banks, the weight that the Basel scoring system places on certain indicators has a determining effect on G-SIB designation.

Analysis of 2014 Data: Assigning Banks to Buckets

Systemic importance scores for the 30 G-SIBs are in **Figure 1**. The scores are calculated by applying the Basel Committee's scoring system to data that companies disclose on their websites. The scoring system uses 12 indicators across five categories: size, interconnectedness, substitutability, complexity, and cross-jurisdictional activity. Each of the 12 indicators is scored on a scale from 0 to 100 percent by taking each bank's reported value and dividing by the total value across a panel of 75 global banks. The indicators then are combined into an overall score. For more details about the scoring system, see the OFR's previous G-SIB briefs.[4]

These scores are used to assign banks to buckets. The bucket determines the capital surcharge that a G-SIB bank is required to hold. Buckets are defined in the Basel Committee's methodology report, which gives guidance for applying the scoring system.[5] However, regulators in each country are responsible for adopting requirements for capital surcharges. In the United States, the Federal Reserve adopted the Basel method and also introduced an alternative method with slightly different calculations. The Federal Reserve applies the method that results in a higher surcharge. In a white paper, the Federal Reserve predicted that its alternative method would be the binding regulation, resulting in higher surcharges than the Basel method.[6]

In January 2016, the Basel Committee raised the possibility of a G-SIB surcharge to banks' supplemental leverage ratios.[7] Unlike the risk-based capital ratio, which is the ratio of a bank's estimated total capital to its estimated risk-weighted assets, the supplemental leverage ratio sets capital requirements based on total exposures, without adjusting for risk.

Systemic Importance Shifts Since 2013

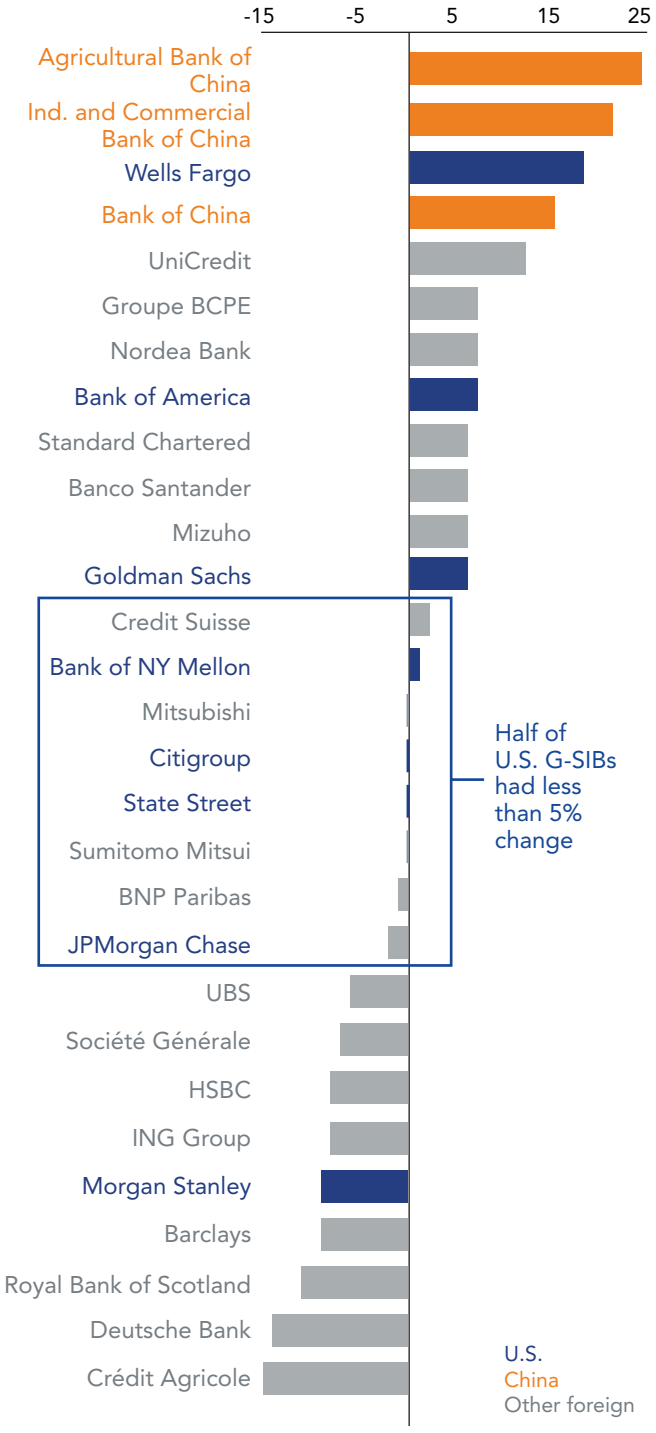
Most G-SIB scores did not change significantly from 2013 to 2014, but there was considerable variation (see **Figure 2**). China Construction Bank was added to the list of G-SIBs. Three of the five G-SIBs whose scores increased the most were Chinese banks, each of which had increases in almost all categories. Bank of China Ltd. had a substantial increase in underwritten transactions in debt and equity markets, moving from a score of 17.0 basis points in 2013 to 109.6 basis points in 2014. The Industrial and Commercial Bank of China Ltd. had a substantial increase in adjusted trading and available-for-sale securities. Its score increased from 33.5 basis points in 2013 to 253.2 basis points in 2014. Agricultural Bank of China Ltd.'s overall score increased by a smaller amount over the same timeframe due to a rise in interconnectedness indicators and other factors. By contrast, the systemic importance scores for three of the European banks declined by more than 10 percent.

