

# U.S. Banks: 4Q19 Regulatory Capital & TLAC Review

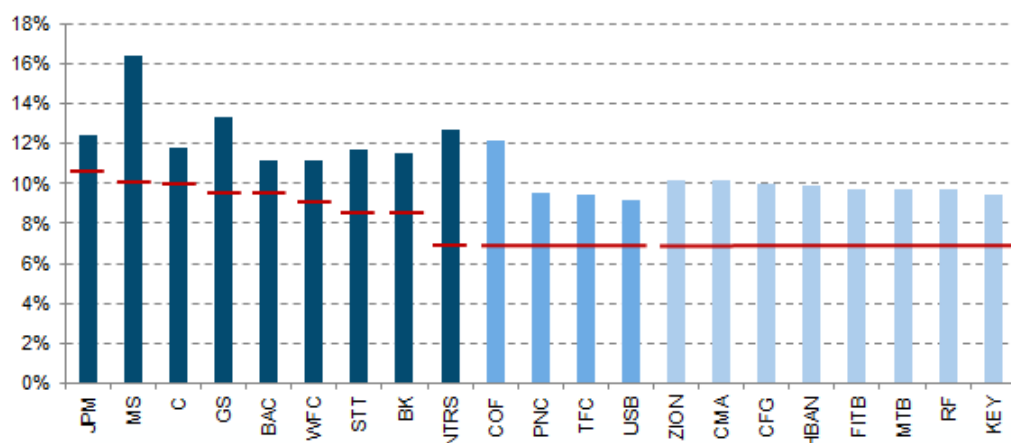
6 Mar 2020, 3:01 AM

## EXECUTIVE SUMMARY

- **We update our U.S. banks capital & TLAC detail file for 4Q19.** Our file shows the reported capital-related figures as well as the requirements for the banks within our coverage on a fully phased-in basis.
- **Economic scenario assumptions for this year's DFAST/CCAR tests were released, and are largely similar to 2019.** The market shock scenario takes into account potential funding pressure as well as heightened stress for highly leveraged exposures.
- **On liquidity, we think there is a broad push from regulators and banks alike to remove the "stigma" associated with tapping the Fed's discount window.** The Fed has hinted at allowing banks to include discount window access assumptions in internal liquidity stress testing, similar to recent guidance given on resolution planning. JPMorgan looks likely to be the test case, with management heavily implying it will tap the window to demonstrate functionality and start to chip away at the "stigma".
- **CET1 ratios across the group were lower on average in 4Q19 particularly for the regionals, which generally saw RWA growth and lower capital generation in the quarter.** Trends across the GSIBs were more mixed, with custody banks State Street and BNY Mellon's CET1 ratios increasing 40+ bp mainly on lower RWAs, while Wells and BofA posted respective declines of 47 bp and 23 bp on continued share repurchases and lower retained earnings.
- **We update TLAC positioning for the GSIBs, and all (ex- State Street) are comfortably in excess of the required minimums.** The recently approved changes to remove qualifying deposits held at central banks from total leverage exposure for the custody banks will provide a reprieve for STT, which had received a waiver from the Fed in anticipation of the change.

## FINANCIAL METRICS

US Banks: Basel III Common Equity Tier 1 Ratios vs. Requirement



Source: Company reports, CreditSights

Red lines: Fully phased-in Basel III Common Equity Tier 1 requirement including pro-forma U.S. GSIB buffer.

As of 4Q19. For category I & II banks, highlighted in dark blue, figure is lesser of advanced vs. standardized.

Light blue indicates category III banks, which are no longer required to report advanced.

In this report, we run through recent regulatory developments related to bank capital requirements, while updating our quarterly file (embedded) for 4Q19. The file details the capital ratios and their components, as well as our calculation of capital surpluses and the most constraining capital requirement for each bank (reported basis). The file contains reported capital figures (where disclosed) for all 21 U.S. banks within our coverage universe. We also track the TLAC positions in the file as well. Please contact using the Ask-an-analyst feature to request a historical version of the file or simply to submit general feedback.



