

Record of Meeting
Federal Advisory Council and Board of Governors
Friday, November 22, 2019

Item 1: Current Market Conditions

What is the Council's view of the current condition of, and the outlook for, loan markets and financial markets generally? Has the Council observed any notable developments since its last meeting for loans in such categories as (a) small and medium-size enterprises, (b) commercial real estate, (c) construction, (d) corporations, (e) agriculture, (f) consumers, and (g) homes? Do Council members see economic developments in their regions that may not be apparent from the reported data or that may be early indicators of trends that may not yet have become apparent in aggregated data? Are there particular areas in which Council members see economic or financial risks beginning to emerge?

What is the Council's view of the current condition of, and the outlook for, loan markets and financial markets generally?

Economic growth in most geographic regions remains solid. Job growth continues in all regions and wages continue to increase steadily, due to the tight labor markets and increases in the minimum wage in some localities. Job vacancies are more difficult to fill than they have been historically. Consumer confidence also remains high. Actions by consumers and businesses indicate that they are still optimistic.

Overall, loan market conditions remain fairly strong. Volume remains stable, while rate competition is intense. Terms and conditions also remain quite competitive.

The Council's outlook for loan markets for the rest of the year and early 2020 is for continued moderate loan demand and rate competition. However, very recently, loan demand and capital debt markets have slowed.

Overall, financial markets are strong and functioning well, particularly following the recent re-initiation of Treasury purchases. We currently see no indications of this changing.

Has the Council observed any notable developments since its last meeting for loans in such categories as (a) small and medium-size enterprises, (b) commercial real estate, (c) construction, (d) corporations, (e) agriculture, (f) consumers, and (g) homes?

Council members observed only modest developments since the last meeting. Overall, credit quality remains steady and strong. Losses remain at historically low levels. Loan pricing and underwriting standards are very competitive in all categories.

- (a) Loan demand from small and medium-size enterprises is steady. However, there has been a very modest increase in demand recently.
- (b) Commercial real estate (CRE) demand is also steady, and delinquency remains at a very low level. CRE capitalization rates have, very recently, backed up just a bit.
- (c) Construction loan demand is reasonably strong, including for multifamily development. Construction of single-family residences is strong but varies widely among regions.
- (d) Corporate lending conditions were mixed. In September, commercial and industrial (C&I) loans from large banks increased at the slowest year-over-year pace in 11 months. Delinquency rates on C&I loans at large banks continued a moderating trend and are below 1%. Corporate profits were down year over year in Q3-19, and leveraged loan issuance was down nearly 40% YTD through Q3-19.

Over the past month, Council members have observed widening spreads and a lower risk appetite in the leveraged lending market, especially between single B issuance and BB. There has been a flight

to quality as investors become wary of lateness in the economic cycle. The environment has become more challenging as investors demand higher yields and tighter terms, especially from unrated, lower-rated, and more-cyclical sector issuers. Competition continues to be strong from both traditional lenders and nonbank participants.

- (e) Agricultural lending is slowing, and the industry is under tariff and price pressure. The value of farmland is declining, and the risk of loan problems is increasing. The trade war with China remains the most salient threat, weighing most heavily on the Farm Belt. Manufacturers could face further declines in overseas demand and even higher input costs, pushing the already contracting sector into a steeper decline. Government relief payments have become a significant revenue source for agriculture in general.
- (f) Conditions for loan growth in consumer real estate remain fairly strong overall. Single-family-residence refinance remains strong, while purchase finance is now slowing. Credit quality remains good, and aggregate delinquency rates are still very low. Automobile lending is holding up well. Demand is moderate to strong; delinquencies and losses are low. Credit card utilization is normal/strong, and delinquencies and losses remain steady and historically low.
- (g) Single-family home sales are slowing a bit. Increased rates, price run-ups, new tax laws, and short supply have all brought home-purchases down. Refinance loan volume has also slowed due to the recent rise in rates. Home prices are almost flat year over year in many markets, and sale times are extending modestly. Prices of upper-end single-family residences are slipping, sometimes significantly, in many urban markets. Entry-level and midrange single-family residence activity is steady.

Do Council members see economic developments in their regions that may not be apparent from the reported data or that may be early indicators of trends that may not yet have become apparent in aggregated data?

Most Council members do not see meaningful changes from last period's report in the general conditions of their regions. Overall, the Council sees strong consumer confidence, as well as decent loan demand and activity across almost all sectors, coupled with strong asset quality.

Are there particular areas in which Council members see economic or financial risks beginning to emerge?

Emerging risks seem limited or difficult to identify at this time. Lending is strong, and credits are stable. Debt-service capability seems steady.

Corporate leveraged lending, mostly outside the banking system, continues to be a concern, mostly around loan standards/covenants. The CLO market is experiencing some increase in rates and spreads. The spreads on secondary CLO tranches versus primary tranches are widening—sometimes a sign of problems to come.

The equity markets are at all-time highs; however, recently there has been a backup in IPO markets around several companies, with either poor aftermarket trading or withdrawal from proposed offerings.

Economic developments across regions are generally positive and steady. No unusual events, positive or negative. We see no early trends in either direction at this time.

