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# Dilution Risk in the US Banks

Authors: Francesco Curto, Sarvesh Agrawal

We published a report in April this year analysing dilution risk in equities from the economic downturn triggered by the lockdown related to the COVID-19 pandemic[1]. Because of the uncertainties that existed about the depth and duration of the economic crisis, the report focused on two scenarios for assessing the risks that investors faced. In this report, we look at those scenarios using the results of the Federal Reserve's (Fed) 2020 stress test of US banks.

In addition to its regular stress test, the Fed has also performed a sensitivity analysis this time to assess the vulnerability of the US banks in three different economic recovery scenarios (V-, U-, and W-shaped). This analysis demonstrates that the path the economy takes in its recovery matters more than the economic shock itself. Loan losses are most severe under the Fed's U-shaped scenario. Should losses under this scenario materialise, our analysis suggests the Tier 1 (core) capital ratio of the US banks could fall to 8.1%, five percentage points below its 2019 level, but still above the acceptable minimum capital limit[2]. A cautious approach to managing banks' capital is required but, unlike the 2008 financial crisis, banks are unlikely to be forced into raising much additional capital this time.

## A recap of our April 2020 analysis

The conclusion we took away from the analysis published in April was that equities, in general, are well placed to deal with the economic shock and are not as vulnerable as previous economic recessions may suggest. Of course, there are likely to be bankruptcies, particularly in sectors more affected by the pandemic. But, at the market level, a substantial rebuilding of capital through secondary equity offerings should not be necessary. This is because of a significant improvement in the free-cash-flow generation of companies over the past 30 years (Figure 1).

**FIGURE 1. FREE CASH FLOW TO SALES**

Source: DWS, CROCI. The chart shows after tax-free cash flow to sales of companies for which CROCI has comparable data going back to 1989. Data as available on 9 April 2020. For illustrative purposes only.

This applies to banks as well: unlike during the 2008 financial crisis, they are now in more of a position of strength, with appropriate resources for dealing with the crisis. Banks in aggregate issued USD 650 billion of additional capital after the financial crisis, but this time around they may only have to suspend their dividends and share buybacks, just as various regulators have already directed their supervisee banks to do. Even so, it is worthwhile understanding the risks given the severity of the ongoing crisis.

Our April report analysed two scenarios for banks. The first assumed the ongoing economic recession to be of the same magnitude as the 2008 financial crisis. The loan loss rate under this scenario was assumed to increase from 0.46% in 2018 to 2.7%, similar to the average between 2008 and 2010. The second scenario assumed a much deeper, once-in-a-century type of economic recession. The loan loss rate under this scenario was assumed to be 5.7%, similar to the losses

[1] History Lessons II: Estimating the dilution from a COVID-19 recession for equity investors, DWS, April 2020
[2] Forecasts are based on assumptions, estimates, views and hypothetical models or analyses, which might prove inaccurate or incorrect.

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that the Fed earlier estimated under its severely-adverse scenario for the 2019 stress test.

FIGURE 2. U.S. BANKS' PROFITABILITY BASED ON THE SCENARIOS BUILT IN APRIL

| | 2018 | Scenario 1 | Scenario 2 |
|---|---|---|---|
| Leverage (Tangible Assets / Tangible Equity) | 11x | 11x | 11x |
| Earnings before provisions (% of Tangible Assets) | 1.98% | 1.45% | 1.45% |
| Provisions for loan losses (% of Gross Loans) | 0.46% | 2.70% | 5.70% |
| Nominal Return on Tangible Equity (ROE) | 14.8% | -0.8% | -16.1% |

Source: U.S. Federal Deposit and Insurance Corporation (FDIC) data for commercial banks, DWS and CROCI. Data as available on 2 April 2020. For Illustrative purposes only. Due to various risks, uncertainties, and assumptions made in our analysis, actual events or results or the actual performance of the markets covered may differ materially from those described.

The result of this analysis was informative and suggested that, even though US banks might well incur loses of USD 240 billion this year, they may not need to issue any additional capital. Since we published this report, the Fed has reported the results of its 2020 stress tests. In addition to revising the assumptions for its severely adverse scenario, the Fed has published sensitivity analysis modelling three alternative scenarios taking into account the economic disruption that has been experienced this year. In light of these, we revisit our analysis to understand its implications for investors.