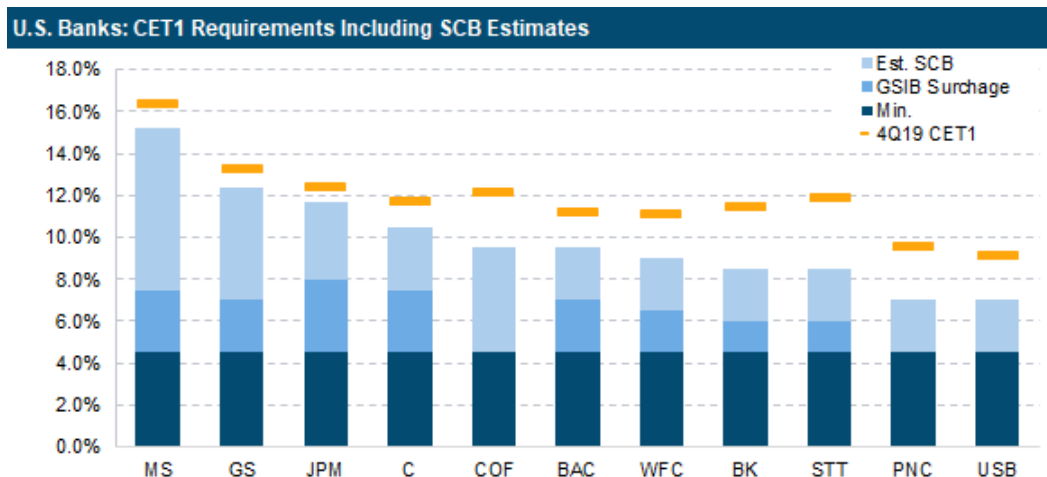
## Regulatory Updates

From a capital standpoint, the major remaining items on the agenda for the first half of 2020 are the **DFAST and CCAR stress testing and capital planning process**—the **Stress Capital Buffer (SCB)** loomed large until Wednesday, when the Fed **dropped the final rule in time for 2020 implementation**. And from a liquidity standpoint, we think there are some **behind-the-scenes moves coming on HQLA and stress testing**, effectuated via regulatory guidance rather than rulemaking or a quantitative change to requirements.

- On capital, the **Fed recently announced the economic scenarios** and instructions for the 2020 Dodd-Frank Act Stress Test (DFAST) and Comprehensive Capital Analysis and Review (CCAR). Banks subject to the CCAR requirements must file their respective capital plans and internal stress test results by April 6, unchanged from prior years—DFAST stress test results are still expected by June 30.

The economic scenarios being applied in the 2020 test **were generally in line with last year**. In other words, aside from a few puts and takes, the stress test shouldn't be much more or less stringent, on average, compared to the 2019 cycle. The global market shock scenario (used to model trading and counterparty losses, separate from the economic assumptions used to model credit losses and earnings) does incorporate two of the more topical concerns for regulators; a "severe increase in funding pressures" likely to reflect events in 2019 in the repo market, and "heightened stress in highly leveraged markets."

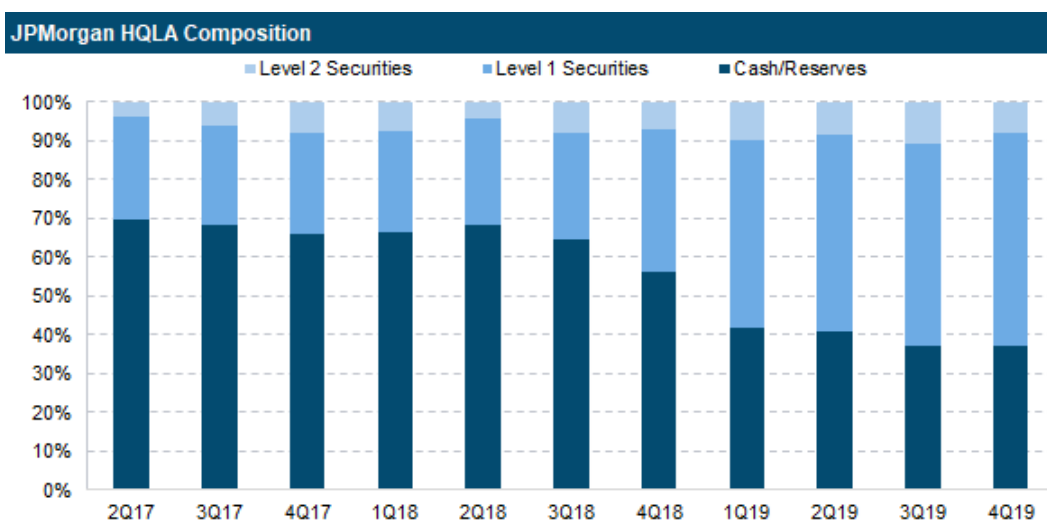
- With the **SCB set to go into effect October 1**, the forthcoming stress test results take on added importance as they will dictate banks' ultimate capital requirements. The final SCB rule was largely in keeping with the initial NPR from 2018 and subsequently proposed refinements. Using the 2019 stress test results, **we estimate all banks are comfortably above requirements when included projected SCBs**. And considering generally similar economic scenarios for the 2020 version, we would not expect much divergence in SCB requirements coming out of this year's stress test.



