From Global Financial Crisis to COVID-19 Pandemic:

Lessons Learned and the Performance of the U.S. Banking Sector

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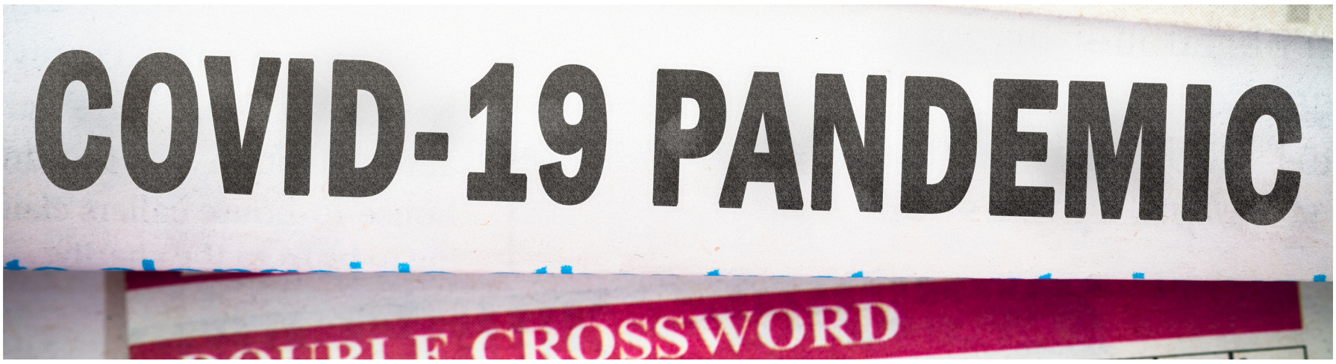


Highlights

- Prior to the onset of Global Financial Crisis in 2007, no U.S. regulation existed requiring the systematic stress testing, recovery and resolution planning for financial institutions
- In the aftermath of the Global Financial Crisis, U.S. banking regulators developed and implemented such a comprehensive, interagency framework
- COVID-19 emerged in 2020 as a global pandemic triggering a severe macroeconomic shock
- To date in the COVID-19 pandemic, the U.S. banking sector has proven to be resilient
- Banking sector performance over the duration of the pandemic and beyond will depend in large part on bringing the pandemic under control and the pattern of macroeconomic recovery

A Brief Look Back: The Global Financial Crisis

In banking sector crises, it is often difficult to identify a single triggering event or cause. Consider the Global Financial Crisis. On the eve of the crisis, the U.S. banking sector was performing well. Following are a few headlines from the FDIC's Q4 2006 Quarterly Banking Report:

- "Industry Reports Sixth Consecutive Record Earnings Year"
- "Deposit Growth Surges at Large Banks in the Fourth Quarter"

However, there were growing signs of increased risk as highlighted by the following quotes from the same Quarterly Banking Report:

- "Noncurrent Loans Register Strong Increase for Second Quarter in a Row"
- "Mortgage Portfolios Have Rising Delinquencies, Charge-Offs"
- "Coverage Ratio Falls to Three-Year Low as Reserves Shrink"

Additionally, growth in volatile liabilities (generally considered to be less stable funding than core deposits) outpaced core deposits over the period 2004 – 2006. In Q4 2006, volatile liabilities dropped by USD153 billion.

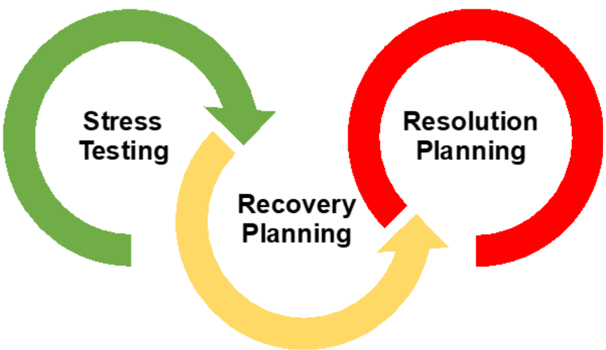
Highlighting the situation in 2006 in does not imply that the events set to unfold in 2007 – 2009, now known as the Global Financial Crisis, should have been foreseen. Rather, it reinforces the importance of regulators having tools in place to test the viability and resolvability of financial institutions.

