

Economic Analysis

All things come to an end, but is the U.S. headed for recession?

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It's a recession when your neighbor loses his job; it's a depression when you lose yours. Harry Truman

According to the Bureau of Economic Analysis, in 3Q18 real Gross Domestic Product (GDP) increased 3.5% quarter-over-quarter on an annualized basis supported by solid growth in consumption, investment and government spending. This followed a 4.2% gain in the previous period, marking the strongest back-to-back performance in four years. If these trends continue, by July of next year the current expansion will become the longest in modern history.

Amid this strong economic performance, concerns on the economy going into recession continue to intensify. According to the Philadelphia Fed Survey of Professional Forecasters, the probability of a decline in real GDP four quarters ahead reached its highest level in ten years. Similarly, as reported by Google Trends, the news search term "recession" within business and industrial categories stands at its highest level in seven years.

When the economy reaches the last stage of the expansion cycle and growth is above potential, labor markets tighten considerably. As a result, wage growth accelerates thereby creating headwinds to profits. Businesses try to offset these stresses by raising prices, which in turn fuel inflationary pressures and prompts the Federal Reserve to raise interest rates. The financial burden, particularly for highly leveraged households and firms, increases as borrowing costs rise, leading to a more pessimistic outlook. As consumers become more defensive, they increase savings and curtail consumption while businesses reduce hiring and investment. This leads to weaker economic conditions and eventually the economy moves into recession.

Combining the different elements that can trigger a downturn suggests that the risk of a recession remains low, but is increasing. Our models suggest that the risk of a recession 12 months ahead has edged up to 15% from less than 5% in May. The probability over the next 24 months is almost 60%. This uptick stems mainly from the correction in equity prices, Treasury bond yields and shadow banking.¹

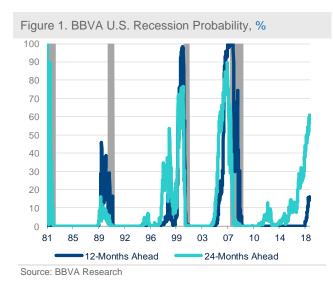
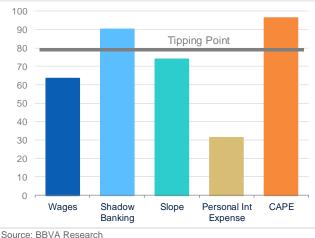


Figure 2. Risk Factors, percentile rank, %



Source: BBVA Research

1: For a more detailed analysis see <u>Just what the doctor ordered: real-time recession forecasts</u>

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Although each downturn is unique, the next recession is likely to be worse than the historical average as it will include adjustments in both the real sector and financial markets. Moreover, limits on the effectiveness of monetary policy and elevated frictions on the fiscal side imply that policy support may fall short. In addition, inadequate policy choices on trade and global risks could exacerbate the negative pressures.

However, we do not expect the downturn to exceed the worst two recessions in modern history. Solid fundamentals in traditional finance and the household sector amid greater relative importance of the new economy will help contain downside risks. If the recession occurs in 2020, or shortly thereafter, the results of the next presidential election could prove vital in how fiscal policy responds to the next cycle. During recessions, the cumulative drop in real GDP averages 1.9% and it takes five quarters for output to return to pre-recession levels. In the Great Recession, activity declined 4% and did not recover for 3.5 years.

We are more likely to experience a U-shaped rather than a V-shaped recovery, with convergence toward potential growth rather than an overshooting, driven by yet another jobless recovery. In fact, a common theme of the last three recessions has been a shallow and painfully slow recovery of employment. After the 1990-1991 recession, it took almost three years for nonfarm payroll to recover to the pre-recession peak. After the 2001 downturn, employment had to wait almost four years to reach a new peak. After the 2007-2009 recession, nonfarm payroll remained below the pre-crisis for more than six years.



Source: BBVA Research and Haver

Under these circumstances, if cyclical adjustments translate into permanent challenges, potential output could see a downgrade. The combination of a jobless recovery and lower potential output could result in higher levels of polarization and social discontent, which in turn could further erode the institutional foundations. Therefore, policymakers should embrace structural, demographic and technological changes as a way to mitigate long-term risks. Rather than imposing restrictions on new industries and technologies or blaming other countries for our lackluster economic performance, the U.S. should once again bet on human capital, innovation, entrepreneurship, and the industries of the future.²

^{2:} See for example What's happening with U.S. potential GDP growth?