Source: Federal Reserve, Company Reports, CreditSights  
 SCB Estimates derived from 2019 DFAST/CCAR results and expected/prior shareholder payouts

- **There also seems to be some movement on liquidity requirements, more of a behind-the-scenes adjustment than a quantitative change.** First, Quarles gave a speech in early February that advocated for removing the "stigma" associated with tapping the Fed discount window, allowing banks to include the liquidity source in internal liquidity stress tests—this follows new guidance around living wills that permits discount window assumptions. We think some of this renewed focus on the discount window is aimed at combatting the repo market volatility that has cropped up over the past year or so: though Treasuries and bank reserves both qualify for High Quality Liquid Asset (HQLA) treatment numerically, there *is* a difference between the actual liquidity profiles of both assets since Treasuries would still have to be sold into the open market. According to some banks, they had been under the impression that regulators preferred reserves over other liquid assets, believing that the Fed qualitatively was pushing them toward higher reserves vis-à-vis government bonds. That 'miscommunication' may have contributed to the spike in repo rates.

Second, **JPMorgan was relatively explicit at its recent investor day** that "we are going to hit the discount window...we've spoken to all the regulators". Management's comments dovetailed with Quarles, highlighting the liquidity transformation ability of the discount window to "create liquidity in any security". Putting the two together, **we get the distinct impression that accessing the discount window will be more of a standard operating procedure for banks in the not-so-distant future**, which in turn could drive reduced demand for reserves and allow banks to bulk up on other HQLA assets like Treasuries and agency MBS. Importantly, we have heard little to no mention of lowering the actual LCR requirements as the above changes would be more of a mix shift than an outright loosening of regulatory standards.



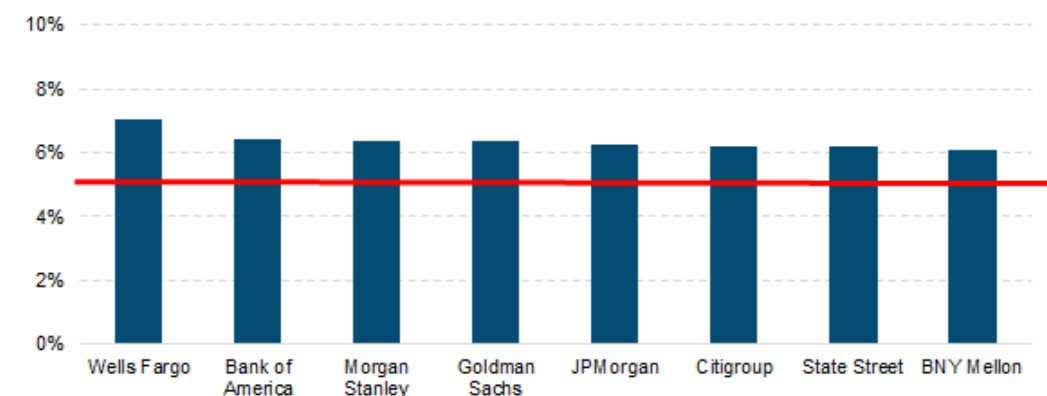
Source: Company reports, CreditSights

## SUPPLEMENTARY LEVERAGE RATIO

On November 19th, 2019, the regulatory agencies (Fed, FDIC, and OCC) **finalized the proposed changes** to modify the supplementary leverage ratio (SLR) for large custody banks (i.e. BNY Mellon, State Street, and Northern Trust) to exclude certain deposits with qualifying central banks from the denominator of the ratio (leverage exposure). The rule also makes the same change for other ratios that use leverage exposure in the denominator, such as those used in determining banks' TLAC requirements. The excluded amount from the SLR denominator would equal the average daily balance over the applicable quarter, but only for deposits related to fiduciary or custodial accounts. The modification stands to relieve some of the custody banks' SLR-driven capital needs for the 2020 CCAR cycle, and provide more flexibility to BK and STT in their custody businesses. The change had been mandated by the **2018 EGRRCPA bill** (sponsored by Sen. Crapo). Separately, **potential changes to the minimum SLR requirements are still outstanding** and have not been discussed publicly by the Fed recently.

Along with the guidance from the Fed that leverage-based requirements won't be part of the eventual SCB framework, the relief on the calculation of the SLR means that the era of leverage-based requirements being the binding constraint for BK and STT is likely over, with CET1 requirements taking precedence.