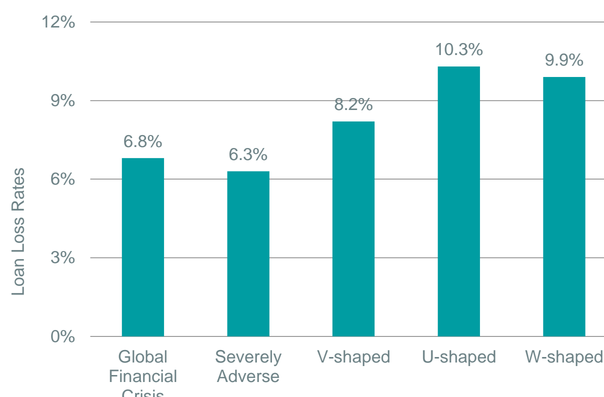
## Bigger loan losses

The Fed now projects the loan loss rate to be 6.3% under its severely adverse scenario, 60 bps above the 2019 stress test level. Even this loss rate is still based on the test that was designed before the COVID-19 pandemic—even worse outcomes are now plausible. The alternative scenario takes this year's experience into account and projects worst-case loss rates between 8.2% and 10.3% depending on the path that the US economy takes to recover.

## The US banks' return on equity may fall to -40% under severe stress

These higher loss rates suggest the nominal return on equity (ROE) of US banks could fall further into negative territory from the -16.1% that we estimated in April. If the loss rate increases to 10.3% as the Fed projects under its U-shaped scenario, the ROE could fall to -40%. This flows from a 1.45% return on tangible assets before loan loss provision and a leverage ratio (Tangible Assets / Tangible Equity) of 11x. The net loss under this scenario is USD 590 billion (Figure 4).

FIGURE 3. LOAN LOSS RATES UNDER VARIOUS SCENARIOS




Source: Assessment of Bank Capital during the Recent Coronavirus Event, US Federal Reserve System, June 2020.

## Banks don't need much additional capital

This USD 590 billion loss is the worst-case scenario based on the information that is currently available and is more extreme than the Fed's stress test. It assumes that the loan losses are front-loaded, accruing in the first year rather than over the nine-quarters that the Fed uses for its analysis. Even so, this analysis is still informative and highlights the resilience of banks this time. For comparison, the worst loss rate that US banks have experienced in any year since the 1930s is 3.5% in 2009. This is roughly a third of the 10.3% loss rate that is used in this analysis. The cumulative three-year loss between 2008 and 2010 was 8.02%.

FIGURE 4. U.S. BANKS' PROFITABILITY UNDER VARIOUS SCENARIOS

| | | Alternative Scenarios | | |
|---|---|---|---|---|
| (USD billion) | Severely Adverse | V | U | W |
| Leverage (Tangible Assets / Tangible Equity) | 11x | 11x | 11x | 11x |
| Earnings before provisions (% of Tangible Assets) | 1.45% | 1.45% | 1.45% | 1.45% |
| Provisions for loan losses (% of Gross Loans) | 6.3% | 8.2% | 10.3% | 9.9% |
| Nominal Return on Tangible Equity (ROE) | -19.1% | -28.6% | -39.2% | -37.2% |
| Net Loss | 287 | 431 | 589 | 559 |

Source: U.S. Federal Deposit and Insurance Corporation (FDIC) data for commercial banks, The US Federal Reserve, DWS and CROCI. The nominal ROE is calculated using the beginning of the year tangible equity balances. Data as available on 2 July 2020. For Illustrative purposes only. Due to various risks, uncertainties, and assumptions made in our analysis, actual events or results or the actual performance of the markets covered may differ materially from those described.

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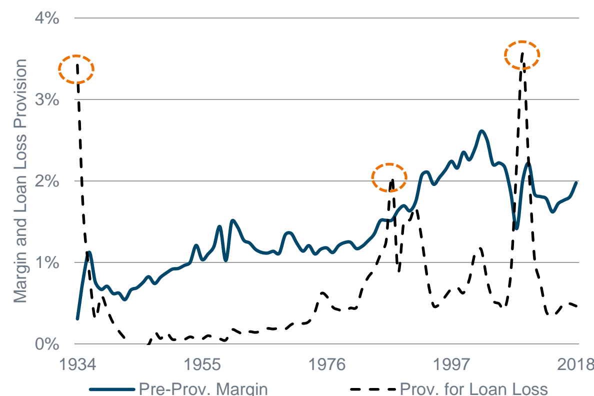
If the loss rate did increase to 10.3% and the banks were to lose USD 590 billion as we have modelled in this analysis, the Tier 1 (core) capital ratio would fall to 8.1% (from 13.1% in 2019), still above the acceptable minimum capital limit, assuming that banks suspend their dividends and share buybacks[3]. In this scenario the banks would take roughly four years to rebuild their capital, assuming they continue to earn USD 150 billion annually, their average net income since 2012.

While a prudent approach to dividends and share buyback is required, our analysis suggests that the US banks are well capitalised to sustain different economic scenarios associated with the COVID-19 pandemic.

**FIGURE 5. MARGINS AND LOAN LOSS RATES OF U.S. BANKS**




Source: U.S. Federal Deposit and Insurance Corporation, DWS, and CROCI. The chart shows the evolution of Pre-Provision Margin (Pre-Provision Profit / Tangible Assets) and Provision of Loan Losses (as % of Gross Loans). Data as available on 2 July 2020. For illustrative purposes only.

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