Item 2: Employment and Inflation Dynamics

What are the labor market conditions in Council members' Districts? What strategies are employers using to hire and retain good employees? Are employee wages rising and, if so, how fast? Does the Council see any evidence that price inflation is picking up? Have Council members seen any direct effects of higher tariffs in their regions?

What are the labor market conditions in Council members' Districts?

Council members believe that employment conditions continue to remain strong throughout the nation, as national payrolls have increased for the past 109 months by an average of 197,000 jobs. Despite slowing job growth and recent declines in manufacturing employment, the unemployment rate was 3.6% in October 2019. Council members noted that competition for qualified labor is especially intense for skilled labor, with some customers of Council members' institutions commenting that it can take up to a year to fill open positions. Council members noted that the shortage of labor is resulting in their customers having to operate with open positions, which is impeding growth. According to the September 2019 Small Business Economics Trends survey from the National Federation of Independent Business, "50 percent [of small businesses] reported few or no qualified applicants for the positions they were trying to fill." The labor force participation rate has continued to move higher, with the October 2019 rate coming in at 63.3 percent. The rate has steadily increased from a low of 62.8 percent in April/May 2019. If this trend continues, it could provide some relief and spur additional economic growth.

What strategies are employers using to hire and retain good employees?

With labor markets at historically tight levels, employers, in addition to raising wages, are turning to other nonwage forms of employee compensation to hire and retain good employees. Although competitive salaries and benefit packages continue to be a major consideration, companies are utilizing a wide range of other strategies including:

- Developing in-house training programs
- Partnering with area vocational-technical schools to train new hires or recruit for open positions
- Providing flexible work arrangements (both hours and location)
- Diversifying geographic hiring
- Offering student loan or college savings assistance
- Offering perks (parking, childcare, gym memberships, etc.)
- Offering broad-based equity grants
- Loosening qualifications, including identifying other pools of talent (mental or physical disabilities or individuals with criminal records)
- Highlighting "mission and purpose" elements of the job when recruiting (volunteerism, commitment to diversity and inclusion, transparent leadership, values-based culture)

Are employee wages rising and, if so, how fast?

Wage growth remains near a cycle-high pace but with limited signs of acceleration, and not to the level that may be expected given the tight labor market. Average hourly earnings for all private workers grew 3.0% year over year in October 2019, the fifteenth consecutive month of growth at or above 3% year over year. Wages in lower-paid professions are growing at a faster pace, as hourly earnings for production and nonsupervisory workers increased 3.5% year over year. Nonetheless, Council members continue to maintain that while wage growth continues, the level of growth remains relatively subdued given the low unemployment rates.

Does the Council see any evidence that price inflation is picking up?

Council members see little evidence of price inflation picking up, as inflation has remained stable and modest in most areas. While higher wages and tariffs have put moderate pressure on firms' profit margins, consumers have typically been shielded from significant price inflation. The annual inflation rate increased to 1.8 percent in October 2019, from 1.7 percent in September, due to faster increases in the cost of food and medical care offset by continued declines in the cost of energy, particularly gasoline and fuel oil. The core inflation rate, which excludes volatile items such as food and energy, remains modest, edging down to 2.3 percent from 2.4 percent in September. Council members believe that upward pressure on wages and rising input costs and tariffs may lead to higher inflation in the future; however, to date this pressure has not manifested in increased price inflation.

Have Council members seen any direct effects of higher tariffs in their regions?

Going forward, economists expect the higher tariffs that have been imposed will drive prices higher for imported goods, elevating overall inflation. To date, the impact has not been significant, although certain Districts that are more reliant on trade specifically with China have reported lower profit margins due to price increases on commodities and other imported materials and parts. Companies have been absorbing these increased costs or only passing on a portion of the increased cost to the consumer. The Council noted certain companies with supply chains tied to China have begun to disclose the impact from the tariffs on their financial results. If companies are not able to continue to operate at lower profit margins, they will need to pass on more of the cost to the consumer, elevating overall inflation.

Item 3: Turmoil in the Repo Markets

What is the Council's view of the short-term funding strains that have unsettled markets in recent months? What additional actions, if any, should the Federal Reserve take to mitigate these problems? Do Council members anticipate any year-end effects of these funding strains?

Summary

Recent turmoil in repo markets has raised concerns about the stability and resilience of secured funding markets.

Pre-crisis, reserves in the financial system flowed from institutions that had excess reserves to institutions that needed reserves, through both unsecured interbank markets and secured funding markets. Post-crisis, the unsecured interbank markets have largely disappeared. The secured funding market (repo market) is now the predominant channel through which demand and supply for excess reserves meet and in which banks intermediate between participants.

The Federal Reserve's rapid and strong response to the rate spike in repo markets in September, through adding repo facilities and announcing the purchase of short-term Treasuries, has alleviated risks in funds markets. Likewise, the Council is encouraged by the Federal Reserve stating its intent to maintain these facilities through year-end.

Structural changes to markets may require recalibration of "ample" reserves over the medium term.

Council members broadly agree that a contribution to the recent experience is a regulatory environment in which banks are incentivized to hold reserves and are, therefore, less likely to deploy those reserves to capture short-term market opportunities. Council members expect to see manageable market volatility at year-end, as long as the Federal Reserve continues to provide open market operations in the current manner. Over the medium term, the Federal Reserve should review specific elements of the regulatory framework in order to help alleviate the structural bottlenecks to banks' providing necessary liquidity and leverage to the market. Some ways to alleviate bottlenecks include:

- Continue action as proposed to refine supplementary leverage ratio (SLR) requirements
- Review G-SIB scoring methodology to alleviate period-end stress
- Reduce the implicit preference for cash liquidity
- Reduce the frictions and stigma of using Federal Reserve facilities

Detailed Discussion

What is the Council's view of the short-term funding strains that have unsettled markets in recent months?