## U.S. Banks: Holding Company Supplementary Leverage Ratios (SLRs)



Source: Company Reports, CreditSights  
As of 4Q19

The Fed has previously (in April 2018) proposed lowering the SLR minimum from the current level of 5%. The change would replace the 2% buffer over the 3% base requirement with a buffer equal to 50% of each company's GSIB surcharge. The proposal has not yet been finalized, but we estimate it would lower the SLR requirement for all of the GSIBs if enacted, since no bank has a 4% (or higher) GSIB buffer—JPMorgan's 3.5% leads the pack.

## TLAC HOLDINGS

**In April 2019, the Fed, FDIC, and OCC rolled out a joint proposal to tailor TLAC regulation and force advanced approach banks to deduct holdings of TLAC-eligible debt issued by other GSIBs.** The reasoning behind the proposal is clear, namely reducing systemic risk by limiting interconnectedness—if a bank goes into orderly resolution and is recapitalized via TLAC debt conversion, holders of that debt will see an immediate hit to capital. The actual impact of the proposal on bank capital ratios should be relatively minor—regulators noted the large banks are "not expected to hold material investments in 'covered debt instruments'" and that the deduction "is unlikely to have a meaningful impact" on capital ratios—but raises larger questions around capital markets activity. To that end, regulators propose a handful of cases where investments would be exempt from the deduction, namely if the holding period is 30 days or less for market-making activities, and 5 days or less for underwriting, providing a carve out that should allow sales and trading operations to function as normal.

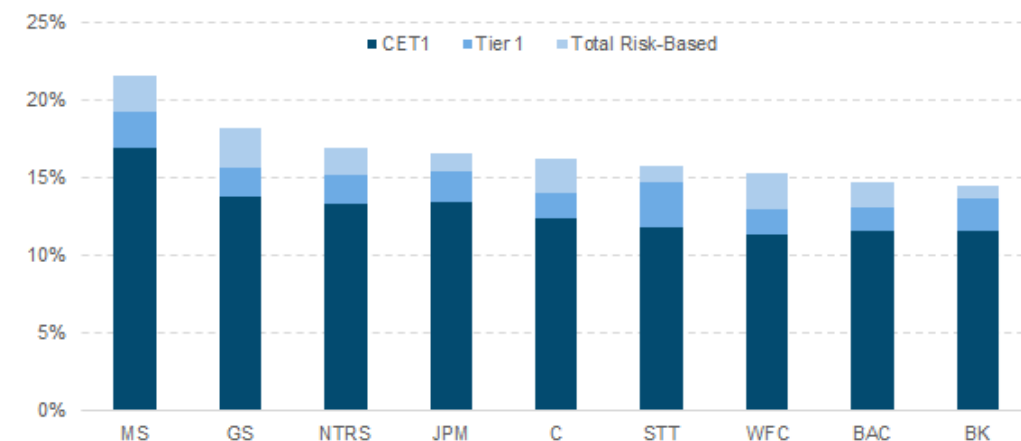
## GSIB BUFFERS

The FSB recently published its **annual update** of its list of GSIBs, and we note that none of the U.S. banks moved from their prior buckets, meaning the Method 1 GSIB buffers used in calculating external TLAC requirements will remain the same once the classifications take effect in January 2021. In terms of Method 2 buffers, which is the 'binding constraint' as the US Method 2 calculation was intentionally crafted to always come in higher than the Basel-defined Method 1, State Street was the only bank whose surcharge will change in 2020 – dropping 50 bp down to 1.00%. As a result, the firm's minimum capital ratio requirements as of January 1<sup>st</sup> are 8.0% for CET1 capital, 9.5% for Tier 1 capital, and 11.5% for total risk-based capital. A few banks—JPMorgan, Citigroup, and Bank of America in particular—look close to rotating into the higher buffer tier based on systemic risk disclosures. However, we fully expect the banks to manage exposures to remain in current surcharge buckets and avoid rotating into the higher tier and the incremental 50 bp capital surcharge.

