BBVA Research

United States Economic Outlook

Second quarter 2019

Creating Opportunities

BBVA Research

Index

Closing date: **May 10, 2019**

1. Editorial

In July, the current economic expansion will reach 121 months, becoming the longest in modern history. Barring any shocks, inflation-adjusted GDP will average more than $21T in 2019 and by the end of the year real GDP per capita will surpass $58K.

The economic performance in the last ten years reflects decades-long trends determined by socio-demographic changes such as an aging population and lower labor force growth, as well as higher living standards. These help explain, for example, a higher share of consumption devoted to recreational goods and vehicles, as well as medical services.

However, since the start of the century, the economy has experienced a tectonic shift driven by technological advances and globalization, which account for the sharp increase in private investment in information processing equipment and intellectual property, as well as a surge in foreign trade. In addition, the relative share of energy consumption stands at its lowest level while private investment in structures is near its historical low. In other words, the creation of value, which once depended on manufacturing and construction, and later moved to traditional services, now is being propelled by the giga-byte economy.

For example, while real GDP increased 25% between 2005 and 2018, the value-added of computer and electronic products, and data processing and Internet services rose 163% and 358%, respectively. This, coupled with higher investment in R&D, marketing and branding, has enlarged the relative importance of intangibles. In fact, according to some estimates, almost 90% of the market value of companies in the S&P500 comes from intangibles, a sharp increase from 30% in the 1980s.

This transformation presents significant opportunities. New technologies allow businesses and individuals to become more productive, thereby increasing profitability and real incomes, while lowering costs. As new and cheaper products become available, wealth and living standards also rise. Historically, at the aggregate level, the benefits of technological change have always outpaced the costs of disruption.

However, the transformation also creates significant challenges. Despite the spike in value added derived from the information technology sector, direct job creation has lagged. In fact, between 2005 and 2018, payroll in this industry declined 8% while temporary help and, leisure and hospitality services increased 18% and 28%, respectively. It is worth noting that while average wages in the information industry are 50% higher than the national average, wages in the other two categories are almost 30% below. Moreover, even if new technologies support indirect high-paying jobs across other industries or end up creating new jobs that do not exist today, the transition could take time and be highly disruptive. In fact, around 25% of jobs are at risk of automation.

To the extent that a large share of economic benefits flow to a small share of workers and companies, concentration of income and power is bound to edge up. This is already becoming highly disruptive at an economic, social and political level. The labor share in total output is at its lowest level in at least 70 years, business formation remains well below pre-crisis levels and around 75% of industries have seen an increase in market concentration. This deters job creation, investment, entrepreneurship and labor mobility. In addition, income inequality is at its highest level since WWII while the market capitalization of five technology firms (Apple, Amazon, Microsoft, Google and Facebook) account for $4.3T or one-quarter of total market capitalization of the S&P500. Although this share is common, the preponderance of tech

companies is striking. When highly successful companies and talented individuals concentrate in few localities, living expenses soar and cities become unaffordable to resident population. Between 2001 and 2017, the top 14 metropolitan areas accounted for 50% of total GDP while the bottom 277 cities added only 10%. Over time, lagging regions experience increasing dislocation and severe damages to their social fabric. The combined impact of these trends is higher concentration of economic and political power that foments social frustration and polarization. If these trends continue, our market based economy and democratic institutions could be in jeopardy.

Politicians from both left and right have suggested alternatives to reduce the costs of adjustment such as increased financial insecurity and uncertainty. Mainstream proposals embrace bigger earned-income tax credits, tax cuts/increases and a higher minimum wage. Other less conventional ideas include ramping up public-sector jobs, breaking up tech giants, a universal healthcare system, free public college tuition, limiting foreign trade and immigration, and some form of basic income.

Rather than increasing public spending indiscriminately or dismissing these alternatives based on ideological grounds, policymakers need to focus on the options that can more effectively mitigate the costs of disruption for workers, businesses and local economies, while setting the ground to maximize potential benefits over the long-run. This requires embracing new technologies and promoting R&D. Unfortunately, federal R&D spending as a share of total outlays is at its lowest level in at least 56 years. In addition, it is imperative to update our tax and regulatory systems to account for new paradigms such as the increase in intangible capital, market concentration and inequality, as well as tackling mounting concerns on privacy protection and the spread of hate speech in social media. Likewise, policies should leverage on new technologies to improve the functioning of our democracy. For example, using biometrics to boost voter participation or blockchain technology to enhance tax collection efficiency and allow taxpayers to have a greater voice on how spending is allocated. Given that these challenges are universal, promoting global cooperation rather than isolation is paramount.

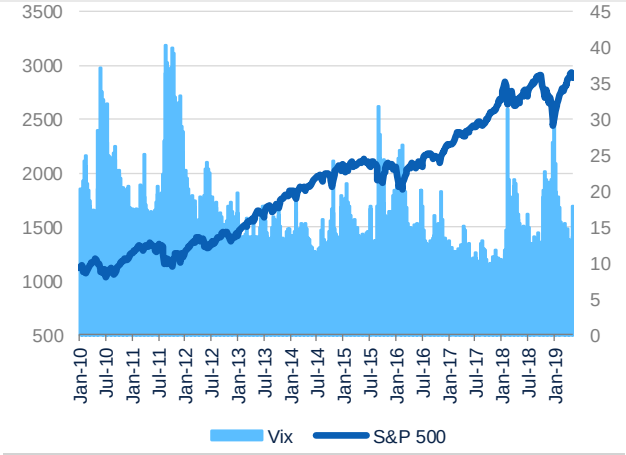
Equally important is a profound transformation of our education system and workforce. In particular, promoting the development of relevant skills and creative thinking, retraining, accelerated learning, and affordable skill development. This will allow us to navigate from the current system based on an industrial society to one that enhances the ability to adapt to constant change and uncertainty, and allow the people to benefit from a knowledge-based economy.