Council members broadly agree on the causes of the disruption. First order is the inherent structural fragility in repo markets. The regulatory environment has changed the ability of, and made it less desirable for, banks and dealers to provide liquidity and leverage. Repo markets have shrunk in size compared to the volume of outstanding Treasury securities (from 70% in 2006 to 15% today). These first-order factors were

underestimated by the market and exposed in September when second-order factors caused a temporary mismatch between the supply and demand for funds. This mismatch was caused by pressure on bank reserves due to a number of large payment and settlement events occurring together, causing a significant spike in repo rates.

While banks did step in by reallocating excess cash reserves to repo, it was not enough to meet rising demand. Regulatory and risk appetite frictions, some of which are the product of stigmas that have persisted since the crisis, prevented banks from doing more. Post-crisis regulatory policy has elevated banks' preference for cash through liquidity supervision and, as a result, have had an impact on banks' reputational risk appetites. Many banks model liquidity stresses using the strict assumption of no access to intraday and overnight facilities provided by the Federal Reserve.

Do Council members anticipate any year-end effects of these funding strains?

The disruption subsided with the injection of substantial market liquidity by the Federal Reserve. However, Council members generally expect to see further instances of volatility in the repo markets. To ensure smoother markets, the Council encourages the continued strong response from the Federal Reserve. In addition, care should be taken to reduce stigma. At year-end, the calculation period for G-SIB capital surcharges presents an additional concern, as market participants may shrink their balance sheets.

What additional actions, if any, should the Federal Reserve take to mitigate these problems?

The Federal Reserve should (1) monitor ample supplementary facilities until the market reserves appear sufficient (2) continue to assess policies to target abundant or ample reserves.

Council members also support the goals underpinning post-crisis regulatory reform and recommend that the Federal Reserve, with its peer regulators, review specific design and calibration elements that aim to structurally enhance banks' ability to provide necessary market liquidity and stability, including:

- Implement supplementary leverage ratio (SLR) requirements as already proposed.
- Redesign G-SIB scoring methodology to ensure it lessens volatility. U.S. G-SIB scoring methodology is based on total absolute exposure. Because exposure measures do not differentiate between higher-risk/yield loans versus low-risk/yield Treasury repo financing, the methodology has the obvious effect of crowding out the latter, as growing the overall balance sheet will risk a higher score and therefore a higher buffer.
- Reduce implicit preference for cash versus Treasuries for liquidity supervision and reduce frictions to the use of Federal Reserve facilities. While the liquidity coverage ratio (LCR) treats cash and Treasuries as equivalent high-quality liquid assets, supervisory activity, including resolution planning and liquidity stress testing, are biased towards cash. By making it explicit that Treasuries will be treated on an equal footing with cash across all supervisory activity, the Federal Reserve could potentially reduce some of the demand for excess reserves and free up incremental capacity to provide repo. To this end, assumptions on the use of Federal Reserve intraday facilities and the creation of a standing repo facility would allow significantly lower levels of cash reserves, if accompanied by a program to address any persisting stigmas.

Item 4: Monetary Policy

How would the Council assess the current stance of monetary policy? How does the Council view the prospect of low, zero, or even negative interest rates in the U.S. and the impact these rate scenarios would have on banks, their customers, and the efficacy of monetary policy?

How would the Council assess the current stance of monetary policy?

The Council views the stance of monetary policy as mildly accommodative and appropriate in the current environment of moderate economic growth, strong labor markets, and inflation near the Federal Reserve objective of 2%. This policy is consistent with the dual mandate of maximum sustainable employment and price stability as it is measured by the core PCE (personal consumption expenditures) price index.

Looking forward, the Council believes the Federal Reserve should pause on further changes to the target rate and allow time to assess the impact of the three recent rate cuts on household and business spending. The Council does not see signs of a significant slowdown in the U.S. economy. Recent weakness in the manufacturing sector has largely been offset by continuing strong levels of consumer confidence, supported by wage growth and low unemployment.

The Council discussed the possibility of continued rate cuts. In addition to considering the current economic environment, the Council concluded that a stabilization of rates at current levels would give the Federal Reserve the flexibility to move in the case of market or economic shocks caused by slowing economic growth, a trade conflict, or other macroeconomic risks. As previously stated, the target range of 1.5% to 1.75% is appropriately accommodative compared with a neutral rate, currently estimated at 2.5%.

Also, the Council took note of Chairman Powell's recent comments regarding the long-term challenges posed by the level of U.S. government debt growing faster than the economy. The Council also notes a long-term downtrend in incremental U.S. nominal GDP per \$1 of incremental nonfinancial debt, which underscores the diminishing productivity of debt.

How does the Council view the prospect of low, zero, or even negative interest rates in the U.S.?