## 4Q19 Capital Snapshots

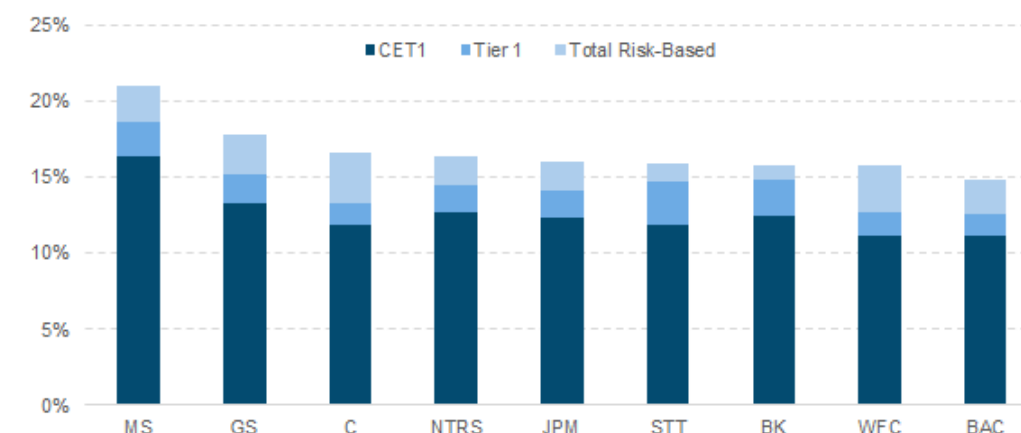
**For the banks in our coverage, 60% posted sequential declines in their Common Equity Tier 1 (CET1) ratios**, which decreased by an average of 4 bp (excluding Truist). Most of the declines were across the regionals, which saw their CET1 ratios decrease by 10 bp from last quarter, on average, while the GSIBs averaged an increase of 6 bp. Primarily explaining the discrepancy was variation in risk-weighted assets, which declined by 1% at the GSIBs, on average, but increased by 1% across the regionals. Meanwhile, we generally saw a reduction in total CET1 capital during the quarter in both groups, primarily due to lower net income and continued capital distributions, as 4Q19 marked represented the second quarter under capital plans approved in 2019 CCAR.

### U.S. Advanced Approach Banks: Advanced Approach Capital Ratios



Source: Company Reports, CreditSights  
As of 4Q19. Sorted by Total Risk-Based Capital Ratio

### U.S. Advanced Approach Banks: Standardized Capital Ratios



Source: Company Reports, CreditSights  
As of 4Q19. Sorted by Total Risk-Based Capital Ratio

As mentioned, the GSIBs' average CET1 ratio was 6 bp higher from last quarter – but variability across the group was high: Trust banks **State Street** and **BNY Mellon** experienced increases of 45 bp and 44 bp, respectively, while money centers **Wells Fargo** and **Bank of America** posted respective declines of 47 bp and 23 bp. Looking at the trust banks State Street and BNY Mellon, the two firms had the largest declines in RWAs seen across the group during the quarter (-4% and -2%, respectively), with **State Street in particular citing FX and SEC lending activities as primary drivers**. On the other hand, Wells Fargo and Bank of America posted the largest declines in CET1 capital out of the GSIBs (-4% and -1%, respectively), largely due to capital distributions and declines in retained earnings. Wells Fargo continued to front-load its share repurchases, having completed ~62% of its authorization under its 2019 capital plan as of 4Q19.

**Turning to the regionals, trends in CET1 ratios were a bit more consistent**, with roughly three-quarters of the group seeing sequential declines which were generally characterized by higher RWAs due to loan growth coupled with lower capital generated through earnings. **U.S. Bancorp** posted the largest decline (-51 bp) as the company returned nearly 200% of earnings to shareholders via repurchases and dividends (compared to 80% in 3Q19) – since the company was approved to repurchase an additional \$2.5 bn in shares on top of the \$3.0 bn in was originally approved for. On the other end of the spectrum, **Fifth Third** and **Comerica** were the only regionals to experience double digit increases in their CET1 ratios (+19 bp and +17 bp, respectively), but on different drivers: Fifth Third's CET1 ratio was boosted by the gain on the Wordpay TRA transaction, while Comerica's CET1 was mainly a result of lower RWAs.

US GSIBs: Utilized Repurchase Authorizations				
Company	3Q19-2Q20 Repurchase Authorization	3Q19-4Q19 Repurchases	% of Authorization	QoQ Change in CET1
Wells Fargo	\$23.1 bn	\$14.4 bn	62%	-47 bp
Citigroup	\$17.1	\$10.2	60%	+23 bp
Morgan Stanley	\$6.0	\$3.0	50%	+10 bp
State Street	\$2.0	\$1.0	50%	+45 bp
BNY Mellon	\$3.9	\$2.0	50%	+44 bp
Bank of America	\$30.9	\$15.3	50%	-23 bp
JPMorgan	\$29.4	\$13.4	46%	+7 bp
Goldman Sachs	\$7.0	\$2.9	41%	-10 bp