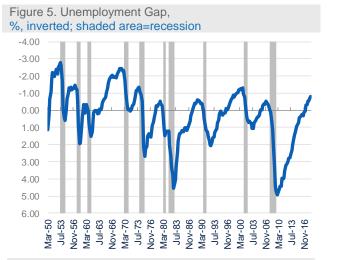
Predicting a recession

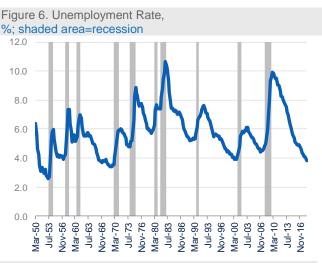
The stock market has forecast nine of the last five recessions. Paul Samuelson

In general, three major indicators can provide an early warning sign for next recession. The first one relates to the timing and magnitude of economic overheating in the real economy. This captured by the difference between the actual unemployment rate and the natural rate of unemployment (NAIRU), commonly defined as *the average unemployment rate that arises from all sources other than fluctuations in demand associated with business cycles.* On average, recessions tend to start 3.4 years after the unemployment rate falls below NAIRU. In the current cycle, actual unemployment rate dipped below NAIRU in 2Q17, which signals the start of the next recession around 3Q20. Alternatively, on average, recessions begin 1.4 years after the unemployment rate reaches the lowest point during the expansion cycle. According to our baseline scenario, this will happen in mid-2019, also implying the start of the recession around 3Q20.

However, each of these approaches has limitations. NAIRU is an unobservable variable estimated with information available at the time of the calculation. Since this is a long-run concept, structural changes that are not yet visible in the data could render large under or overestimations relative to calculations that incorporate structural shifts. For example, for 2017, the CBO's estimate of NAIRU was 5.2% in 2011, 5.6% in 2014 and 4.6% in 2018.

In addition, although the current unemployment rate is already at its lowest level since 1969 and our baseline scenario assumes that the trough will happen in 2019, it is possible that it could continue declining for longer-thanexpected or that it does not decline further. In fact, across occupations, industries, and states the unemployment rate varies significantly. For example, for legal and healthcare practitioners the unemployment rate is 0.9% and 1.1%, respectively. In contrast, the unemployment rate for nondurable manufacturing is 4.3%, more than 1pp higher than the lowest rate observed before the 2001 recession. In addition, 32 states still have unemployment rates above the lowest levels between 2000 and 2017, a handful of which have seen an increase over the past 12 months.





Source: BBVA Research and Haver

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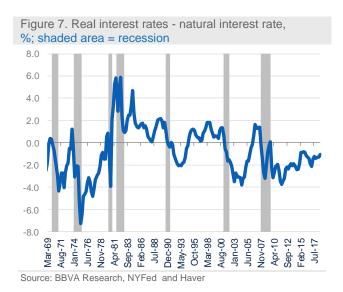
A second alternative to assess the likelihood of recession combines the magnitude of price pressures and monetary policy actions, with long-run output. This approach uses the difference between ex-post short-term real interest rate –measured as the difference between the federal funds rate and PCE inflation- and the natural interest rate (NIR) –defined as the real interest rate consistent with output equaling its natural rate and stable inflation. Since 1970, no recession has occurred without the difference between short-term real interest rates and NIR turning positive. Once this difference between real interest rates and NIR is currently -0.6%, and assuming that both inflation and NIR remain around 2% and 0.8%, respectively, it would require the Fed to raises rates and

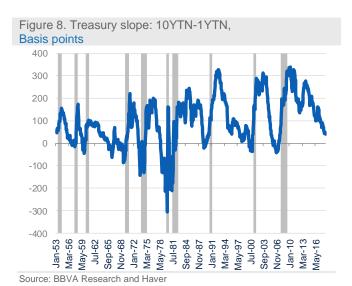
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additional 60 basis points (bp) to bring the difference to zero. If the Fed increases rates by 25bp in December and again in 1H19, the recession would happen in late 2019 at the earliest or the middle of 2021, considering the historical average time lag.

Nonetheless, estimates of NIR are imprecise and subject to considerable real-time measurement error and uncertainty given the outsized effects from demographic changes, globalization and technological advances have on productivity growth and potential output, which are an essential part of NIR estimates. Moreover, it is possible for both inflation and NIR to edge above or below current levels. In which case, the required rate increases to create a positive differential between real short-term rates and NIR will be somewhat greater or smaller than anticipated. This would shift the timing of the recession to 1H19 at the earliest or late 2022 at the latest.