The Council does not believe that zero or even negative rates are an appropriate monetary policy for the U.S. economy. At current low interest rates, U.S. inflation targets are close to being met, while maintaining nearly full employment. In addition to domestic influences on the U.S. economy, current U.S. monetary policy reflects headwinds throughout the world's advanced economies that are contributing to historically low interest rates on a global basis. Low birth rates, aging populations, and excess global savings have contributed to a structural reduction in the neutral real rate of interest. Against this backdrop, there is limited evidence that the use of negative interest rates in Japan and Europe has improved economic conditions.

The Council believes that the greater issue, on a longer-term basis, is that low, zero, or even negative interest rates lead to diminished economic growth. When the real interest rate is set too low, previously un-economic projects are feasible, the closure of un-competitive capacity is delayed, new (small) business competition is sporadic, and overall speculative market activity increases risk. The outcome is that capital is consumed even as speculative leverage rises, while productivity growth slows and potential GDP growth falls.

As such, the Council believes that, in the long run, lower or negative rates, may be detrimental to economic growth. Reducing the U.S. economy's dependence on low interest rates would require government policies that are beyond the scope of monetary policy. Public policy should be focused on improving the supply side of the economy, specifically on increasing the size of the labor force and improving productivity. For example, the Council notes that if U.S. real GDP growth of 3% is to be achieved and sustained, then productivity growth of approximately 2% and labor force growth of approximately 1% will be required. The former requires stronger U.S. capital spending, investment in technology, and extensive infrastructure modernization, while the latter requires immigration reform and higher labor force participation.

What is the impact these rate scenarios would have on customers, banks, and the efficacy of monetary policy?

Possible Implications for Banking Customers

A prolonged period of zero interest rates may create asset-pricing bubbles and misallocation of capital that could have adverse long-term implications, especially if negative rates eventually pass through to the consumer. While negative rates have, on the whole, been bad for banks, credit issues have not been in the forefront of bank concerns, at least for now. Indeed, negative or low rates have encouraged nonfinancial corporate borrowers to use excess cash to buy back stock or reinvest in their businesses. However, when consumers are faced with a negative rate environment, any portion of their assets prudently set aside for savings may instead be redirected to riskier and riskier assets, in a chase for yield. This scenario could be especially harmful to retired savers who have limited other sources of income, particularly when the credit

quality of inflated assets begins to deteriorate. Similarly, asset managers may also be compelled to reach for yield and push for looser terms, exposing themselves and the banks where they borrow to a more severe downgrade in the event of a market correction.

Impact on Banks

Maintaining U.S. bank profitability will help preserve the financial sector's capabilities to support economic growth. European and Japanese banks are more stagnant than their U.S. counterparts and have less ability to sustain economic vitality in their geographies. By "keeping its powder dry" while the economy remains solid, the Federal Reserve would have more tools to use in the event of macroeconomic shocks. This flexibility would hopefully avert negative interest rates.

Negative interest rates damage bank profitability, limiting banks' accumulation of capital and their appetite to lend. Bank net interest margins (NIMs) are put under significant pressure from low and negative interest rates. The trends in NIMs are determined by balance sheet structure, the level of interest rates, and the duration of the level of interest rates. As compared to the NIMs of banks in the euro zone, U.S. NIMs are structurally higher for two reasons:

- Residential whole loan mortgages with low spreads are primarily held on European, but not U.S., bank balance sheets.
- Large corporate loans with low spreads are held on balance sheets in Europe but are securitized in the U.S.

U.S. bank NIMs appear to be about 50 basis points higher than European bank NIMs, from a structural standpoint. Today, the nearly 100-basis-point difference in NIMs is due not only to structural differences but also to low or negative rates in Europe.

As a result of this structural difference, U.S. banks are better positioned to maintain profitability in a low and negative rate environment than their Japanese and European counterparts. The Council estimates that bank profitability, as measured by tangible return on common equity, could fall by as much as 600 basis points in an extended period of negative interest rates. Nonetheless, U.S. banks would continue to be more profitable than their global counterparts.

Based on the experience of the Great Recession, the financial system seems able to function with rates lower than today's rates, albeit less profitably. However, another round of near-zero rates could result in banks having to increase customer fees in order to offset their lost net interest income and might also require some businesses to consider staffing changes to remain profitable. These pressures would be particularly acute in a negative rate environment. In all likelihood, banks would be forced to absorb some costs while effectively passing along others to depositors and borrowers.

Firms with already low funding costs would have difficulty repricing deposits any lower. Banks that originate mortgages and hold them to maturity would be more subject to prepayment risk if rates drift closer to zero. This risk should be less acute now than in years past because fixed mortgage rates have remained comparatively low for over a decade.

The Council also notes that large regional banks and community banks would be disproportionately harmed by negative rates, as they are especially reliant on net interest income.

Efficacy of Monetary Policy in a Zero or Negative Rate Environment

The Council believes that the Federal Reserve's ability to combat a weakening economy would be severely compromised in an environment of zero or negative interest rates. This is of particular concern when fiscal remedies are less likely to be available or constrained because of budget deficits and when such fiscal policies are subject to mustering political action and consensus building. For this reason alone, we believe further policy to lower rates, especially in the absence of economic weakness, is counterproductive. Finally, while much has been written about the dangers of building inflationary expectations into consumer and producer behavior, we think the reverse is also true. The dangers of deflationary expectations being built into the economy could suppress both consumer and capital spending. In light of these concerns and given

that the Federal Reserve has achieved an appropriately accommodative policy setting, the Council believes that inflation measures should be allowed to run above the 2% objective to allow for a symmetric achievement of the inflation target.