Source: Company Reports, SNL, CreditSights

Sorted by % of Authorization Utilized

With the implementation of the **Current Expected Credit Loss(CECL)**, accounting standard now in effect (January 1st), most banks have provided updated guidance on the "Day 1 impact" to reserves, hitting with 1Q20 results. Generally, most banks' recent guidance consist of more precise impacts from CECL – and in most cases, it has fallen in the middle or at the high end of previously articulated estimates. **For the banks, the impacts to CET1 are mostly manageable (especially given the three-year phase-in option), while the consumer/card lenders seeing the largest impacts** – as seen in the below table. **As mentioned previously**, we still think the more industry-friendly Fed eventually alters the stress testing process to provide 'relief': all else equal, CECL boosts loss-absorbing capital in the system.

CECL: Fully-Phased in and 2020 Impacts to CET1						
Company	Current Reserves	Current CET1 Ratio	Est. Δ in Reserves	Est. Δ in Reserves as % of CET1 Capital	Full Phased-in Impact to CET1 Ratio	Est. 2020 Impact to CET1 Ratio
Large U.S. Banks						
Citigroup	\$14,239	11.8%	\$4,100	3.0%	-29 bp	-7 bp
JPMorgan	14,314	12.4%	4,300	2.3%	-23 bp	-6 bp
Bank of America	10,229	11.2%	3,300	2.0%	-19 bp	-5 bp
Goldman Sachs	1,802	13.3%	848	1.1%	-12 bp	-3 bp
Wells Fargo	10,456	11.1%	(1,300)	0.9%	+9 bp	+2 bp
U.S. Regional Banks						
Capital One	\$7,343	12.2%	\$2,872	7.5%	-74 bp	-18 bp
Truist	1,889	9.5%	2,900	8.1%	-62 bp	-16 bp
Huntington	887	9.9%	393	4.5%	-38 bp	-10 bp
Regions	914	9.7%	500	4.9%	-38 bp	-9 bp
Fifth Third	1,346	9.7%	660	4.8%	-36 bp	-9 bp
U.S. Bancorp	4,491	9.1%	1,500	4.2%	-31 bp	-8 bp
Citizens	1,296	10.0%	450	3.1%	-25 bp	-6 bp
PNC	3,060	9.5%	661	2.0%	-16 bp	-4 bp
KeyCorp	968	9.4%	218	1.8%	-14 bp	-4 bp
M&T	1,051	9.7%	140	1.4%	-10 bp	-3 bp
Comerica	668	10.1%	(17)	0.2%	+2 bp	+0 bp
Specialty Finance						
Synchrony	\$5,602	14.1%	\$3,025	24.5%	-266 bp	-66 bp
Discover	3,383	11.2%	2,537	23.0%	-199 bp	-50 bp
Ally	1,263	9.5%	1,339	9.7%	-81 bp	-20 bp
American Express	2,383	10.7%	1,200	6.6%	-57 bp	-14 bp
CIT	483	12.0%	250	4.6%	-55 bp	-14 bp

Source: Company Reports, SNL, CreditSights

As of 4Q19. In \$ mn.

Est. impacts are on an after tax basis and do not account for any projected growth in CET1 capital or RWA's

## CAPITAL CONSTRAINTS

All the banks in our coverage have regulatory capital levels that are all comfortably above their ongoing required minimums. As can be seen in the chart below, we show each of the bank's constraining regulatory capital ratio, which is the ratio that is the least above its required minimum, as well as the amount of which it exceeds the required minimum. On average, the banks' constraining capital ratios were ~229 bp above their required minimums. However, we note that **ultimately most banks' binding constraints will continue to be constraints under the DFAST/CCAR stress testing process**, and as a result, constraints under the "severely adverse" stress scenario should continue to be more directly impactful to the banks' capital plans than ongoing requirements.