The increase in Chinese banks' scores is consistent with other indicators of rising systemic risk in China. In its 2015 stress test, the Bank of England stressed the exposures of the United Kingdom's banks to China and Hong Kong, which totaled $531 billion in 2015.[8] Exposures to China and Hong Kong are concentrated in several large U.K. banks. These exposures have grown rapidly and exceed U.K. banks' exposures to the euro-area periphery countries, such as Portugal, Spain, and Italy.

U.S. banks' direct exposures to China and Hong Kong are lower, at $148 billion. However, U.S. banks may also be exposed indirectly to risks in China through their $477 billion exposure to the U.K.[9]

The systemic importance scores of most U.S. G-SIBs remain among the highest and changed little in 2014. Wells Fargo was the notable exception. Its score rose 18 percent from large increases in the total exposures,

Figure 2. Changes in G-SIB Scores from 2013 to 2014 (percent)



Note: China Construction Bank did not disclose 2013 data so is not included.
Sources: Company G-SIB disclosures, authors' analysis

intra-financial assets, underwriting activity, and foreign claims indicators. **Figure 2** compares the changes in U.S. G-SIB scores to changes in the scores of their foreign counterparts.

Across the five categories, scores of U.S G-SIBs increased the most in substitutability, the extent to which a bank provides essential infrastructure for payments activity, assets under custody, and underwriting. The increase was due primarily to a 13 percent rise in underwriting activity. The impact of this increase is muted because the Basel methodology and the U.S. final rule placed a cap on this indicator's contribution in setting capital requirements.

Indicators in the complexity category had the largest decreases. U.S. G-SIBs' difficult-to-value (or Level 3) assets decreased more than 15 percent. This decline offset a rise in another complexity category indicator, over-the-counter derivatives exposure, which increased 13 percent among U.S. G-SIBs.

G-SIBs vs. Non-G-SIBs

For the first time, the 2014 data include detailed information about the banks that disclosed data but did not meet the G-SIB threshold. Prior to the latest release, the Basel Committee supplied only the value of the summed denominators for these banks. For 2014, the Basel Committee disclosed the names of the non-G-SIB banks and their indicator values. The Basel Committee also disclosed data from 15 other large banks that are not included in the denominator but were required to submit data because they had sufficiently large total assets.[10,11] **Figure 3** displays summary statistics on systemic importance scores for G-SIBs and non-G-SIBs.