Item 5: The Evolution of Bank Supervision and Regulation:

- **Due Process: What actions could the Federal Reserve take to improve due process in its bank supervisory activities, as a process distinct from bank regulation?**
 - **Impact of Tailored Regulatory Standards: The Board recently finalized rules that tailor regulations for domestic and foreign banks to more closely match their risk profiles. How do Council members anticipate these changes will impact banks' business models?**
- a. **Due Process: What actions could the Federal Reserve take to improve due process in its bank supervisory activities, as a process distinct from bank regulation?**

Council members believe that due process in bank supervision is a foundational component of an efficient and effective banking system. Essential elements of due process include (1) ensuring predictability and transparency, (2) establishing a clear definition of materiality, (3) maintaining robust examiner training programs, and (4) providing for an effective appeals process. Council members believe that continuing to strengthen interagency coordination, ensuring a standard application of interagency guidance, and expediting examination feedback are all important steps toward improving due process.

Continue to strengthen interagency coordination

Council members have observed that enhanced coordination among the banking regulators has improved efficiency and effectiveness. We encourage regulators to continue these efforts, including the issuance of interagency standards, to promote consistency, clarify procedures, and minimize redundancy while maintaining a comprehensive review process. The annual interagency exam under the Shared National Credit (SNC) Program is an example of improved coordination.

Ensure a standard application of interagency guidance

Consistency, transparency, and predictability should be hallmarks of the examination process. An interagency statement clarifying the role of supervisory guidance (SR 18-5) explains the difference between guidance, laws, and regulation; describes consistent policies and practices for examiners; and supports the formal rulemaking process. Taking additional steps to promote supervisory adherence to this SR 18-5 and formalizing standards would help provide clarity on requirements and improve consistency in application of the supervisory guidance. Financial institutions are in the best position to meet or exceed supervisory expectations when the rules are clear and consistently applied. Developing additional training for examiners on the supervisory guidance and implementing an independent quality-review process would further standardize practices across examiners, Districts, and charters. This review could also be used to update and clarify requirements and training programs as needed.

Expedite examination feedback and facilitate efficient remediation

Shortening the time between completion of fieldwork and the delivery of exam findings helps financial institutions address issues quickly, promoting safety and soundness in the financial system.

Developing minimum standards to provide examination feedback, as well as a standard review process to confirm a consistent understanding of facts and requirements, would be meaningful improvements. These enhancements would help ensure remediation efforts are aligned with the highest-priority and most relevant topics, which is especially critical in periods of heightened economic and financial risk.

The post-examination process could be enhanced by developing clear standards of review and a roadmap that articulates an acceptable approach to resolving issues, as well as a method to verify results. All of these actions would help facilitate an institution's prompt remediation of issues and allow banks to resume their role in promoting economic growth more quickly, improving the overall health of the financial system.

b. Impact of Tailored Regulatory Standards: The Board recently finalized rules that tailor regulations for domestic and foreign banks to more closely match their risk profiles. How do Council members anticipate these changes will impact banks' business models?

The Federal Reserve's finalization of rules under the Economic Growth, Regulatory Relief, and Consumer Protection Act (EGRRCPA) tailors regulatory requirements to the risk profiles of institutions in a way that does not compromise the resiliency gains that banks have made since the financial crisis. The new standards create four categories of institutions: the largest banks (categories I and II) will receive the highest level of regulation, and less complex regional banks that present less systemic risk (categories III and IV) will receive significant regulatory relief.

Tailoring efforts are a material improvement in regulatory efficiency related to liquidity and capital planning requirements, making it easier for regional banks to provide credit to consumers and businesses in the communities where they operate. The revised requirements move away from a "one size fits all" approach and offer smaller, less complex banks more flexibility in managing liquidity and capital in accordance with their risk profiles. For example, firms that have lower risk and earnings volatility may hold lower levels of liquid assets compared with higher-risk firms.

Eliminating company-run stress testing for category IV banks is a beneficial first step but is unlikely to have a significant impact on banks' capital requirements, stress testing practices, and business models. While the tailoring rules eliminate company-run stress testing for category IV banks, the Capital Plan Rule continues to mandate such tests. Also, the current design of the supervisory stress test process requires capital levels that support planned distributions, even if those distributions would be prohibited by a firm's capital policy, creating inefficiencies for individual banks and for the broader financial system. To realize full benefits from tailoring efforts, the final tailoring rule needs to be implemented in conjunction with the Stress Capital Buffer proposal (Docket No. R-1603). Taken together, these changes will allow banks to more efficiently reinvest capital and provide more lending in their communities.

The Council encourages the agencies to finalize the rules as expeditiously as possible and appropriately tailor the supervisory process to align with regulatory requirements in practice. Supervisory training programs may help ensure a consistent implementation approach.

Item 6: GSEs

The Administration and the current director of the Federal Housing Finance Agency (FHFA) are looking for ways to move Fannie Mae and Freddie Mac out of conservatorship. Does the Council have views on the best way to accomplish this objective? Since congressional action seems unlikely, what is the best administrative approach? Are Fannie Mae and Freddie Mac integral to the financial system? Should they be judged as systemically important?