2. Economic resiliency tested with rising uncertainty and breakdown in trade detente

Although cyclical headwinds continue to build, by July, the U.S. will have surpassed the previous record for the longest modern expansion, reaching 121 months since the end of the Financial Crisis. Our baseline assumes positive economic growth in 2019 and 2020. Specifically, we expect growth to be 2.5% in 2019, before decelerating towards 2.0% in 2020. Inflation will also remain consistent with our previous expectation for a modest undershooting of the Fed's 2.0% target. Crosscurrents and downside risks from abroad are likely to persist throughout the year, allowing the Fed to remain patient while it finalizes its policy normalization. Rising foreign trade tensions between the two largest economic superpowers and late-cycle fears in the developed world have tilted the risk balance to the downside, a trend that will not dissipate anytime soon.

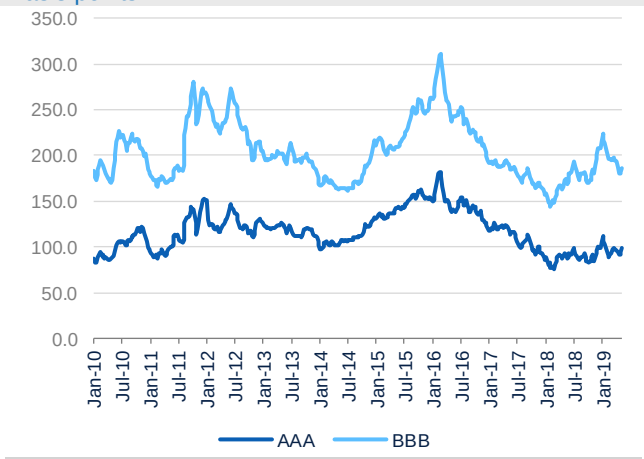
However, financial tensions have eased after the major equity market correction in 4Q18. The Fed, after maintaining its modestly hawkish stance, pivoted dramatically to the dovish side in response to financial market pressures and concerns that, with limited capacity and flexibility, it would not be able to effectively respond to a situation, potentially of their own making. The pause and shift to a "patient" interest rate strategy, in addition to dovish balance sheet guidance, led to a nontrivial rebound in equity prices, lower volatility and a decrease in corporate credit spreads.

Figure 2.1 SP 500 & volatility,
1941-43=10 & Index



Source: BBVA Research & Haver Analytics

Figure 2.2 Corporate bond spreads,
Basis points



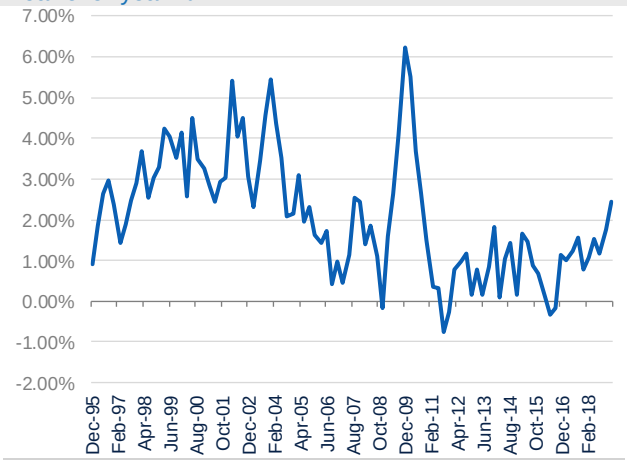
Source: BBVA Research & Haver Analytics

Movements in Treasuries were mixed after the change in guidance from the Federal Reserve. Short-term treasuries, with maturities less than one-year were little changed, as the "patient" guidance from Fed implies little deviation from current benchmark rates. However, pressures on the "belly", which includes two-year to five-year Treasury securities intensified, as markets began discounting potential rate cuts in 2019-2020. The less-than-dovish press conference in May put upward pressure on rates, after Chair Powell struck a surprisingly hawkish tone relative to market expectations. However, since the meeting, safe haven flows have increased, as the reescalation in trade tensions between the U.S. and its major trading partners—Mexico, Canada, EU and China— stoke fears of a global slowdown.

In terms of household and business leverage, conditions were largely unchanged. Domestic nonfinancial corporate debt relative to GDP remains at a record-high while household leverage continues to decline, and is now well below pre-crisis levels. In fact, outstanding household debt-to-GDP is now more than 20pp below pre-crisis levels. Trends in the type of lending activity is also diverging with newly originated consumer debt going mostly to prime borrowers while growth in corporate borrowing has been concentrated in high-yield bonds and leverage loans, often with fewer or more lenient financial maintenance covenants ("Cov-lite").