Closer examination of borderline banks shows that these firms can have high values for particular systemic importance indicators relative to G-SIBs. **Figure 4** displays the systemic importance scores and the total exposures indicator for the six lowest-scoring G-SIBs and the six highest-scoring non-G-SIBs. The total exposures indicator includes both on- and off-balance-sheet assets. For example, Bank of New York Mellon Corp. and State Street Corp. have relatively low scores for total exposures. Both are G-SIBs because they are two of the world's largest custodian banks holding stocks, bonds, and other financial assets for clients. These activities increase their substitutability indicator scores. Nomura Holdings, Inc.

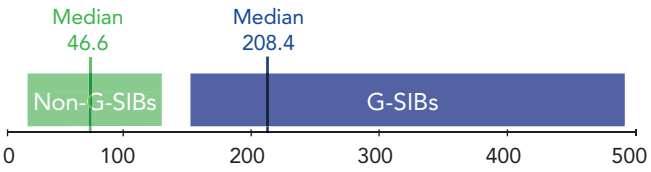
is an example of how non-G-SIBs can exhibit characteristics of G-SIBs. Nomura, a non-G-SIB, has an over-the-counter derivatives score of 321 basis points — higher than many G-SIBs.

Conclusion

Although the systemic importance scores of U.S. G-SIBs are among the highest, the scores of Chinese banks increased the most in the latest year for which data are available. In the Basel Committee's 2014 update of systemic importance data, U.S. G-SIBs' scores showed little change. Wells Fargo is an exception; its G-SIB score increased 18 percent.

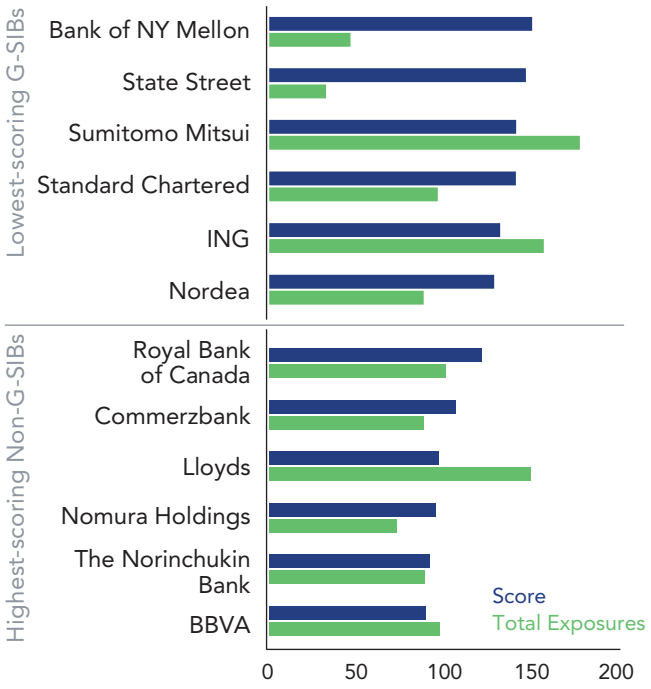
For the first time, the Basel Committee publicly disclosed a full list of international banks that submitted systemic importance data. These data allow a deeper analysis of the systemic importance of all reporting banks. The data revealed that, except for a handful of borderline banks, G-SIBs and non-G-SIBs generally have very different characteristics. Borderline non-G-SIBs are similar to G-SIBs on some systemic importance indicators, but starkly different on others. G-SIBs are required to hold additional capital, while non-G-SIBs are not.