Lessons Learned and Applied

Risk and performance of subprime mortgages is widely viewed as a trigger for the crisis. A number of factors, however, hindered risk containment and thus enabled a rapid spread of fear across the global financial sector. These include:

- Complexity of investment structures involving subprime mortgages
- Opaqueness around counterparty risk
- Funding structures employed by institutions, namely an increased reliance on volatile, wholesale funding

Stress Testing, Recovery and Resolution Planning Framework



Source: Financial Point Advisors analysis

Prior to the Global Financial Crisis, there was no comprehensive regulatory framework that subjected systemically important financial institutions, individually or in the aggregate, to robust stress scenarios and required them to maintain sufficient capitalization to withstand the associated potential risks and losses.

In the immediate aftermath of the Global Financial Crisis, U.S. financial sector regulators developed and implemented a coordinated, interagency program encompassing a) stress testing, b) recovery planning and c) resolution planning covering the vast majority of total U.S. banking assets.The figure below illustrates the relationship between stress testing, recovery planning and resolution planning.

At a high level, the elements of the framework can be described as follows:

- Stress Testing – Subjecting the institution to a range of scenarios to determine viability
- Recovery Planning – Management's plan to avoid failure and resolution
- Resolution Planning – Execution plan for orderly resolution via bankruptcy and liquidation

The table below provides further detail on each element of the framework.

Element	Objective	Responsible Agency
Stress Testing	Evaluate the resilience of large banks by estimating their losses, revenues, expenses and resulting capital levels, which provide a cushion against losses, under hypothetical recession scenarios into the future	Federal Reserve
Recovery Planning	Address the financial effects of severe stress events and avoid failure or resolution	Federal Reserve FDIC
Resolution Planning	Provide for an orderly resolution of a financial firm through bankruptcy and liquidation under the U.S. bankruptcy code in a manner that does not present systemic risk or shock to the financial system	Federal Reserve FDIC

Source: U.S. Federal Reserve, Federal Deposit Insurance Corporation, OCC Handbook

Importantly, institutions are required to demonstrate that they will have sufficient capital to meet minimum regulatory guidelines under all stress scenarios, including the severely adverse scenario. The current minimum capital ratios are: Total Capital (8%), Tier 1 (6.0%), Common Equity Tier 1 (4.5%) and Leverage Ratio (4%).

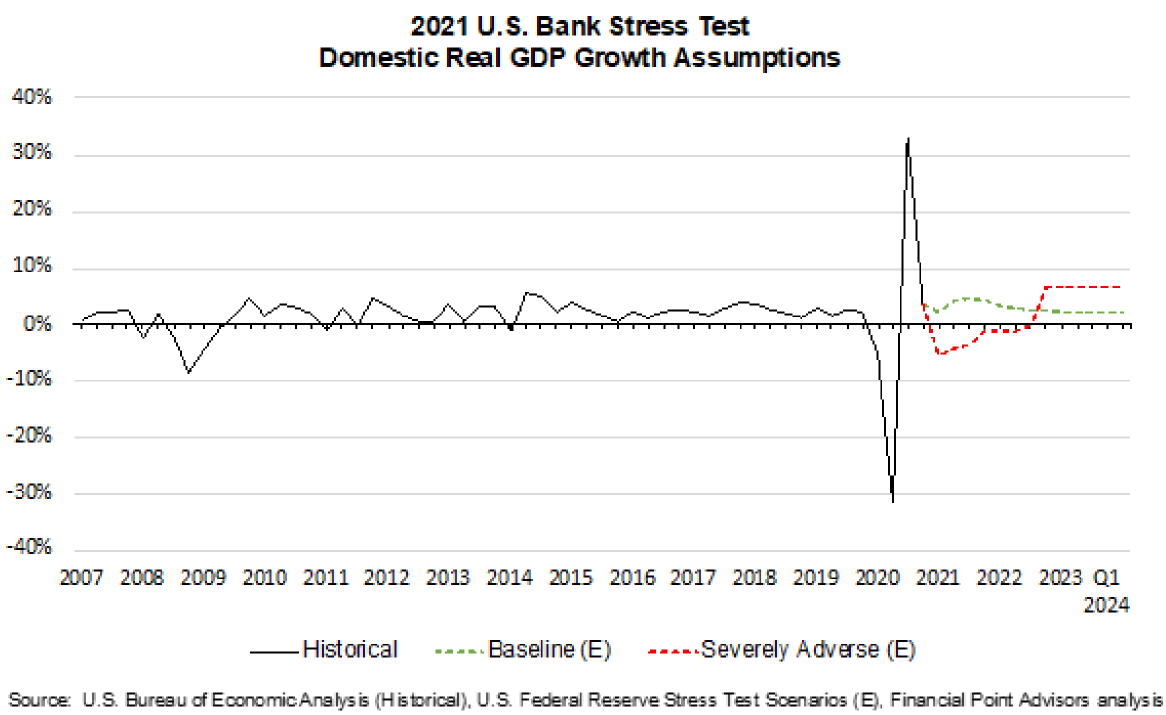
COVID-19 Pandemic and Macroeconomic Shock