The third and probably the most commonly used indicator to predict a recession is the slope of the yield curve, measured as the difference between long- and short-term Treasury yields. In short, this metric captures differences between short- and long-term expectations on economic conditions and monetary policy. Regardless of the reasons behind each ensuing recession, when market participants become concerned about the end of the expansionary cycle the demand for long-term safe assets tends to increase, which caps potential increases in long-term rates even as the Fed continues raising short-term interest rates to tame risks from economic overheating. As a result, short-term rates climb above long-term rates and the slope turns negative or "inverted". When the recession starts, the Fed cuts interest rates thereby delivering the expected outcome for those purchasers of longer-dated securities that anticipated a downturn.





On average, an inverted yield curve is a good predictor of future downturns between 9 and 25 months-ahead. If current long-term yields remain around 3%, and the Fed raises rates by 25bp in December and again in early 2019, the yield curve could invert sometime during 1H19. This would imply that the next recession could start as soon as 4Q19 or as late as 1Q21. In fact, the "belly" of the yield curve (5-year minus 2-year treasury yields) has already inverted, spiraling a wave of negative financial market sentiment. This inversion also signals that market participants expect the end of the expansion economic cycle to be closer than previously anticipated and that the Fed is near finishing hiking rates during the current cycle.

However, although yield curve inversion remains a highly reliable indicator for future recessions, it is important to note that the term-premium has remained negative for several years despite the fact that inflation expectations and the real interest rate have edged up. This apparent anomaly in a matured expansion could signal a series of distortions that may mask underlying borrowing costs. For example, private domestic investors hold around 33% of total outstanding treasury securities while foreign holders account for 36% of total. The remaining 31% is held by government entities including the Fed. In addition, for the past 12 months, net Treasury borrowing on 2-to-5 year

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treasuries has increased significantly relative to securities with maturities of 5-years and over. Moreover, more than 60% of the \$214bn year-on-year decline in Fed's treasuries holdings has been on securities with maturities between one and five years.

These distortions raise doubts on the reliability of the yield curve as a good predictor of future recessions at least under current market conditions. In fact, some estimates suggest that long-term yields could be at least 100bp higher than actual levels if it were not for these distortions. This would imply that after adjusting for this distortion and assuming long-term yields remain near current levels, the Fed could raise rates an additional 150bp before curve would "invert". Alternatively, if the Fed raises rates by less than 150bp, the adjusted yield curve would not invert at all.

Severity and duration of the next recession

History has not dealt kindly with the aftermath of protracted periods of low risk premiums. Alan Greenspan

The severity and duration of the next recession will be determined, to a large degree, by the required adjustment needed to correct existing imbalances and the effectiveness of both monetary and fiscal actions to deal with the negative effects.

Depending on the scale of imbalances, the magnitude of second-round effects, the exposure to external shocks, and how effective monetary and fiscal policy respond in taming economic overheating, the downturn could be more or less severe and short-lived or prolonged. For example, although the NASDAQ composite index accumulated a decline of 78% between 2000 and 2002, real GDP growth in 2001 experienced a significantly milder downturn than in previous recessions. This was largely due to the combination of aggressive monetary and fiscal actions, and modest second round effects from the bursting of the dot com bubble. In contrast, the collapse of the housing sector in 2008-2009 delivered the worst decline in real output since the Great Depression even though monetary and fiscal actions were more aggressive than in previous recessions. In part, this reflected the accumulation of substantial imbalances in the real estate, financial, household and public sectors.

A traditional concern of economic overheating is the potential buildup of inflationary pressures. If inflation rises above tolerable levels, the Fed increases interest rates to cool down the economy. As borrowing costs edge up, consumption and investment decelerate. Depending on the magnitude of these adjustments, in the best-case scenario, the economy would grow at a slower pace and inflationary pressures recede.

In the worst-case scenario, inflation becomes unanchored and the economy goes into recession, under an environment of stagflation (stagnation and inflation). However, an overheating economy does not always translate into price pressures. In fact, in the period leading and following the last two recessions, core CPI inflation – excluding energy and food- remained below 3%. Instead, the overheating resulted in significant imbalances in asset prices. In 2001, this was evident by the sharp increase in equity prices of technology firms (the dot com bubble) and in 2008, fast home price appreciation (the housing bubble).