U.S. Banks: Constraining Capital Ratios & Excess over Minimum Requirements				
Company	Constraining Capital Ratio	Reported Ratio	Excess over Minimum	
U.S. Large Banks			(\$)	(%)
Bank of America	Tier 1 Ratio	12.62%	\$24,211	1.62%
Citigroup	CET1 Ratio	11.81%	\$21,146	1.81%
JPMorgan	CET1 Ratio	12.39%	\$28,587	1.89%
Goldman Sachs	SLR	6.36%	\$18,295	1.36%
Morgan Stanley	SLR	6.36%	\$15,684	1.36%
Wells Fargo	CET1 Ratio	11.14%	\$26,633	2.14%
BNY Mellon	SLR	6.07%	\$3,873	1.07%
State Street	SLR	6.18%	\$2,923	1.18%
Northern Trust	CET1 Ratio	12.70%	\$3,993	5.70%
Regional Banks				
U.S. Bancorp	CET1 Ratio	9.13%	\$8,324	2.13%
PNC Financial	Tier 1 Ratio	10.65%	\$7,338	2.15%
Capital One	CET1 Ratio	12.19%	\$16,241	5.19%
Truist	Total Capital Ratio	12.63%	\$8,025	2.13%
Citizens	Total Capital Ratio	12.97%	\$3,535	2.47%
Comerica	Total Capital Ratio	12.13%	\$1,113	1.63%
Fifth Third	Tier 1 Ratio	10.99%	\$3,541	2.49%
Huntington	Total Capital Ratio	13.04%	\$2,224	2.54%
KeyCorp	Total Capital Ratio	12.79%	\$2,995	2.29%
M&T Bank	Tier 1 Ratio	10.94%	\$2,524	2.44%
Regions	Total Capital Ratio	12.68%	\$2,307	2.18%

Source: Company Reports, CreditSights

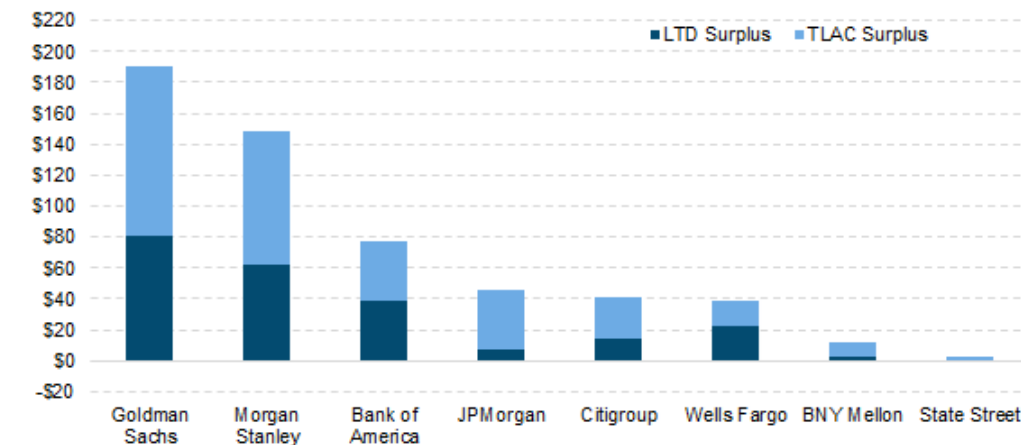
As of 4Q19. In \$ mn. For Advanced Approaches banks, R/WAs are calculated using higher of Advanced or Standardized Approaches.

## TLAC POSITIONS

TLAC requirements went into effect on January 1 2019, consisting of two separate thresholds: External TLAC and Long-Term Debt requirements. The GSIBs are now mandated to show compliance or face Prompt Corrective Action (PCA) steps, including the suspension of dividends, share repurchases, and bonuses to management. In other words, the penalty for missing the mark on TLAC is the same as breaching capital requirements. For instance, even if a bank has a sizable CET1 surplus, it may not be able to draw it down and use it toward share repurchases (without issuing additional debt) if it is constrained by external TLAC (which includes CET1 capital).



## US GSIBs: LTD and TLAC Surplus



Source: Company Reports, CreditSights  
As of 4Q19. In \$ bn

The Long-Term debt requirement is defined as the higher of 1) 6% of risk weighted assets (RWAs) plus the bank's Method 2 U.S. GSIB buffer, and; 2) 4.5% of its total leverage exposure, which is also the denominator of the Basel III supplementary leverage ratio (SLR). Meanwhile, the External TLAC Requirement is defined as the higher of two calculations: 1) an RWA-based requirement of 18% of RWAs, plus a buffer of 2.5% of RWAs, plus each bank's Method 1 GSIB surcharge; or 2) 7.5% percent of leverage exposure, plus a 2% buffer.

As can be seen in the above chart, the two brokers-dealers (GS and MS) have the largest surpluses, reflecting their reliance on unsecured debt compared to their deposit-oriented, money center bank peers. However, we do expect Goldman's surplus to decline over time as it reduces its reliance on wholesale funding - as evidenced by the 5% sequential decline in the third quarter. Meanwhile, Bank of America has the third largest surplus, mainly reflecting its sizable amount of long-term debt outstanding and external TLAC – though we are expecting light 2020 issuance/refi needs. Additionally, in 2018, BofA's Method 1 GSIB buffer was also reduced from 2% to 1.5%, which in effect reduced its external TLAC requirement. Wells Fargo, JPMorgan, and Citigroup all have LTD surpluses in the \$7-23 bn range.