Meaningful GSE reform will entail legislative and administrative components:

- *Legislative* -- the explicit guarantee for conventional single-family and multifamily mortgage-backed securities (MBS), with the federal guarantee conditioned on the GSEs taking or mitigating first-risk loss.
- *Administrative* -- GSEs begin re-capitalization by no longer passing retained earnings to the Department of the Treasury and possibly through outside equity investment.
- *Administrative & Legislative* -- Mission focus with continuation of FHFA adjustments, including reducing the size of GSEs in the mortgage market and leveling the playing field for private issuance.
 - o Potential elimination of GSE participation in mortgages that are higher risk or not core to homeownership, for example, investor properties, cash-out refinance, vacation or second homes, etc.

Does the Council have views on the best way to accomplish this objective?

The Council supports the efforts of the U.S. Treasury and FHFA toward removing the GSEs from conservatorship, including the initiatives laid out in the U.S. Department of the Treasury Housing Reform Plan. These efforts hinge on an explicit paid-for guarantee on MBS collateralized by eligible conventional mortgage loans.

Since congressional action seems unlikely, what is the best administrative approach?

An effective way to implement a solely administrative approach may be an iterative one, in which FHFA and Treasury are able to demonstrate that the GSEs are:

- Continuing to build capital through retained earnings.
- Appropriately regulated to reduce the risk of needing capital from the U.S. government in the future.
- The correct size and scope to satisfy housing needs and to ensure that private issuers are on a more level playing field.

If the above are demonstrated, the GSEs will have a better chance of attracting additional capital investment to fully recapitalize and exit conservatorship, barring legislative action.

Some Council members expressed significant concern that the expiration of the “GSE patch” without a defined plan to replace it could have dramatic negative consequences for the housing market, resulting in more expensive or unavailable credit.

Are Fannie Mae and Freddie Mac integral to the financial system?

Currently, Fannie and Freddie are highly integral to the financial system. In 2019 alone, they have issued approximately \$800 billion MBS and have \$4.6 trillion in outstanding balances, or approximately half of the single-family mortgage market. As changes to the GSEs occur, the mortgage market must be preserved with little disruption.

Agency MBS are a critical backbone of the financial services industry. They are low-risk investments used for liquidity and capital management. The market for agency MBS is one of the most liquid in the world. Foreign buyers own approximately 14% of agency MBS outstanding, and MBS are highly sensitive to the existence of an explicit or implied U.S. guarantee.

Should they be judged as systemically important?

As presently constructed, the GSEs are systemically important beyond the size of their balance sheets, given their outsized importance in the functioning of the U.S. mortgage market. Because GSE products serve the majority of American homebuyers, the GSEs must be judged as systemically important.

Item 7: Shadow Banking

The Financial Stability Board (FSB) estimates that nonbank intermediaries’ share of total financial system assets is now 36 percent and growing. What are the implications of the growing role of shadow banking for financial stability and for the likely duration and depth of the next economic downturn?

Shadow Banking Market

As defined by the FSB, “shadow banking,” or nonbank financial intermediation, is credit intermediation involving entities and activities (fully or partly) outside the regular banking system. For purposes of this discussion, nonbank financial services companies (nonbanks) include lightly regulated or unregulated commercial and consumer lenders, payment and servicing companies, and a variety of other fintech firms. The Council recognizes that nonbanks have been enduring participants and an important component of the financial system. This sector plays influential roles, including non-traditional lender, lender of last resort for troubled borrowers, and innovator for the financial system.

While banks' share of total global financial assets has declined, the share of nonbanks has increased, in both absolute terms and relative to GDP, and now accounts for more than 30% of global financial assets. The shift in market share is significant in the U.S., where approximately 50% of mortgage loans and more than 70% of leveraged commercial loans are underwritten and/or held by nonbanks. This increase in share has been a direct outgrowth of changes in regulation following the Great Recession, a long period of attractive terms of funding and credit (rate and availability), a generally benign credit environment, and the increasing influence of technology in the banking sector.

The interplay between banks and nonbanks can take a variety of forms but occurs across two primary categories—funding and credit interconnectedness. Banks may be connected to nonbanks through ownership stakes, partnerships, and the provision of short-term funding to nonbanks.

While some nonbanks are subject to regulation, they are considerably less regulated and less transparent than banks. This disparity in the level of regulation, along with a nonbank operating model that includes (i) lower capital levels, (ii) lower operating costs (compliance and risk), and (iii) the ability to be more flexible in credit structure, has resulted in nonbanks growing more rapidly and gaining share.

The FSB has recognized that more work is needed to further strengthen oversight of this market and implement necessary reforms. The Council supports current coordinated regulatory activities that are aimed at increasing transparency in the shadow banking market, identifying inherent risk, and determining where additional oversight is warranted.

Implications for financial stability

Potential for increased credit risk across markets

- Nonbanks can feature high leverage, maturity and liquidity mismatches, opaque structures, and concentrated holdings of risky assets. These elements can lead to lower lending standards and procyclicality. Nonbanks may be negatively influencing broader market underwriting, pricing, and the ongoing administration of credits.
- With respect to consumer and small business lending, some fintech lenders are using alternative data to assess the credit quality of borrowers. While these new and changing approaches to credit underwriting have improved loan approval and funding times, they have not been tested through a full economic cycle and downturn.