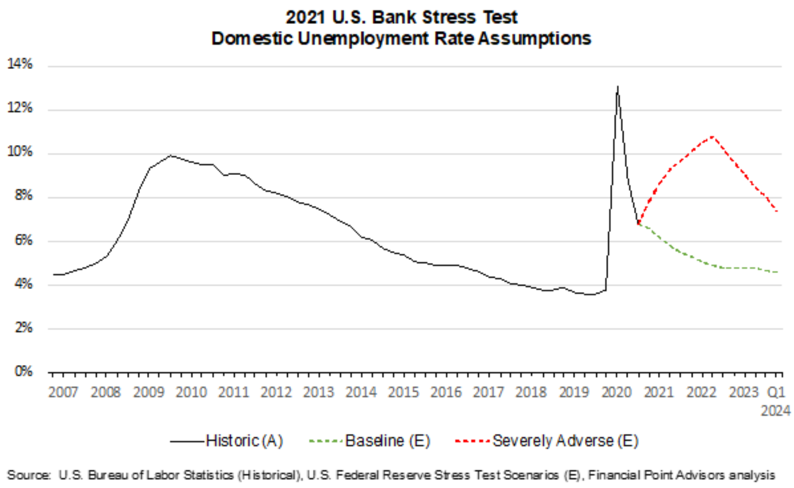
In the run up to 2020, the U.S. banking sector was performing well with sector-wide profits of USD237 billion in 2018 (record high) and USD233 billion in 2019. The noncurrent loan rate (NCL), measuring loans 90-plus days past due, was stable at 0.91%.

Unlike the years prior to the Global Financial Crisis, the vast majority of the U.S. banking sector was now undergoing annual stress testing, recovery and resolution planning. This arguably prepared the sector for the potentiality of a severely adverse macroeconomic event, should one occur.

As is now known, COVID-19 emerged as a health concern in late 2019 and was declared a global pandemic by the World Health Organization on March 11, 2020. In response, public health measures were implemented around the world in an effort to contain spread of the virus. Among the measures implemented were voluntary and mandatory social distancing including stay-at-home orders and lockdowns. A consequence of the measures was a significant slowdown in mobility and economic activity. This in turn triggered a near immediate macroeconomic shock exceeding regulators' severely adverse scenarios.

A benefit of having a comprehensive stress testing program in place is that regulators can be agile in responding to a changing macro environment. In 2020, the U.S. regulators updated the severely adverse scenario to account for the macroeconomic shock resulting from the COVID-19 pandemic. In February 2021, the assumptions were updated to reflect a recovering macro environment. Depicted below are the U.S. domestic Real GDP Growth and Unemployment assumptions around which banks were required to model in the upcoming round of stress tests.





To date in the COVID-19 pandemic, the U.S. banking sector has proven to be resilient.