During the current expansion, core CPI inflation has remained below 2.5%. Moreover, during the last three months, the 12-month change in core inflation has remained at 2.2%, showing little upside risks. In fact, our inflationary pressure indicators remain contained, signaling a very low risk of the economy entering a high inflation regime.³ In contrast, in 2018 the cyclically adjusted price-to-earnings ratio, a measure of potential misalignments in market valuations, reached the second highest historical level signaling frothy equity prices.

Not surprisingly, after stock markets peaked back in September, equity prices have declined more than 10%. These conditions will have a direct impact on household wealth, which in turn could limit the pace of growth in consumption. However, on a year-on-year basis, the decline is just around 1%. Moreover, households account for

^{3:} See for example Inflation Regime Changes and the Fed's Reaction Function



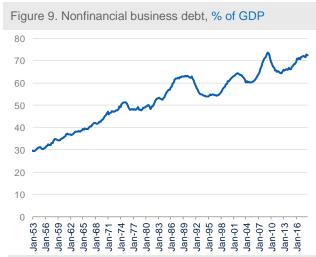
less than 40% of total corporate equity holdings and less than 14% of all families hold stocks directly, with a distribution heavily skewed toward high-income earners.

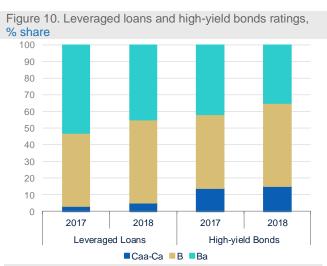
For firms, the decline in asset valuations implies that stock-based activity such as M&A, Capex, product development or debt refinancing, becomes more expensive to finance. However, even if the ongoing correction in stock markets continues, or becomes more pronounced, the resulting shock to household wealth and firms' financing costs is not likely to cause a recession in and of itself.

An additional looming correction lies ahead in the corporate bond and leveraged loan markets. For the past 10 years, more risky borrowers and weaker underwriting standards have supported growth in nonfinancial business debt, which stands near record-high levels as a share of GDP. For example, around 50% of the \$6tn investment-grade bond ratings are in the lowest category (rated BBB). Moreover, these lower rated firms have an average leverage ratio (debt to earnings) of 3.2, compared to 2.1 in 2007. In addition, almost 40% of these firms have a leverage ratio of 5 or more.⁴

Meanwhile, although the share of high-yield bonds has remained relatively stable, since 2010, its size has increased from \$250bn to \$1.1tn. A similar pattern has occurred in the leveraged loan market, which increased from \$500bn to \$1tn in the same period. In addition, 85% of leveraged loan transactions during 2018 have been covenant-lite while one-third of syndicated large corporate transactions have a leverage ratio of 6 or more, significantly higher than in the past.

If credits spreads widen and access to capital markets funding shrinks, liquidity could become strained and fire sales could accelerate. The post-crisis financial regulatory reforms tried to reduce risk exposure mainly for traditional financial institutions. Consequently, risk exposure shifted toward non-traditional financial markets and institutions. This has created a high level of uncertainty regarding the impact of reduced market-making and warehousing activities by broker-dealers during the next downturn. Likewise, it is unclear what influence excessive high-frequency trading -*or flash crashes*- and increased relative importance of dedicated credit funds and exchange-traded funds will have during periods of severe financial stress and weak macroeconomic conditions.





Source: BBVA Research and Haver

In any case, significant second-round effects could occur if a larger-than-average number of companies see a downgrade from investment-grade to high-yield and from high-yield to junk. Also, there has been an outsized growth in stock buybacks, leveraged buyouts, and debt refinancing that could produce a major adjustment in asset prices and leverage ratios if credit conditions deteriorate. Given that less productive firms with weaker fundamentals owe a large share of outstanding debt, defaults and delinquencies could rise more dramatically than

Source: BBVA Research, FRB and Haver

^{4:} For more details see Corporate debt in the twilight of the credit cycle



in previous cycles, leading to a sharp tightening in financial conditions. This would imply a large contraction in hiring and investment, increasing the risks of a protracted economic downturn.

Another element of uncertainty relates to a potential slowdown in consumer spending. As inflation increases or nominal income weakens, real disposable income slows down, which in turn could prompt consumers to become more defensive. Similarly, higher borrowing costs imply a higher financial burden on households, which could also lead to tighter lending conditions and weaker consumption. According to the latest data, the share of personal interest payments (nonmortgage interest paid by households) to personal income has increased from 1.6% to 1.9% in the last four years. In previous episodes, an increase in this ratio has preceded economic downturns.