Figure 3. Score Ranges for G-SIBs and non-G-SIBs (basis points)



Sources: Company G-SIB disclosures, authors' analysis

Figure 4. Scores and Total Exposures for Selected G-SIBs and non-G-SIBs (basis points)



Sources: Company G-SIB disclosures, authors' analysis

Endnotes

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[2] The Financial Stability Board's list of G-SIB banks based on the Dec. 31, 2014 data: Agricultural Bank of China Ltd.; Banco Santander S.A.; Bank of America Corp.; Bank of New York Mellon Corp.; Bank of China Ltd; Barclays Plc; BNP Paribas S.A.; China Construction Bank; Citigroup Inc.; Credit Agricole S.A.; Credit Suisse Group AG; Deutsche Bank AG; Goldman Sachs Group, Inc.; Groupe BPCE S.A.; HSBC Holdings Plc; Industrial and Commercial Bank of China Ltd.; ING Group; JPMorgan Chase & Co.; Mitsubishi UFJ Financial Group; Mizuho Financial Group, Inc.; Morgan Stanley; Nordea Bank AB; Royal Bank of Scotland Group Plc; Societe Generale S.A.; Standard Chartered Plc; State Street Corp.; Sumitomo Mitsui Banking Corp.; UBS AG; UniCredit SpA; Wells Fargo & Co. See Financial Stability Board, "2015 Update of List of Global Systemically Important Banks," Nov. 3, 2015 (available at www.fsb.org/wp-content/uploads/2015-update-of-list-of-global-systemically-important-banks-G-SIBs.pdf, accessed March 29, 2016).

[3] See Paul Glasserman and Bert Loudis, "A Comparison of U.S. and International Global Systemically Important Banks," OFR Brief no. 15-07, August 4, 2015 (available at financialresearch.gov/briefs/files/OFRbr-2015-07_A-Comparison-of-US-and-International-Global-Systemically-Important-Banks.pdf, accessed March 1, 2016).

[4] See Meraj Allahrakha, Paul Glasserman, and H. Peyton Young, "Systemic Importance Indicators for 33 U.S. Bank Holding Companies: An Overview of Recent Data," OFR Brief no. 15-01, Feb. 12, 2015 (available at financialresearch.gov/briefs/files/2015-02-12-systemic-importance-indicators-for-us-bank-holding-companies.pdf, accessed March 1, 2016) and Glasserman and Loudis (2015).

[5] See Basel Committee on Banking Supervision, "Global Systemically Important Banks: Updated Assessment Methodology and the Higher Loss Absorbency Requirement," consultative document, July 2013 (available at www.bis.org/publ/bcbs255.pdf, accessed March 1, 2016).

[6] See Board of Governors of the Federal Reserve System, "Calibrating the G-SIB Surcharge," July 20, 2015 (available at www.federalreserve.gov/aboutthefed/boardmeetings/gsib-methodology-paper-20150720.pdf, accessed Feb. 1, 2016).

[7] See Basel Committee on Banking Supervision, "Revised Market Risk Framework and Work Programme for Basel Committee is Endorsed by its Governing Body," press release, Jan. 11, 2016 (available at www.bis.org/press/p160111.htm, accessed March 1, 2016).

[8] See Bank of England, "Stress Testing the UK Banking System: 2015 Results," Dec. 1, 2015, 20 (available at www.bankofengland.co.uk/financialstability/Documents/fpc/results011215.pdf, accessed March 1, 2016), and Bank for International Settlements consolidated banking statistics (available at www.bis.org/statistics/consstats.htm, accessed March 1, 2016).

[9] From Bank for International Settlements consolidated banking statistics (available at www.bis.org/statistics/consstats.htm, accessed March 1, 2016).

[10] The Basel Committee's July 2013 updated G-SIB methodology requires banks with EUR 200 billion in total exposures, as measured by the Basel III leverage ratio, to also disclose annual indicators.

[11] While all covered banks are required to submit annual indicators, data for four Brazilian banks were not available on the Basel Committee website at the time of writing.