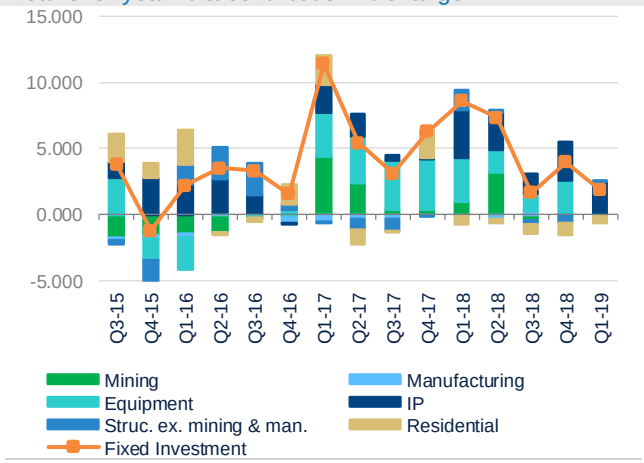
The volatility and uncertainty present in the 1Q19 did little to derail the macroeconomic momentum of 2018. The government shutdown, which likely trimmed 0.2-0.4pp off first quarter growth, was offset by a buildup in inventories, drop in imports, and some additional heavy lifting by state and local governments. Moreover, growth worries that materialized in Europe and China in the 4Q18 had little impact on exports, with net exports contributed 1pp to first quarter growth. Moreover, nonfarm labor productivity continued to accelerate, reaching 2.4% in 1Q19, as businesses continue to shift to capital-based expansion model.

Figure 2.3 Nonfarm real output per hour,
Year-over-year %



Source: BBVA Research & Haver Analytics

Figure 2.4 Change in real fixed investment
Year-over-year % & contribution % change



Source: BBVA Research & Haver Analytics

Incoming industrial production data deteriorated throughout 2019, despite an upside surprise to growth in Europe, greater fiscal and monetary accommodation in Europe and less negative outlook for Chinese growth. Underlying data confirm that late-stage cycle fears, tariffs and growth concerns abroad are significant factors in the deceleration in the ISM manufacturing index. Some modest upside to oil prices should encourage more drilling activity and investment in the mining sector, but supply bottlenecks and infrastructure deficits in key drilling basins, and financial vulnerabilities could reduce the appetite for capital expenditures. Furthermore, new orders for nondefense capital goods excluding aircrafts grew 5.2% year-over-year in March, after sputtering earlier in the year, suggesting that there could be some improvement in the manufacturing sector in 2H19. However, small business optimism has vacillated, and concerns over finding qualified workers and the cost associated with doing so are rising.

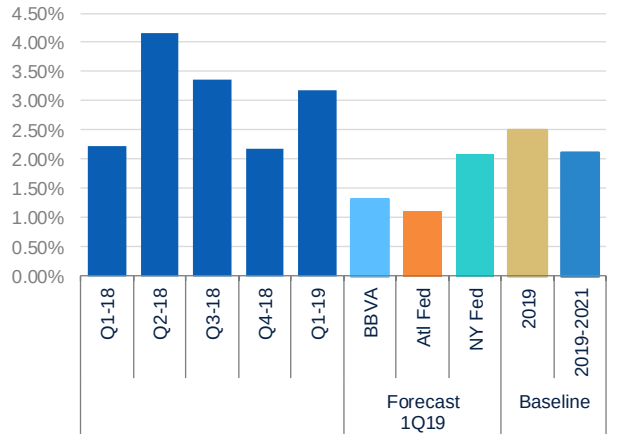
In addition, the ongoing tensions between the U.S. and China have tainted the inventory data, making it difficult to determine whether fundamental or idiosyncratic factors explain the nontrivial rise. In fact, merchant wholesalers in areas more closely associated with finished goods such as electronics and computers, apparel, furniture and motor vehicle parts have seen near double-digit rise in inventories. While improvement in domestic demand could explain

part of the growth, the strong increase in inventories is more likely a response to threat of increased tariffs on Chinese finished goods and the potential for increased protectionism in the auto sector.

On a quarter-over-quarter basis, investment in residential structures has contracted for five consecutive periods, which is consistent with a sector-level recession; similarly, investment in nonresidential structures has declined for the past three quarters. While the rising rate environment, increasing cost of capital and increased nonfinancial corporate leverage are headwinds to growth in both sectors, the incentives in the 2017 tax reform should have encouraged stronger investment in nonresidential structures given the more favorable depreciation schedules and deductions. Instead, intellectual property has been the only reliable source of investment, a trend more closely associated with structural changes in investment than ebbs and flows of the business cycle.

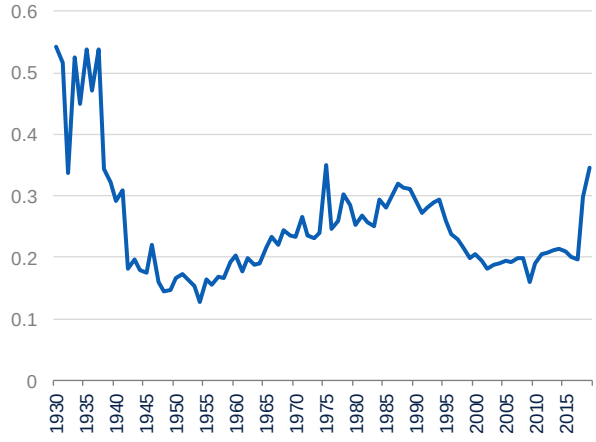
Despite the growing number of headwinds, we are maintaining our baseline scenario of 2.5% growth in 2019 and 2.0% growth in 2020. This assumes consumption continues at a solid pace of around 2.3% and investment, despite headwinds in residential and nonresidential structures, bounces back, averaging 4.1% in 2019. In terms of trade, the slowdown in domestic demand and a stable dollar should slow import growth to around 1.8%, which is 60% slower than 2018. However, exports growth will also slow, as weaker foreign demand and reduced global trade flows dampen appetite for U.S. goods. Contributions to growth from the public sector should be positive, as the impetus from the budget deal remains throughout fiscal year 2019, before fading out in 2020.

