Would a Serious Second Wave of COVID-19 Require Banks to Reduce Their Dividends?

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In its 2020 stress tests, the Federal Reserve is currently assessing bank resilience to worsening economic shocks caused by COVID-19. The analysis in this post indicates that the banks in our sample would remain well above minimum requirements if a deeper recession caused by a serious second wave of the virus were to occur. In addition, banks would likely be able to maintain their current dividends, despite the projected increase in loan losses and reduced revenues. The analysis maintains trading, counterparty, and operational risk losses at their levels in the 2019 stress test, though there is strong evidence that those losses were overpredicted. Moreover, the results in the note are quite conservative because they do not attempt to incorporate the effectiveness of the government stimulus and forbearance programs on loan loss projections.

That said, there is a real risk that dividend reductions may be required if the economy goes into a deep recession. For instance, if banks' balance sheets continue to expand, they continue to build reserves for lifetime expected losses, report decreases in unrealized gains on available-for-sale securities, and experience widespread counterparty and borrower downgrades then a reduction of dividends might be inevitable, regardless of what scenario is used in the stress tests.

In March 2020, the Federal Reserve issued a final rule that will replace the fixed 2.5 percent capital conservation buffer (CCB) with the stress capital buffer (SCB) on October 1. When the final rule was published, the expectation was that the Fed would use the severely adverse scenario published in February to calculate the stress capital buffer of each bank. Recently, however, the Fed raised the possibility of increasing the SCB because of a “series of sensitivity analysis using alternative scenarios” being conducted in its 2020 stress tests.

This note presents its own sensitivity analysis based on publicly available data.¹ These are the main results:

- Based on a revised macroeconomic scenario that assumes a serious second wave of COVID-19, the aggregate implied SCB would increase from 3.4 percent (based on DFAST 2019 results) to 4.2 percent and all banks would remain well above their minimum capital requirements.

- According to the first-quarter 2020 regulatory public data, none of the 18 banks in our sample would likely have to cut its common stock dividend because of the projected increase in its SCB.

- The introduction of the SCB on October 1 as proposed would reduce the lending capacity of the banks in our sample by $650bn. If the Federal Reserve were to increase the SCB by 80 bps as a result of a sensitivity analysis, lending capacity would decrease by another $300bn.

¹ The revised macroeconomic scenario is proprietary and was kindly provided to BPI by Moody’s Analytics.
• If banks were to suspend their dividend payments for a year, the increase in lending capacity would be approximately half the decrease in lending capacity that would result if the Federal Reserve were to increase the SCB by 80 bps.

Our sensitivity analysis assumes a serious second wave of COVID-19 . . .

To size a potential increase in the stress capital buffer in the current environment, we replace the Fed’s 2019 severely adverse scenario with a stress scenario designed by Moody’s Analytics (hereafter referred to as the alternative scenario). This alternative scenario is designed so that there is only a 4-percent probability that the actual economic outlook will be worse. It is the most severe of a set of scenarios that Moody’s Analytics provides to the financial services industry and assumes a serious second wave of COVID-19. The alternative scenario is considerably more stressful than the Fed’s severely adverse scenario published in 2019 and 2020, as well as the current consensus outlook. We chose the Fed’s 2019 severely adverse scenario because the analysis relies in part on the results released by the Fed for the 2019 stress tests.

More generally, the alternative scenario starts in the second quarter of 2020 and extends until the second quarter of 2023. On a start-to-stress basis, this scenario is characterized as follows:

• A sharp increase in the unemployment rate to 20.5 percent in the second quarter of 2020, with the unemployment rate remaining above 10 percent through the end of 2022.

• A fall of 14 percent in real GDP.

• A 4-p.p. increase in the BBB yield.

• A 15-percent decline in house prices.

• A 36-percent decline in commercial real estate prices.

• Almost a 50-percent fall in the stock market.

The differences among the three scenarios are well summarized by the paths of the unemployment rate and real GDP growth, as shown in Exhibits 1 and 2.