However, the ratio of required payments on outstanding mortgage and consumer debt as a share of disposable personal income stands at its lowest level in almost four decades. Likewise, as a result of the significant deleveraging that took place after the Great Recession, the ratio of financial obligations –which adds automobile lease payments, rental payments and property tax payments- to disposable personal income remains 1.2pp below the historical average. Meanwhile, although the consumer delinquency rate has steadily increased for the past three years to 2.3%, it is still 1 percentage point lower than the historical average. Tax cuts and solid growth in employment and wages continue to support personal income growth, which has averaged 4.4% year-over-year in 2018; this is slightly above the 2010-2017 average. These trends suggest modest downside risks for households and consumer spending even if interest rates edge up further and credit standards tightens.

In contrast to household spending, conditions in the residential real estate sector could continue weakening. Already, steep home price appreciation and rising mortgage costs is taking a toll on housing affordability, home sales, and mortgage demand. The 12-month change of existing home sales has remained in negative territory for the past eight months while new single-family home sales have weakened to their lowest annualized level since March 2016.

As conditions weaken, construction activity could follow suit. Since this sector has large spillovers to other industries and employment, the impact on aggregate output could be sizeable. In October, the year-on-year growth in the value of construction put in place in the residential sector reached its lowest level in seven years. Still, employment in residential construction is expanding at a pace last seen in 2014 and 2006, signaling that a potential decline of job creation is not likely in the short-term. In the commercial real estate sector, prices remain high relative to historical trends and will encounter cyclical headwinds. In addition, ongoing structural trends imply that for some sectors the adjustment could be severe. Nonetheless, since real estate investment has not had a significant contribution to GDP growth during the current cycle, a correction is unlikely to have a sizeable direct impact on trend growth.

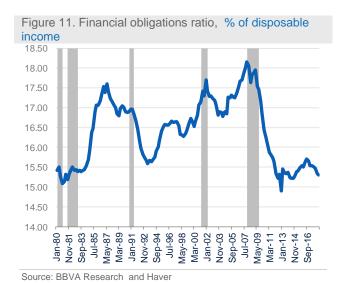


Figure 12. Housing affordability and new home sales,

 Index and thousands annualized

 1600
 230

 1400
 210

 1400
 190



Source: BBVA Research and Haver



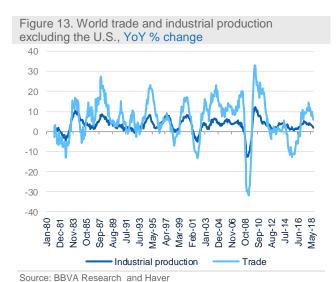
Another source of potential risk is the increasing distortions on foreign trade that have fueled uncertainty regarding trade relations and supply value-chains, resulting in weaker business expectations and capital spending. To a large degree, repricing of foreign exchange rates and some reallocation of resources could help offset these distortions. However, reallocating resources takes time and thus it will be difficult to avoid some short-term costs. Still, the biggest risk is further escalation of trade tariffs and retaliatory measures that could result in a breakdown of the global trading system. This would have devastating consequences for the global economy in ways difficult to measure. For now, this extreme outcome has a remote probability. However, policymakers could underestimate the impact of their mistakes and be slow to correct them.

Other policy distortions that could have significant consequences are restrictions on immigration, foreign direct investment, transfer of technology, innovation and infrastructure spending. However, the impact will mainly show over a longer horizon and reduce potential output rather than causing a cyclical adjustment.

In a similar way, the large fiscal deficits and high levels of public debt that are likely to accumulate over the next several years will also restrain potential output. The short-term risk from fiscal profligacy remains contained as long as the strong relative position of the U.S. dollar continues. However, demand for dollar-denominated assets could shift dramatically. This could cause a fiscal crisis with severe consequences on expectations and risk premium.

Likewise, social and political tensions could continue exacerbating over time, resulting in an even more polarized environment to the point that the current institutional framework is not capable of dealing effectively with such changes. The severity of an institutional crisis is almost impossible to measure, and it is unlikely that this will materialize in the short- to medium-term. On a more long-term perspective, extreme events such as climate change, cybersecurity, pandemic, terrorism, and global migration flows could turn a modest downturn into a major depression.

Obviously, not all risks are domestic. In fact, some of the biggest shocks could come from abroad. Weaker global demand in both developed and developing countries, high leverage in emerging markets, elevated financial stress across global markets, commodity price adjustments and geopolitical risks could become significant headwinds.