Figure 2.5 U.S. GDP growth,
Annualized %



Source: BBVA Research & Haver Analytics

Figure 2.6 Federal receipts -custom duties
Share of GDP %



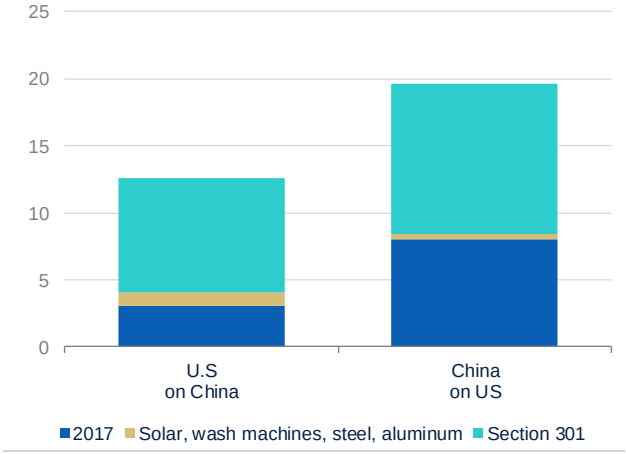
Source: BBVA Research & Haver Analytics

Recent developments in the U.S.-China trade war have shifted the trade paradigm. At one point, progress had been made towards ending the trade conflict on mutually agreeable terms. However, after recent developments, and concerns that neither side is willing to give into the other demands, detente appears to be the best outcome.

That said the U.S. current account imbalances are not going to be remedied by a protracted trade war. Moreover, protectionist policies directed at China have been around since 1980s; the only change has been the goods the U.S. has targeted, shifting from low value-added textiles to higher value-added intermediate goods, and potentially finished consumer goods. To date, the U.S. has increased the share of Chinese imports subject to tariffs by 42 percentage points,

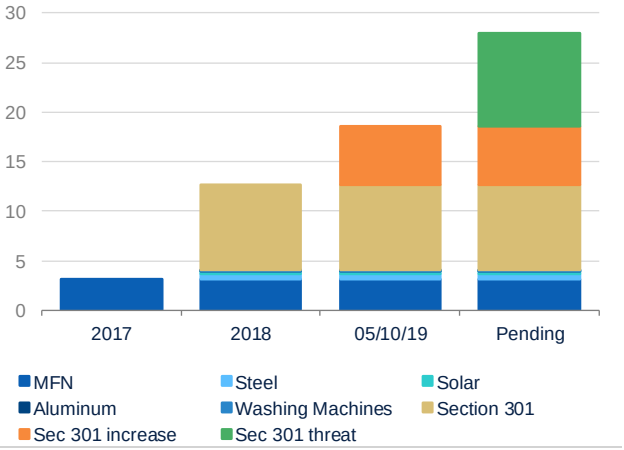
increasing the effective tax rate on Chinese imports from 3.1% to 12.4%. However, the Chinese retaliatory tariffs have resulted in a proportional rise in their effective duties from 8.0% to 19.6%, widening the gap in the effective rates.

Figure 2.7 Bi-lateral effective tariffs, %



Source: BBVA Research & Haver Analytics

Figure 2.8 Effective tariffs on Chinese goods %



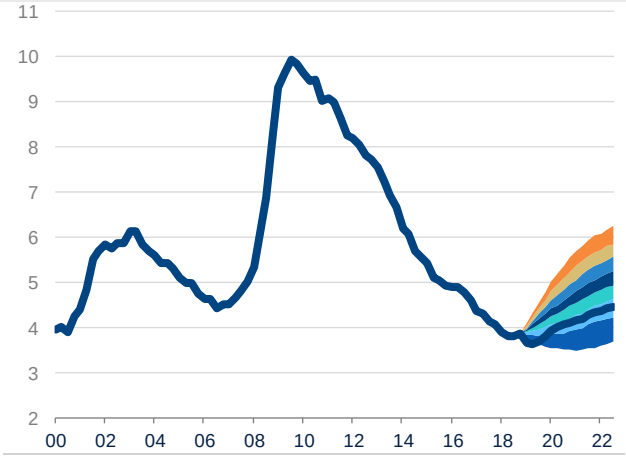
Source: BBVA Research & Haver Analytics

Given the lopsided trade flows, U.S. revenues from custom duties have increased significantly from $37B in 2017 to $75B today. As a share of GDP, tariff revenues were the highest since 1995, and assuming tariffs continue to increase throughout 2019, they will likely return to levels not seen since the 1930s. While the ultimate cost will be borne by the U.S. consumer, the strategy of decoupling global value chains and additional revenue seem to be attractive to the President. However, targeted actions on U.S. business operating in China and retaliatory tariffs directed at the President's supporters could become politically costly.

In terms of labor market, conditions continued to improve in spite of the government shutdown, weaker growth expectations for the global economy, trade tensions and uncertainty surrounding the path of monetary policy. At 205K jobs per month during 2019, jobs creation remained well above the number needed to absorb new entrants into the labor market and reduce the number of unemployed workers. As a result, the unemployment rate continued to decline, reaching 3.6%, which is a new 50-year low. In addition, prime-age participation edged up slightly while the employment-to-population reached 79.9%, which is the highest since 2006. Despite the ongoing tightening in the labor market, wages decelerated slightly to 3.3%, relative to a year earlier.