State Street continued to face a LTD shortfall as of 4Q19 at around \$1.2 bn, however, the company had received a waiver from the Fed based on the anticipation of the **recently finalized** changes to the total leverage exposure calculation.

## WHAT'S IN THE FILE?

The file contains the capital details, requirements, and surpluses for the 21 U.S. banks in our coverage universe: Bank of America, BNY Mellon, Capital One, Citigroup, Citizens, Comerica, Fifth Third, Goldman Sachs, Huntington, JPMorgan, KeyCorp, Morgan Stanley, M&T Bank, Northern Trust, PNC, Regions, State Street, Truist, U.S. Bancorp, Wells Fargo, and Zions.

In the file we include a breakdown of the reported capital ratios of the banks, including Common Equity Tier 1 capital, Tier 1 capital and Total Risk-based capital as well as risk-weighted assets broken down into credit risk, market risk and operational risk components, where disclosed. Additionally, we include Supplementary Leverage Ratio disclosures for each bank where applicable. We note that the higher SLR requirement is applicable only to the eight global systemically important banks: JPMorgan, Bank of America, Citigroup, Wells Fargo, Goldman Sachs, Morgan Stanley, BNY Mellon and State Street. All of these banks now provide an actual estimate of their respective SLRs, as opposed to only reporting that the SLR was above the required threshold as some had done previously. Starting in 1Q19, we started tracking TLAC and LTD requirements as well.



## AUTHORS

Jesse Rosenthal

Head of US Financials / Senior Analyst – Banks and Specialty Finance

Peter Simon, CFA

Senior Analyst - North American Banks and Brokers

Michael Connolly

Analyst - US Banks and Brokers

Mario Barbagallo

Analyst - US Banks and Brokers



**Questions? Contact Peter Escribano via email at [pescribano@creditsights.com](mailto:pescribano@creditsights.com) (mailto:pescribano@creditsights.com) or call +1-212-340-3867**

This Report is for informational purposes only. Neither the information contained in this Report, nor any opinion expressed therein is intended as an offer or solicitation with respect to the purchase or sale of any security or as personalized investment advice. CreditSights and its affiliates do not recommend the purchase or sale of financial products or securities, and do not give investment advice or provide any legal, auditing, accounting, appraisal, valuation or actuarial services. Recommendations made in a report may not be suitable for all investors and do not take into account any particular user's investment risk tolerance, return objectives, asset allocation, investment horizon, or any other factors or constraints.

Information included in any article that includes analysis of documents, agreements, controversies, or proceedings is for informational purposes only and does not constitute legal advice. No attorney client relationship is created between any reader and CreditSights as a result of the publication of any research report, or any response provided by CreditSights (including, but not limited to, the ask an analyst feature or any other analyst interaction) or as the result of the payment to CreditSights of subscription fees. The material included in an article may not reflect the most current legal developments. We disclaim all liability in respect to actions taken or not taken based on any or all the contents of any research report or communication to the fullest extent permitted by law.

Reproduction of this report, even for internal distribution, is strictly prohibited. Receipt and review of this research report constitutes your agreement not to redistribute, retransmit, or disclose to others the contents, opinions, conclusion or information contained in this report (including any investment recommendations or estimates) without first obtaining express permission from CreditSights. The information in this Report has been obtained from sources believed to be reliable; however, neither its accuracy, nor completeness, nor the opinions based thereon are guaranteed. The products are being provided to the user on an "as is" basis, exclusive of any express or implied warranty or representation of any kind, including as to the accuracy, timeliness, completeness, or merchantability or fitness for any particular purpose of the report or of any such information or data, or that the report will meet any user's requirements.

CreditSights Risk Products, including its ratings products and related information, are provided by CreditSights Analytics, LLC. CreditSights Limited is authorised and regulated by the Financial Conduct Authority (FCA). This product is not intended for use in the UK by retail clients, as defined by the FCA. This report is not intended for distribution to, or use by any person or entity in any jurisdiction or country where such distribution or use would be contrary to local law or regulation.

Certain data appearing herein is owned by, and used under license from, certain third parties. Please see Legal Notices for important information and limitations regarding such data. For terms of use, see Terms & Conditions.

If you have any questions regarding the contents of this report contact CreditSights at [legal@creditsights.com](mailto:legal@creditsights.com).

© 2020. CreditSights, Inc. All rights reserved.

COPYRIGHT CREDITSIGHTS 2020