2020 Hindsight: Performance of the U.S. Banking Sector

Early in and throughout the pandemic, the U.S. Government has responded with historic fiscal stimulus (USD5.0 Trillion) and substantial quantitative easing via monetary policy intervention. In addition, there is a Government-mandated pause on residential evictions through June 30, 2020 with a Consumer Financial Protection Bureau (CFPB) proposal to extend the moratorium until December 31, 2020.

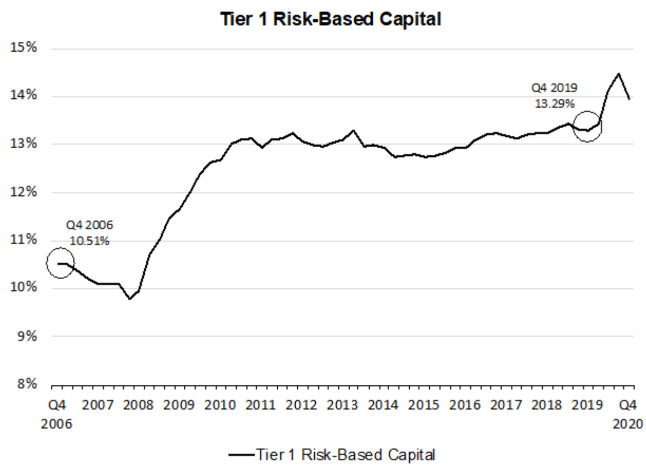
To date in the COVID-19 pandemic, the U.S. banking sector has proven to be resilient. Almost certainly, the above-mentioned Government intervention have served to mute the negative impacts of the pandemic. Notably, financial institutions have resoundingly demonstrated the ability to pass the 2020 stress tests – including additional severely adverse scenarios designed to account for the pandemic-induced shock.

Selected key performance indicators demonstrate the banking sector's resilience, including: Tier 1 Risk-Based Capital Ratio, Noncurrent Loan Rate, Charge-off Rate, Coverage Ratio, and Problem Institutions and Assets.

Tier 1 Risk-Based Capital Ratio

Tier 1 Risk-Based Capital Ratio is defined as a bank's Tier 1 capital divided by total risk-weighted assets. The graph below depicts the aggregate Tier 1 Risk-Based Capital Ratio for the U.S. banking sector from Q4 2006 (immediately prior to the Global Financial Crisis) through to Q4 2020.

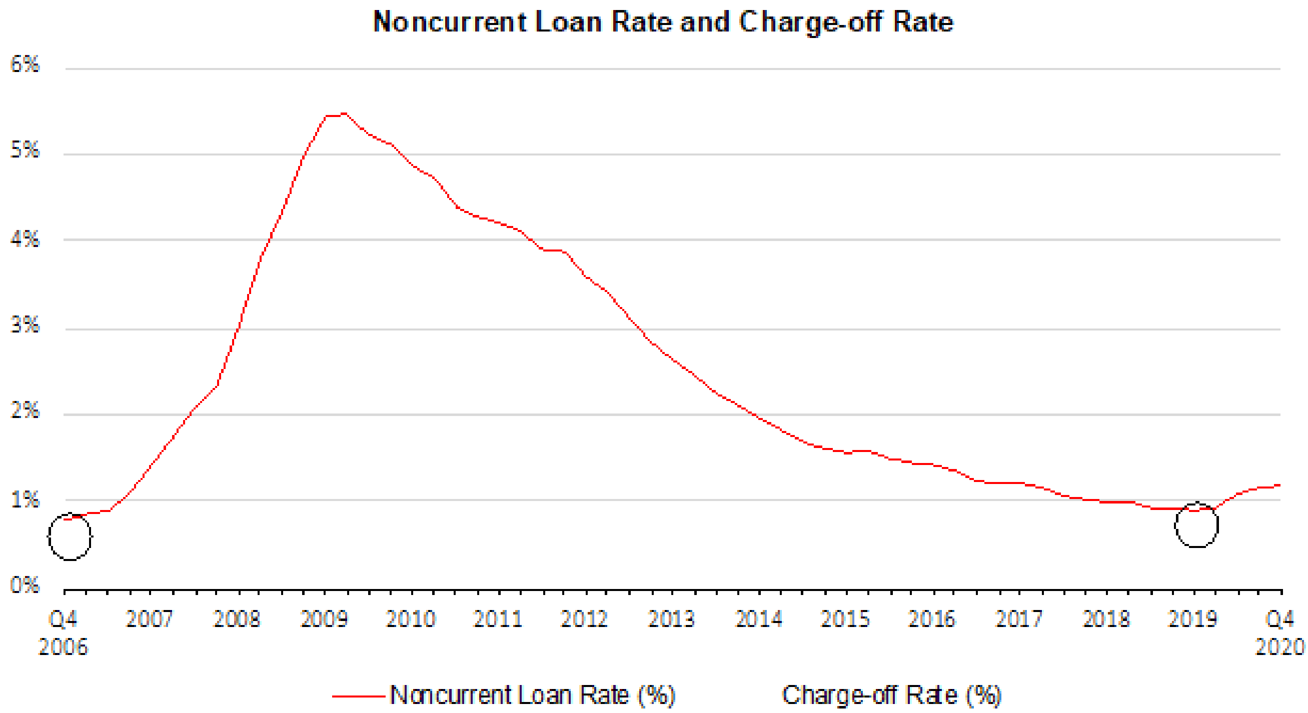
The level of credit portfolio deterioration was greater in the first year of the Global Financial Crisis as compared to 2020 (the first year of the COVID-19 pandemic).