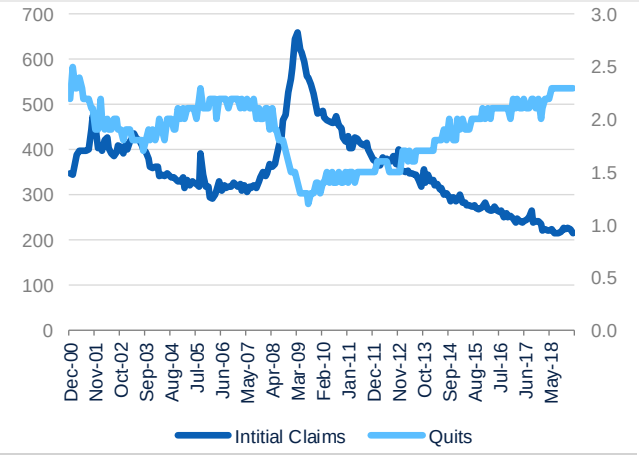
Nonetheless, the strong jobs figures, increase in prime-age participation and high levels of labor utilization are inconsistent with recent data surrounding unemployment insurance claims. In mid-April, initial unemployment insurance claims jumped 33,000, and based on the three-month moving average claims are up 5,000 since April.

Figure 2.9 Unemployment rate
%



Source: BBVA Research & Haver Analytics

Figure 2.10 Initial jobless claims & share of "quits",
K, %



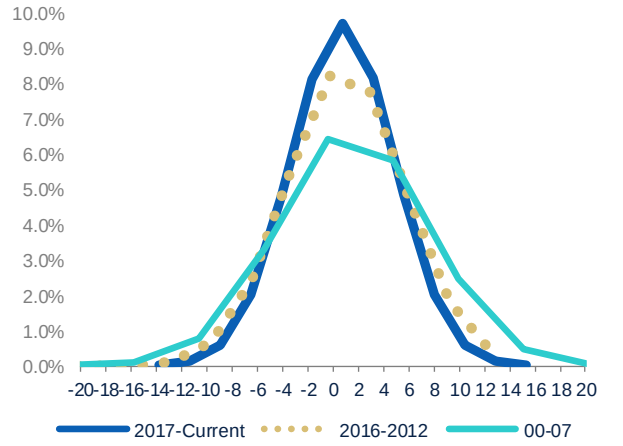
Source: BBVA Research & Haver Analytics

While claims remain extremely low by historical standards, the magnitude of the adjustment is concerning. Moreover, unemployment insurance claims tend to be a good leading indicator of recessions and slower growth, suggesting the current movement could be a signal of a turning point in economic conditions and the labor market. Moreover, the "quits"— number of people leaving their job voluntarily as share of employment— has been flat for ten months, suggesting that workers may be losing confidence in the labor market strength, and are thus less willing to take on the risk of transitioning to a new job.

As a result, we do not anticipate the unemployment rate will dip much further below 3.5%, although it is possible that undershooting could happen if conditions improve over the 2H19. That being said, our baseline scenario assumes the unemployment rate will remain close to 3.6% in the second and third quarter this year, as job growth decelerates to around 161K jobs by the end of the year. By 2020, our baseline assumes job growth will slow to 1.3% year-over-year and the unemployment rate will be around 4.1%.

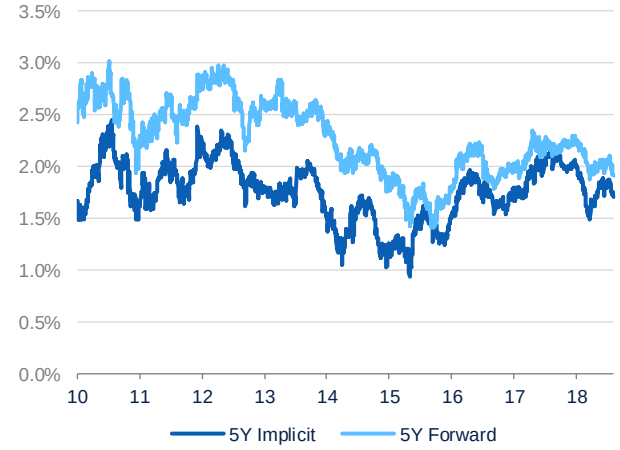
The drop in energy and transportation service prices weighed on headline consumer prices, producing the slowest quarterly annual rate of inflation since 2017. In fact, in February, year-over-year headline inflation was 1.5%. However, a rebound in energy prices, medical care commodities, shelter, and transportation services pushed up headline inflation to 2.0% in April. In terms of core inflation, increasing home prices and steady wage gains should translate into increases in service costs, supporting our view of a steady, but modest, rise in inflation in 2H19. Additional tariffs on a nontrivial share of intermediate inputs and the threat of new tariffs on consumer goods could also increase the prices of tradable durable goods, which have been a persistent headwind to inflation for decades.

Figure 2.11 CPI Inflation distributions, Normalized



Source: BBVA Research & Haver Analytics

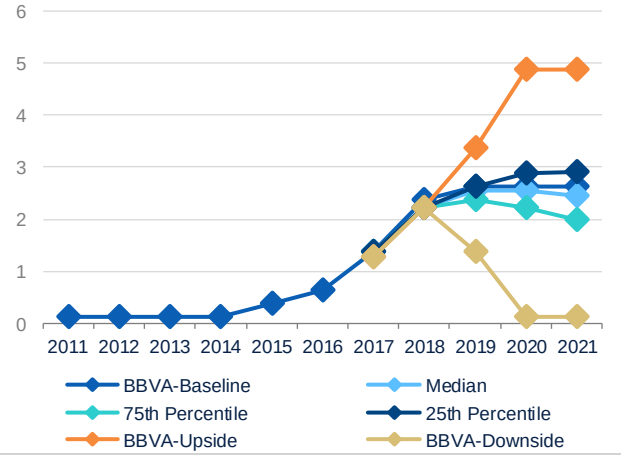
Figure 2.12 Market-based inflation expectations %