Liquidity volatility in the debt markets

- While nonbanks may be able to afford buffers in times of stress, weaknesses in these institutions could result in illiquidity when markets deteriorate.
- Access to funding will determine whether nonbanks can manage through a credit/economic downturn. The warehouse line/CLO markets drive liquidity in the shadow banking market. When demand for the senior-debt asset class declines in an economic downturn and when credit quality declines for loans held in warehouse lines, significant volatility could be introduced to the ecosystem.

Implications for the likely depth and duration of the next economic downturn

- Because the nonbank market is less transparent, it is difficult to gauge the full potential impact of nonbank activities on the likely depth and duration of the next economic downturn. Potentially higher credit defaults resulting from more aggressive nonbank lending could affect liquidity across capital markets, making it more difficult for stronger bank borrowers to roll over their debt at maturity and magnifying the effect of defaults on the economy during a recession/downturn.

- Nonbanks generally do not have a robust workout and restructuring department that will work with borrowers to arrive at the best overall economic outcome. In contrast to a bank's more patient strategy of working with corporate and individual borrowers, many nonbanks may sell troubled exposures to distressed debt players, increasing the likelihood of foreclosure/liquidation.
- The stability, scale, and capital strength of other nonbank entities, such as nonbank mortgage servicers, could be of concern as the credit environment deteriorates and delinquencies, modifications, and defaults require a higher level of financial and execution resources.

Council members note that while the growth of shadow banking presents new risks to the system, in the long term, nonbank collaboration with banks and the oversight that banks bring to the shadow banking/fintech sector will partially mitigate any negative impact caused by nonbanks in a downturn. Additionally, while concerns about the growth of this sector have some justification, these concerns may be overdone, as many nonbanks, particularly fintech companies, are collaborating with banks as opposed to disrupting them.

The Council believes that a careful study of the potential impacts on the financial system by the activities of nonbank financial intermediaries and shadow banks is warranted. The Financial Stability Oversight Council and the FSB have begun this work, and it should continue, particularly as several of these nonbank financial institutions are performing many functions that traditional banks undertake.

Item 8: Innovation in Banking

What are the most promising uses of artificial intelligence or machine-learning tools in banking? Are there impediments to using these technologies in the business of banking? In particular, what privacy concerns do these technologies raise and how are banks dealing with them? What is the experience of Council members with cloud storage and computing? In the Council's view, what are the security concerns raised? Are there opportunities for further regulatory or supervisory clarity around the use of cloud services by banks?

What are the most promising uses of artificial intelligence or machine-learning tools in banking?

Robotic process automation (RPA) is increasingly being deployed by banks to assist in the processing of repetitive tasks. RPA is rule-based software that has no intelligence and automates repetitive tasks.

For more challenging activities, including analytical tasks, the use of artificial intelligence (AI) and machine-learning (ML) tools continues to expand and has the potential to facilitate improvements for banks and their customers. AI is the simulation of human intelligence by machines. These tools provide banks with the opportunity to increase the usability of their services, while also reducing costs over the long term. Today, AI and ML are already being used for risk management and compliance activities, such as fraud prevention and detection, know-your-customer requirements, and BSA/AML. Perhaps the most promising uses are those that involve the customer experience, including credit underwriting and decisions. Other uses include the management and analysis of large data sets at high speed to produce better insights on what matters most for banking customers, while also improving bank operational efficiency.

Within risk and compliance, AI and ML tools are also showing great promise. ML is being used to find new fraud and cybersecurity patterns. RPA has been deployed to help fraud and AML investigators collect the documentation and evidence needed for due diligence – increasing the speed, accuracy, and consistency of suspicious activity reporting. These tools also support know-your-customer activities by detecting and verifying customer identity through voice authentication.

The overall customer experience can potentially be greatly improved with AI and ML. These tools can improve the quality and consistency of recommendations to customers (as a function of having a more robust data set and interaction history on customers), which allows banks to provide customers with a more personalized experience, deepen customer relationships, and offer customers additional or alternative products for their consideration. Financial advice, customized marketing offers, lead generation, and data-

driven lending decisions all have the potential to be improved through the use of AI and ML tools. Conversational AI is being used to improve customer satisfaction with chat and voice interactions.

Are there impediments to using these technologies in the business of banking?

Impediments to using these technologies include those related to human capital, potential customer backlash from the lack of transparency of the automated rules for credit decisions, and the existing audit and regulatory framework. Technology adoption costs, complexity, the quality of existing data and processes, and customer preferences for human interaction are also important considerations that may be challenging for some institutions.

Human capital is a potential impediment, as banks may face fallout from their employees, including lower morale, job losses, and reassignments, due to the automation of tasks. This negative sentiment could slow the adoption of new technologies. Also, the work performed by employees in areas leveraging AI and RPA will likely change, as banks come to rely more on expert resources like data scientists, which can be scarce. Therefore, the skill sets of today's workers may ultimately differ from those that will be required as technologies advance.

Customer backlash could result from a lack of transparency about the automated rules underlying credit and other decisions. While deep learning models and neural networks in AI have been suggested to be more effective than human decision making, they are often not transparent in terms of revealing how conclusions were generated. If not properly managed, the opaque nature of these tools could lead to adverse consequences, such as the embedded biases of the modeled output. Further, under fair credit reporting, customers must be provided with the basis for adverse credit action. Banks need to ensure that automated decision engines leverage the appropriate rules to put the customer's interest first.