As can be seen, the Tier 1 Risk-Based Capital Ratio in Q4 2019 (immediately prior to the COVID-19 pandemic) stood at 13.29% which is significantly higher than 10.51% in Q4 2006. **A clear take-away is that U.S. banks were significantly better capitalized going into the COVID-19 pandemic and thus in a better position to absorb potential losses.**

Noncurrent Loan Rate and Charge-off Rate

Noncurrent Loan Rate is defined as noncurrent loans (90-plus days past due) divided by total loans and leases. Charge-off Rate is defined as net charge-offs divided by total loans and leases. The graph below depicts the aggregate Noncurrent Loan Rate and Charge-off Rate for the U.S. banking sector from Q4 2006 (immediately prior to the Global Financial Crisis) through to Q4 2020.

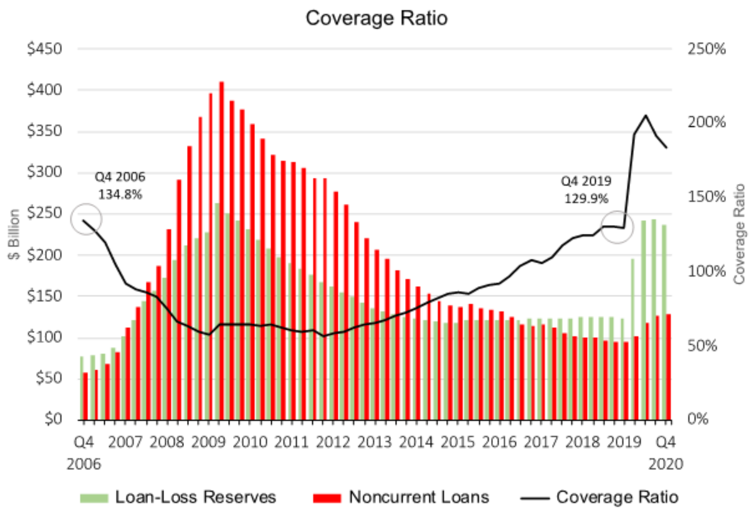


Source: Federal Deposit Insurance Corporation, Q4 2020 Quarterly Banking Report, Financial Point Advisors analysis

The Noncurrent Loan Rate in Q4 2019 (immediately prior to the COVID-19 pandemic) stood at 0.91% which was slightly above the 0.79% figure in Q4 2006 (immediately prior to the Global Financial Crisis). The Charge-off Rate in Q4 2019 stood at 0.54% which was slightly above the 0.47% figure in Q4 2006. Of note is the Noncurrent Loan Rate rose 27 basis points (a relative 29.7% increase) in the first year of the COVID-19 pandemic (2020) whereas it rose 63 basis points (a relative 79.8% increase) in 2007 (the first year of the Global Financial Crisis). The Charge-off Rate declined modestly in 2020 whereas the rate almost doubled during 2007. **A key take-away is the level of credit portfolio deterioration was greater in the first year of the Global Financial Crisis as compared to 2020 (the first year of the COVID-19 pandemic).**

Coverage Ratio

Coverage Ratio is defined as loan loss reserves divided by noncurrent loans (90-plus days past due). The graph below depicts the aggregate Coverage Ratio for the U.S. banking sector from Q4 2006 (immediately prior to the Global Financial Crisis) through to Q4 2020.