Source: BBVA Research & Haver Analytics

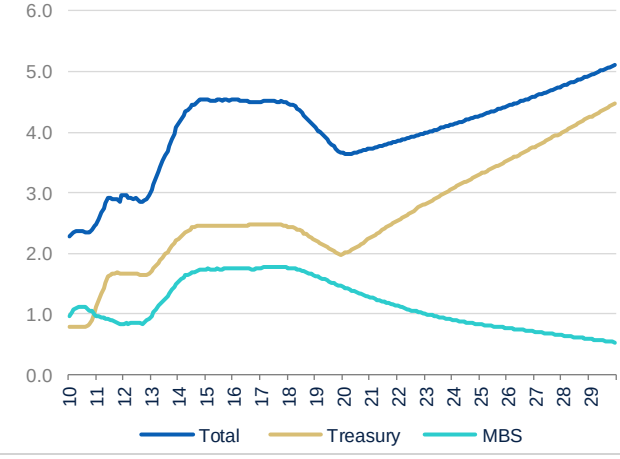
As such, our baseline outlook for inflation in 2019 remains unchanged despite the stronger headline figures in March and April. While there remains a potential increase in supply side pressures, import prices continue to decline, suggesting that some major exporters to the U.S. are absorbing the tariff impact in their margins. Moreover, while wage pressures have risen in nominal terms, real wages have increased strongly, which is consistent with solid increases in labor productivity. One concern with respect to inflation is a rise in the number of small business owners planning to, or actually raising compensation in the next three months. Previous cases of robust expectations for wage increases were associated with monetary policy tightening and recessions. That being said, we expect headline consumer prices to increase 1.8% in 2019 and 2.0% in 2020. For core CPI, our baseline assumes growth of 2.1% in 2019 and 1.9% in 2020.

Figure 2.13 Federal funds rate, %



Source: BBVA Research & Haver Analytics

Figure 2.14 Federal Reserve asset projections, US$Trillions



Source: BBVA Research & Haver Analytics

After the dramatic shift in December, the Fed has enjoyed a stable period of monetary policy implementation and communication. As we anticipated, the FOMC left the Fed Funds target range unchanged at 2.25%-2.50% at its last meeting, remaining patient “as it determines what future adjustments to the target range for the federal funds rate may be appropriate." The tapering of the committee’s quantitative tightening strategy began in May and will end in September, marking the official closure of the committee’s QE program.

The Chairman at the press conference reiterated that sustaining the economic expansion is one of the key goals of the committee, in the context of strong labor markets and stable prices. The likelihood for a swift change in monetary policy in the 2H19 is high, with the potential for conditions to tilt in one direction or the other. In fact, markets expectations for future monetary policy have whipsawed with the global crosscurrents, shifting from a rate cut probability before year-end of 20% in January to around 80% in May. In contrast, most surveys indicate that the Fed will not cut rates this year and that the next few months could prove to be a period that leads to another Powell about-face.

After falling the first quarter, headline and core inflation will likely regain some momentum heading into the fourth quarter, which could give the Fed some cover if it wanted to continue fine-tuning its interest rate policy and reach its equilibrium target, implying one more rate increase this year or at the start of 2020. Moreover, relative to the Fed’s benign outlook for convergence with potential GDP at the end of the year, current indicators suggests that conditions could surprise to the upside. In fact, many of the crosscurrents that were a justification for the abrupt shift in policy have ebbed- growth concerns in Europe, financial volatility, hard landing in China and Brexit. In addition, despite the lack of strong wage pressures, labor markets remain tight. Political pressures from the White House to lower rates at least 1pp and resume quantitative easing could force the committee to combat any sense of a dissolution of their independence with a more hawkish monetary policy stance.

The dovish shift in monetary policy has also increased risk appetite in financial markets, as compression between higher-yield corporate bonds and benchmark interest resumed, pushing spreads back to historically low levels. Elevated asset prices and riskier lending activity in the corporate sector will renew fears that Fed officials stressed in the 2H18. This could lead to either increased focus on macroprudential tools, a possible hawkish shift in forward guidance or defensive rate hikes.

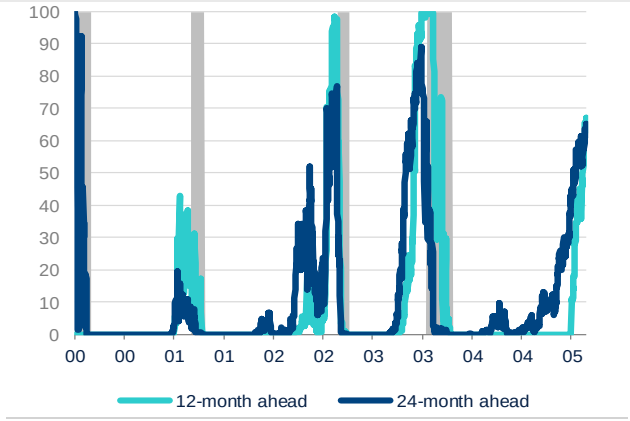
Given the risk outlook and current market expectations, a modest adjustment to the downside is more likely. To combat a drop in inflation expectations or a real threat of deflation the Fed could lower rates by around 25-50bp in order to anchor expectations. However, the real downside risk to rates remains cyclical headwinds and the risk of recession. Concerns among committee members about the risks of corporate defaults, the desire to sustain the ongoing expansion, and the lack of tools available to counteract a future downturn will alter the Fed’s reaction function and its willingness to quickly and convincingly lower rates. While there is increased concerns surrounding market liquidity, interlinkages and the potential for a destabilizing global uncertainty shock (Trade, Brexit or geopolitical conflict) in the financial sector, there is the potential to use a playbook from the 1990s, modestly lowering rates in order to head off a liquidity crisis and confidence shock amid higher productivity growth and muted inflationary pressures.