The combination of a strong dollar and weaker global demand would hit U.S. exporters and multinationals,

particularly those with a large share of profits coming from abroad. Likewise, a sharp decline in commodity prices could have significant consequences for private domestic investment. For example, the sharp decline in oil prices in 2014-2015, resulted in a 46% drop in real investment in mining and oilfield machinery, and 60% decline in mining exploration, shafts and wells between 2014 and 2016. Yet, strong economic conditions in the rest of the economy and the positive impact of lower gasoline prices for consumers helped avoid a recession. In fact, 2015-2016



marked the first time in U.S. post-WWII history that the economy avoided a recession despite the contraction in industrial output. Thus, even if commodity prices continue declining, and investment and industrial activity shrink, the economy could still avoid a technical recession.⁵

Policy response

The Federal Reserve cannot solve all the economy's problems on its own. Ben Bernanke

It seems the Fed will have less margin to cut rates during the next downturn than in previous episodes. For example, during the last three recessions the Fed cut nominal interest rates by an average of almost 600bp and real rates by 560bp. The latest median FOMC projection for the Fed funds rate is 3.4% for both year-end 2020 and 2021. This implies a nominal cut of no more than 340bp if rates drop to zero, assuming that the Fed delivers on its own guidance. Given that real interest rates are around 50bp, the Fed will not be able to cut them more than 250bp if inflation remains around 2%. If inflation slows, the cut will be even smaller. Thus, a more moderate response from the Fed is almost inevitable, which increases the likelihood of a deeper contraction and a slower recovery.

Still, the Fed could resort to other policies in the toolbox such as quantitative easing (QE), as it did after the Great Recession. However, the largest impact from this option came accompanied from the element of surprise. Once this was gone, the marginal impact of further rounds of QE became smaller. This suggests that the Fed could try to tweak future QE programs and include other elements not previously used, thereby trying to match the surprise component.

In addition, given the low levels of inflation, a recession could also increase the likelihood of deflation. This would induce the Fed to send a clear signal that low interest rates will remain in place for a considerable period. This forward guidance was used after the last recession and is considered an effective and inexpensive measure to assure market participants that no rate increases will happen until economic conditions show strong signals and the economy is on safe ground. If downside risks to prices intensify, the Fed could raise its inflation objective or adopt a price level or nominal GDP growth target, all with the aim of avoiding deflation.

Another policy option that can be used to limit the risks stemming from excessive leverage and risk taking is the countercyclical capital buffer (CCyB). This tool aims to increase capital requirements when times are good and reduce them when the downturn occurs. The idea is to help avoid large credit cycle fluctuations and make the system more resilience. An advantage of CCyB is that it can be activated when interest rates cannot respond further without triggering downside risks to the expansion, in line with current conditions. Thus, we should not be surprised if the Fed decides to activate CCyB.

In any case, we cannot ignore that the effectiveness of monetary policy in managing the business cycle has diminished when confronted with recessions that emanate from bursting asset price bubbles. Likewise, the structural shift toward intangibles and human capital rather than traditional capital implies a lower impact from interest rate cuts. In addition, profitability of U.S. firms depends on foreign market conditions and global sales.

On the fiscal front, automatic stabilizers on both the revenue and spending sides have proven effective when dealing with modest downturns. Unemployment benefits and income support programs help low-income families and individuals that lose their job. On the revenue side, the tax burden diminishes as capital and profit losses increase while excise taxes and customs duties decline with lower levels of economic activity and foreign trade.

However, severe downturns require additional discretionary measures. Historical evidence provides mixed results with more willingness to act on the tax side than on the spending side. However, the outcome ultimately depends on whether there is a unified or divided government and which party has a majority. In any case, the 2017 tax reform implies that the benefits from the automatic stabilizers on the revenue side are likely to be smaller. In

^{5:} See for example Oil Prices Outlook. Third Quarter 2018



addition, increased polarization runs the risk that Congress may be less effective in responding to the downturn if ideology overtakes economic urgency. Likewise, Congress may not necessarily choose options with higher fiscal multipliers but rather with more pork. As a result, we should expect fiscal policy to play an active role; however, the response may fall short, limiting the magnitude and duration of the next recession, particularly under severe financial stress.

Summary

Although economic performance remains solid, the risk of recession continues increasing, particularly for 2020 and beyond. Elevated financial stress and a correction in the real economy implies a worse-than-average downturn, and U-shaped and jobless recovery. As a result, the Fed will be more cautious as it continues normalizing monetary conditions.

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