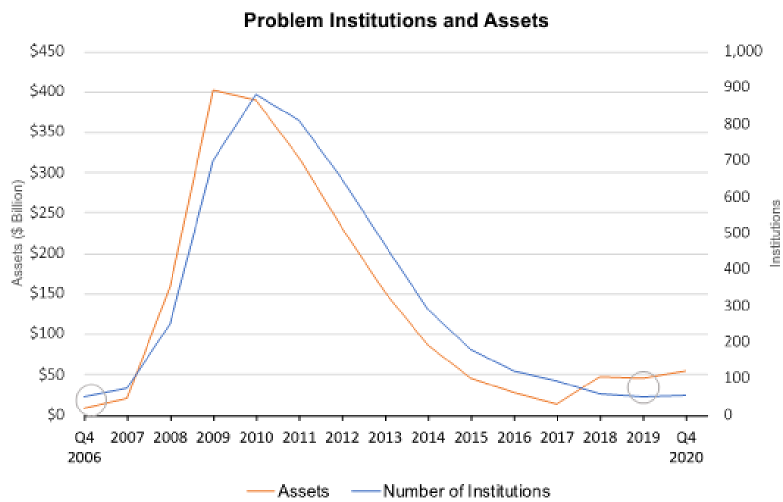
According to the FDIC, a problem institution is defined as those institutions having a composite CAMELS rating of 4 or 5.

The Coverage Ratio in Q4 2019 (immediately prior to the COVID-19 pandemic) stood at 129.9% which was slightly below the 134.8% in Q4 2006. Of note is the Coverage Ratio rose significantly in the first year of the COVID-19 pandemic (2020) whereas it declined sharply in 2007 (the first year of the Global Financial Crisis). A key take-away is that regulations drove enhanced provisioning in 2020 (as compared to 2007) and U.S. banks were significantly better positioned to set aside the reserves. The recently adopted Current Expected Credit Loss (CECL) provisioning methodology was a driver behind the Coverage Ratios. CECL was implemented in 2020 for the largest U.S. institutions (i.e. public, SEC filers).