Exhibit 1: Unemployment rate

Exhibit 2: Real GDP growth rate

Following prior work with Bill Nelson, this analysis uses a suite of econometric top-down models to estimate the impact of the revised stress scenario on projections of loan losses and pre-provision net revenue (PPNR).
In addition, the results of prior stress tests released by the Fed calibrate the projections of these models to replicate the behavior of supervisory projections under the revised macroeconomic scenario. As noted earlier, with respect to the other important components of the stress tests, such as the global market shock (GMS) and losses from operational-risk events, the analysis assumes that those losses remain at their extremely high 2019 levels. Finally, the mapping between aggregate and bank-level projections is done by extrapolating the bank-level results published by the Fed in last year’s stress tests. This is the main reason why only 18 banks are included in the analysis. The use of last year’s results to construct a baseline is a reasonable assumption, because the composition of bank balance sheets tends to change slowly over time.

**Loan loss provisions are projected to be $120bn higher . . .**

The aggregate loss rate for the 18 banks included in last year’s stress tests was 5.7 percent under the Fed’s 2019 severely adverse scenario and is projected to jump to 7.0 percent under the alternative scenario. In dollar terms, loan losses are about $100bn higher using the alternative scenario relative to the 2019 severely adverse scenario. Loan loss provisions are predicted to increase $120bn based on the mapping between loan losses and provisions included in the 2019 stress tests.\(^2\) The higher aggregate loss rate is driven by an increase in loss rates for commercial and industrial loans, commercial real estate loans, credit cards, and other loans. By contrast, the loss rates of mortgage loans are projected to be lower relative to last year’s severely adverse scenario because the alternative scenario assumes less of a drop in house prices than the 2019 severely adverse scenario.

The average implied SCB derived from DFAST 2019 stress test results was about 3.4 percent. Exhibit 2 depicts the factors driving the increase in the aggregate SCB from 3.4 to 3.9 percent as a result of increases in loan losses. The calculation outlined in Exhibit 3 is done at the bank level, but the methodology can be described using aggregate data. In aggregate, the 18 banks held about $8.700bn in risk-weighted assets as of the first quarter of 2020. According to our top-down models, aggregate provisions are projected to be about $120bn higher under the alternative scenario. Those losses are offset by the increase in allowances booked in the first quarter as a result of CECL, or about $42bn. Post-tax, the net increase in provisions corresponds to a 0.7 p.p. increase in the projected peak-to-trough decline in the CET1 ratio.\(^3\) The average SCB increases slightly less than 0.7 p.p. because some banks remain subject to the 2.5-percent SCB floor.

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\(^2\) Aggregate loan loss provisions are equal to $440bn, or 44 percent of common equity tier 1 capital of the 18 banks as of the first quarter of 2020.

\(^3\) This analysis assumes an effective tax rate of 20 percent.
... and PPNR is projected to be $40bn lower ...

PPNR allows a bank to fund the building of allowances (reserves) for loan losses and thereby protect its capital. As a result, the revenue banks generate over the planning horizon becomes their first line of defense against the projected increase in credit losses. In 2019, the Fed’s severely adverse scenario estimated that the 18 banks would be able to generate $327bn in PPNR over the 9 quarters of the stress planning horizon. Under the alternative scenario, we project that PPNR would fall $40bn or 12.9 percent relative to the DFAST 2019 projections. The main drivers of the decrease in PPNR relative to last year’s stress tests are the higher noninterest expense driven by the expansion of bank balance sheets in the first quarter of 2020. The growth in bank assets would have also led to an increase in projected net interest income, but the lower path of interest rates in the alternative scenario wipes out almost all of those gains. Meanwhile, noninterest income is projected to increase $80bn, or 13.1 percent relative to DFAST 2019.