The existing audit and regulatory framework is another potential impediment. Legal, compliance, and risk oversight is needed for decision engines that can change in real time, which can be difficult to validate. Business units will need to adapt their operating models and workforces to effectively navigate these new technologies. To take full advantage of AI opportunities, there are enterprise considerations for banks, including: a well-defined risk appetite and compliance requirements; identity management and security programs; controls integration, logging, and traceability; and business continuity.

Finally, these considerations regarding AI and ML extend well beyond the world of banking. No clear framework of rules has been established (across all industries) on the use of AI and ML; for example, embedding relative safety choices within autonomous vehicle technologies presents unique challenges. Council members discussed a 2018 article, "How the Enlightenment Ends," by Henry Kissinger that put forth the following consideration: "How will we manage AI, improve it, or at the very least prevent it from doing harm, culminating in the most ominous concern: that AI, by mastering certain competencies more rapidly and definitively than humans, could over time diminish human competence and the human condition itself as it turns into data."

What privacy concerns do these technologies raise and how are banks dealing with them?

Privacy concerns with these new technologies include customers' perceived invasion of their privacy and the management and oversight of data. To address these concerns, privacy management and controls for these technologies should leverage similar tools already being used for existing channels and technologies. Identity and access management, customer information protection, and cloud management audit and controls are areas that should be systematically considered.

These new technologies need to be subject to the same identity verification, access management, and other controls that current technologies require. For example, if a transaction is processed by a chatbot, the customer should be fully authenticated using the same foundations that other existing channels use, before proceeding with the transaction execution.

Protection of customer information is critical. The use of customer information and how it is processed and distributed by the bots and RPA tools should leverage existing technologies, such as masking and intelligent

routing, to provide customers with the same protections they receive when interacting with other channels. These new technologies are often deployed leveraging cloud-service providers. The access, transmission, and storage of customer data required by these vendors need to be defined, managed, and audited to ensure customer protection and data privacy.

What is the experience of Council members with cloud storage and computing?

Banks are turning to cloud storage and computing, employing it as a business asset to increase competitiveness, reduce costs, reshape their operating models, develop new applications, improve the speed at which they deliver products and services, and enhance the customer experience.

The benefits of cloud migration can be significant and include accelerated time to market due to the ease of technology provisioning. Innovation and talent retention are also improved, as many advancements are now developed with cloud-native capabilities. Scalability and flexibility are improved, as banks can add capacity much more quickly and scale down technologies automatically when not in use. Adoption of cloud services enables a shift from capital expenditures to operational expenditures. Cloud technology is rented by the second, in contrast to multiyear capital investments. Additionally, cloud services have built-in resiliency, security, and improved disaster recovery.

Most banks today have started some migration to the cloud environment, while still operating their own traditional data centers. This hybrid approach seems to be working well for most banks. The costs of migrating to a cloud environment can be substantial in the near term, particularly as many banks incur the depreciation of the costs of data centers that had been constructed over the past five to ten years. Council members reported that one large financial institution has been operating under the objective to become fully cloud-based by mid-2020.

In the Council's view, what are the security concerns raised?

The security risks associated with cloud providers must be effectively managed as banks migrate to these services. Many of these risks are common to existing bank technology environments, such as cyber-attacks by private hackers and nation-states. Other risks are more unique to cloud services, such as misconfiguration of data, as well as issues with data encryption, transmission, and storage. As in any dealings with third parties, a well-defined set of controls must accompany any business relationship.

An additional security risk is vendor concentration. As banks migrate to the cloud, they are faced with a small number of large technology companies providing the services. Cloud services are dominated by Amazon, Microsoft, Google, IBM, and others. As these companies gain the cloud business of banks, the risk of cyber-attacks increases.

Other security risks include the rapid introduction of new capabilities, which can be difficult to manage, and feature parity--traditional security technology products may still be catching up and cannot always transfer their full features to cloud-native product offerings. Finally, resource expertise is a concern, as there is a shortage of engineers who have cloud technology skills.

Are there opportunities for further regulatory or supervisory clarity around the use of cloud services by banks?

Further regulatory and supervisory clarity would be helpful, given the risks of using cloud services. Regulation should encourage accelerating innovation in banking, while reducing operational costs and protecting against the security risks associated with cloud services. Additionally, U.S. regulators could develop regulation that differentiates between cloud and traditional third-party technology services. Updated guidance focused on cloud services would also help banks understand supervisory expectations. FFIEC guidance on cloud computing was last updated in 2012.

Regulations can help ensure that all cloud-service providers meet a minimum set of standards through an applicable regulatory body. Regulatory efforts should focus on the standardization and strengthening of data access, protection, and controls, as well as on resiliency and reliability.

One potential supervisory change proposed by Congress is to designate key cloud-service providers as systemically important financial market utilities. This change would allow the Federal Reserve to directly oversee cloud-service providers.

Finally, consistency of regulations across states could provide benefits to the banking industry. The rise of state-specific regulations on data privacy is a rising challenge and will make compliance very difficult and costly for financial institutions and require them to make significant compliance and technology investments.