Problem Institutions and Assets

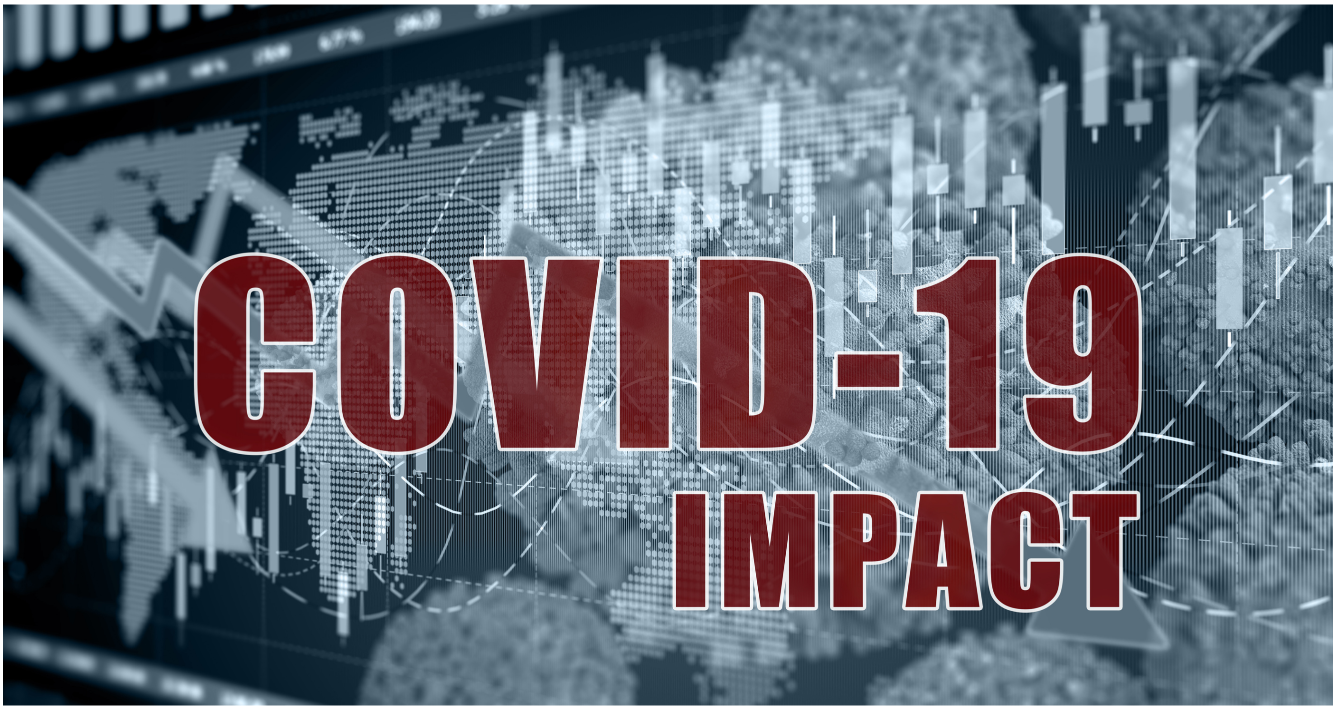
A further indication of U.S. banking sector performance is the movement in problem institutions and assets. According to the FDIC, a problem institution is defined as those institutions having a composite CAMELS rating of 4 or 5. An upward movement indicates an increase in both problem institutions and assets associated with such institutions. This is a lagging indicator as compared to asset quality indicators (i.e., noncurrent loans). The graph below depicts total Problem Institutions and Assets from Q4 2006 (immediately prior to the Global Financial Crisis) through to Q4 2020.

One year into the pandemic, there was a modest increase in both indicators to 56 problem institutions with $55.8b in assets.



Source: Federal Deposit Insurance Corporation, Q4 2020 Quarterly Banking Report, Financial Point Advisors analysis

Both Problem Institutions and Assets rose dramatically during the Global Financial Crisis. In Q4 2019, there were 51 problem institutions with USD46.2 billion in assets. As of Q4 2020, one year into the COVID-19 pandemic, there was a modest increase in both indicators to 56 problem institutions with USD55.8 billion in assets. As these are lagging indicators, it is too early to read too much into the modest increase during 2020.



Wrap Up and Key Take-aways

- Going into COVID-19, the U.S. banking sector was better positioned to absorb an external economic shock as compared to going into the Global Financial Crisis
- Peak-to-trough, it took multiple years for the negative impact of the Global Financial Crisis to materialize in the U.S. banking sector and it took several years to recover to pre-crisis levels
- Significant progress is being made on the public health front which provides hope that the COVID-19 pandemic may be brought under control and, in turn, business may return to "normal"
- While a post-mortem will take time – perhaps years – to fully assess, one key theme may well be that lessons learned – and implemented – from the Global Financial Crisis helped U.S. banks remain resilient in the face of the COVID-19 pandemic and one of the most severe global macroeconomic downturns in history

Contributing Editor

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Robert Young is the Managing Principal of Financial Point Advisors, LLC. He leverages over 30 years of global commercial banking, investment banking and financial advisory experience to provide a range of strategy, risk and transaction advice to corporate and financial sector clients. Robert has operated in a range of industry and advisory capacities across multiple financial sector crises in the U.S., Asia, Europe and globally. Being at the coalface through such crises and the follow-on restructuring and reform enables Robert to deliver deep insights and sharpened perspectives. Prior to Financial Point Advisors, Robert spent 17 years with Deloitte member firms globally where he established and managed client service offerings in Asia, Europe and the Americas.