As shown in Exhibit 3, under the alternative scenario, the average implied SCB would rise from 3.9 percent to 4.2 percent to account for the decrease in PPNR. Combining both the increase in losses and the lower revenues, a second wave of COVID-19 is projected to raise the SCB 80 bp on average across the 18 banks that participated in DFAST 2019.

Some observations on the size of trading, counterparty, and operational risk losses ...

The results in this note follow the assumptions of DFAST 2019, which required the banks subject to the GMS and large counterparty default shock to recognize about $90bn in trading and counterparty mark-to-market losses in the first quarter of the planning horizon. The GMS component of the stress tests includes a set of hypothetical shocks to a large set of asset prices, credit spreads, and interest rates. A forthcoming blog post by Coryann Steffansson at SIFMA will demonstrate that financial markets did not experience severe dislocations in the first quarter of 2020, in part because banks are well-capitalized and their balance sheets highly liquid. In other words, the severe losses projected by the Fed’s GMS simply did not occur under a very high-stress scenario.

In addition, the projections for PPNR already include trading losses as a separate subcomponent of noninterest income. Specifically, those projections include $50bn in trading losses booked in the second and fourth quarters of 2020 (driven by the double spike in the BBB corporate bond yield in the alternative scenario). So, incorporating both the entire GMS losses as well as trading income losses results in effectively double counting the impact of asset price movements on bank revenues.

For these two reasons, a recalibration of banks’ SCBs under a more severe macroeconomic scenario should take a haircut to GMS losses. For example, reducing trading and counterparty losses by one-third would reduce the aggregate SCB from 4.2 to 3.9 percent.

Meanwhile, the PPNR projections discussed in the previous section also include $123bn in expenses due to losses from operational-risk events such as fraud, lawsuits, litigation-related expenses, and other disruptions. The operational-risk losses derived in the stress tests are mainly derived from bank losses banks during the 2008 financial crisis. As noted in a post by Greg Baer and Anna Harrington, these losses appear significantly overstated in CCAR. Therefore, operational losses associated with the current health crisis will likely be a small fraction of the litigation-related losses registered in the 2008 financial crisis and assumed in CCAR. Reducing operational risk losses by one-third would decrease the aggregate SCB from 4.2 to 3.8 percent.

In summary, assuming the same trading, counterparty, and operational risk losses as in the 2019 stress tests is excessive in the context of the current COVID-19 scenario. However, we maintain those assumptions to

4 PPNR is defined as the sum of net interest income and noninterest income less noninterest expense.
show that even with this extra layer of precaution, banks would not be required to curtail their dividends, given their high capital levels at the end of the first quarter of 2020.

**Banks would not have to curtail dividends under a second wave of the COVID-19 type-scenario . . .**

The U.S. capital framework has a mechanism in place that automatically restricts capital distributions and discretionary bonus payments. The capital rule requires banks to maintain capital ratios above regulatory buffers to avoid such restrictions. Currently, the regulatory capital buffer includes a static CCB of 2.5 percent of risk-weighted assets. In addition, the global systemically important banks (GSIBs) are subject to another buffer tied to a measurement of their systemic footprint. As a result of the adoption of the SCB rule this past March, the CCB will be replaced with the SCB on October 1, 2020, for banks above $100 billion in total assets.⁵

The maximum payout ratio depends on the size of a bank’s capital buffer. When this buffer is higher than its regulatory buffer (i.e., the sum of SCB, any applicable GSIB surcharge and countercyclical capital buffer), there are no limitations on the amount of capital a bank can distribute to its shareholders. However, if the capital buffer is less than 100 percent of its regulatory buffer, the maximum payout ratio cannot exceed a certain percentage of eligible retained income (i.e., average net income over the prior four quarters per the recent interim final rules). The limit on the maximum payout ratio is 60 percent of eligible retained income if the bank is between 100 percent and 75 percent of its regulatory buffer, 40 percent if it is between 75 percent and 50 percent, 20 percent if it is between 50 percent and 25 percent, and zero if it is below 25 percent.