Improvements in the global outlook could allow the Fed to bolster their defenses against the next recession, increasing rates one or two more times, and potentially reducing maturity distribution of their balance sheet in order to allow for possibility for maturity extension in the next downturn. In addition, the Fed will likely communicate its intentions for its future monetary policy targets and tools such as such as price level targeting, nominal GDP targeting or multi-year average inflation targeting.

On risks, the balance continues to tilt slightly to the downside despite the upside surprises in early 2019. With respect to a potential economic recession, our models continue to suggest that risks of a downturn are high and increasing. As

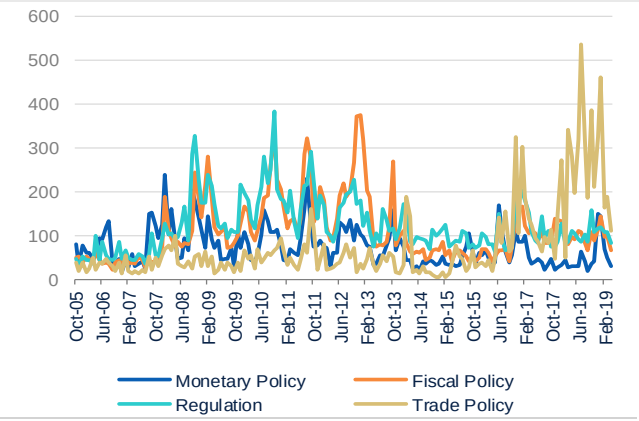
of the end of April, the 12-month and 24-month ahead projection were around 60%. Given that we anticipate the Fed to try to prolong the current expansion and that policymakers both domestically and abroad are prepared and willing to respond to any sign of slowing with further accommodation, our baseline still incorporates a less than 50 percent probability of a downturn before 2021.

Figure 2.15 Probability of recession, %



Source: BBVA Research & Haver Analytics

Figure 2.16 Categorical policy uncertainty, Index: 1985=1000



Source: BBVA Research & Haver Analytics

With respect to the catalyst for the next recession, domestic policy uncertainty, excessive risk taking in financial markets and increased late-cycle fears present the biggest risks to sustaining the expansion. Globally, unanticipated outcomes of the UK's withdrawal from the EU, an escalation in global trade tensions or a geopolitical conflict present the greatest risk to the current cycle. Although monetary policy missteps are possible, the Fed has shown a high degree of flexibility and stands willing to respond to a weaker outlook with rate cuts. As such, we believe a downside risk scenario that involves an over aggressive Fed is unlikely, particularly when considering the muted risks to inflation.

While the impetus of the next cycle is unlikely to be high-levels of corporate leverage, it remains a concern when thinking about potential amplifiers and the transmission of the shock. Unlike 2007, when the household sector was holding a disproportionate share of the debt, the scale is now more evenly balanced. That being said, lending activity has been consistent with late-cycle risk taking, including increased collateralization, weak loan covenants and higher borrower risk profiles. Ultimately, the size of the correction will be determined by how adverse the shock to the domestic corporate sector is, and the ability of the Fed to respond to the liquidity squeeze with a sufficient monetary policy response (rate reductions, forward guidance, balance sheet expansion, etc.).

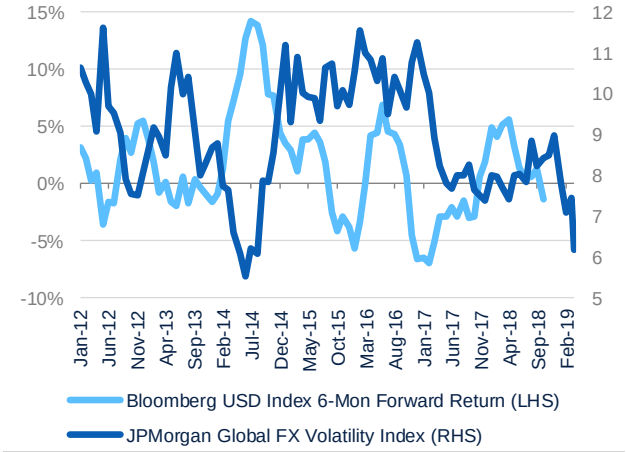
To the upside, U.S. policy makers are trying to find a middle ground on a potential infrastructure deal. While the probability of reaching an agreement is low, the benefits to the economy could be substantial, given the large infrastructure deficit. In fact, unlike other policy measures, if directed to areas that face extreme shortfalls such as broadband infrastructure, transportation, and sustainable technologies, the U.S. could see productivity and potential GDP rise. In addition, while a deflation scenario would unequivocally be a downside risk, a slight undershooting of the Fed's inflation target could prompt the Fed to lower rates even more than what markets are currently expecting.

In terms of conditions abroad, a softer exit of the UK from the EU, a thawing of trade tensions, a growth surprise in Europe or slower deceleration in Chinese growth would all improve the outlook for the U.S. economy. That being said, the improvement in market clarity is unlikely to produce a major upside surprise in U.S. growth.