Using the projected COVID-19 SCB, five of the 18 banks would fall below 100 percent of their buffer requirements; importantly, all banks would remain well above their minimum capital requirements. Specifically, the bank with the lowest capital ratio relative to its buffer requirement would satisfy 87 percent of its buffer requirement. That said, that bank would not be required to lower the dividend, because its current payout ratio is well below the 60-percent limit.⁶ The highest payout ratio of all of the banks that would be projected as subject to the 60-percent maximum payout ratio cap under our stress scenario is 42 percent. As a result, none of these banks would be required to reduce its dividend. There is one bank with a payout ratio of 68 percent, but that firm is not projected to move below its regulatory buffer under the alternative scenario.

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⁵ More specifically, banks in Categories I, II, III, and IV will be subject to a new stress capital buffer requirement starting on October 1, 2020. These banks are generally the same ones that have more than $100bn in total assets.

⁶ Eligible retained income is defined as average net income between the second quarter of 2019 and the first quarter of 2020.
**Lending capacity would be significantly curtailed under a higher SCB . . .**

The prior results showed that it is unlikely a bank would have to reduce its current dividend, even with a serious second wave of COVID-19. However, increasing a bank’s SCB under the current environment would reduce the lending capacity of the banking sector significantly. The decline in lending capacity is already expected to happen when the SCB replaces the fixed 2.5 percent CCB on October 1. That is, the decrease in lending capacity will happen even if the Fed does not adjust the SCB upward to reflect a second serious wave of COVID-19.

As of the first quarter of 2020, the aggregate lending capacity of the 18 banks included in our sample was $1,719bn using the fixed 2.5 percent CCB (Exhibit 5). Assuming the SCB requirement is set at about the same level as the SCB estimated using DFAST 2019 results, the lending capacity would decline more than $650bn to $1,067bn. Banks are probably making their capital allocation decisions already this quarter and the next under the expectation that the SCB would move slightly higher, since the 2020 severely adverse scenario is a bit more severe than last year’s.

The reduction in lending capacity would be increased even more if the Fed were to raise the SCB along the lines outlined in the note. Specifically, the lending capacity of the 18 banks would drop by nearly another $300bn. This calculation assumes that the lending capacity is zero for banks that may have moved below their regulatory capital buffers as a result of the higher SCB.

Note that if banks were to suspend their dividend for a full year, the additional $43bn in capital would translate to $150bn extra in lending capacity. Specifically, the decrease in lending capacity of $300bn is twice the increase in lending capacity that would result from a suspension of dividends for a whole year.

**The U.S. capital framework is working as intended**

It is important for the Federal Reserve to conduct additional assessments of bank resilience under the assumption that a serious second wave of COVID-19 could occur. However, we need to recognize that the current crisis is quite different from the 2008 financial crisis, the economic scenario underlying the design of the U.S. stress tests. As described in a recent blog post by Greg Baer, banks have been a source of strength during the time of COVID-19, in stark contrast to the 2008 financial crisis.

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7 Lending capacity is defined as the amount of additional risk-weighted assets banks can hold without going below the associated regulatory requirement, including all applicable regulatory buffers. In practice, banks have more capacity because they can utilize regulatory buffers, but the amount banks are willing to go below their regulatory capital buffers varies by bank. Thus, the analysis assumes lending capacity is zero after a bank falls below its buffer requirements.
Moreover, while the unemployment rate could reach 20 percent or more in the second quarter, the connection between rising unemployment and higher defaults may not hold as a result of the various stimulus and forbearance programs enacted by the government. Therefore, it might be better to wait for additional data to ground some adjustments and overlays to supervisory models, given the large disconnect between modeled projections in the near term and observed delinquencies.

A related challenge pertains to the disclosure of the results of the Fed’s sensitivity analysis since some of the necessary adjustments to supervisory models are very subjective. Specifically, it is important to avoid an excessive negative market reaction in response to the public release of the results because there is so much uncertainty on the relationship between the rise in the unemployment rate and credit outcomes at this time.

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