3. Are markets dreaming in a U.S. dollar swing?

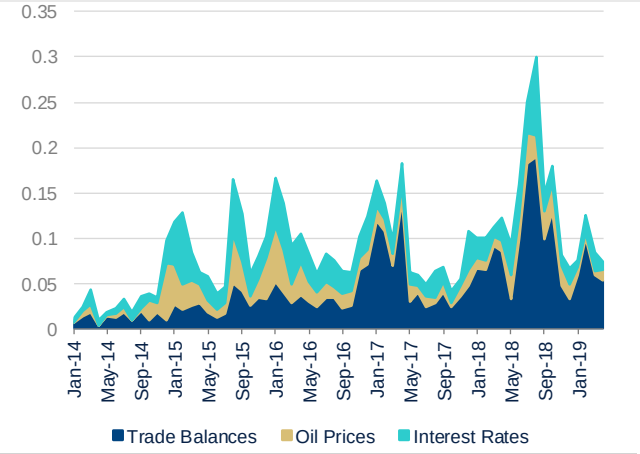
The tranquility in the global foreign exchange rate markets (FX) for the past three months has attracted much attention from market participants and analysts. Historically, extremely low FX volatilities seem to be associated with significant appreciation or depreciation of the U.S. dollar (USD). The latest example was in 2014, when a surge in the US dollar index coincided with a volatility crunch (Figure 3.1). With the FX volatility again approaching a record low, the sentiment on a violent swing in the value of the USD is significantly rising.[1]

Figure 3.1 FX volatility vs. return on USD
% and index



Source: Bloomberg

Figure 3.2 Bloomberg TV on FX and various topics
Index



Source: BBVA Research, GDELT TV Explorer

The exchange rate occupies a central role in today's international goods and assets markets, as various shocks originated in one economy can affect another economy through foreign trade and global financial flows. The value of the USD — the dominant currency in global markets — is especially relevant for the analysis of major economic indicators. Figure 3.2 shows the coverage of Bloomberg TV on foreign exchange rates and three topics: trade balances, oil prices, and interest rates. First, we can see that the coverage on exchange rates and the trade balance has been rising significantly ever since the Trump Administration put much attention on foreign trade deficits and free trade agreements. Second, we can see that the discussions on FX and oil prices were popular in 2015 and 2016, when producers had a dire outlook for oil prices. Third, the relationship of FX and interest rates had a relatively high coverage since the start of 2015, when the Fed began to normalize interest rates and its balance sheet.

U.S. dollar and trade balances

In the textbook example, foreign exchange rates play a significant role in imports and exports. One country can depreciate its currency to boost their exports and thus reduce (raise) their trade deficit (surplus). While such straightforward view cogently explains trade balance changes in many small-open economies, applying it to the U.S.

1: https://www.bloomberg.com/opinion/articles/2019-04-16/dollar-looks-poised-to-wreak-havoc

could be misleading. The trade balance of the U.S. — one of the largest and most sophisticated economies in the world — may not respond to exchange rate fluctuations as small open economies do.

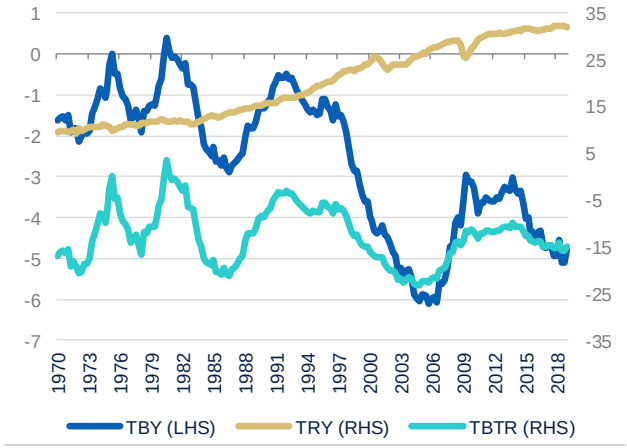
One important factor that has a significant impact on the trade balance, as Alessandria and Choi (2019) showed in their NBER working paper,[2] is the scale of trade integration. That is, if one open economy expands its trade volume, the trade deficit or surplus will increase accordingly. Such effect of scale can be illustrated by the following decomposition equation proposed by the authors:

$$TBY = \frac{X-M}{Y} = \frac{X+M}{Y} \cdot \frac{X-M}{X+M} = TRY \cdot TBTR$$

where *X* is exports; *M* is imports; and *Y* is GDP. In other words, the trade balance to GDP ratio (*TBY*) is the product of the share of trade to GDP (*TRY*) and the trade balance as share of total trade (*TBTR*). In the short run, the value of the currency would only affect TBTR, but not TRY, which would be determined by the country's integration to global trade.

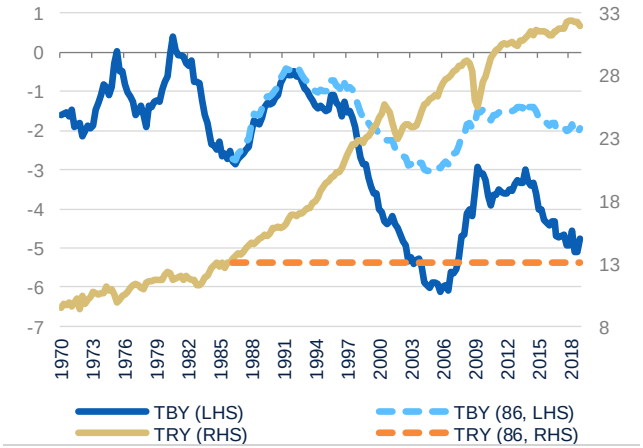
To illustrate the relationship of the three variables, we plot the trade balance to GDP ratio (TBY), the level of trade to GDP ratio (TRY), and the trade balance as share of total trade (TBTR) in Figure 3.3. The downward trend of the TBY is notably visible, which echoes the conventional concern over an unsustainable trade deficit, time and again repeated by the media and policymakers. However, TBTR does not seem to have a significant declining trend, implying that the ratio between exports and imports for the U.S. has remained relatively stable over the last 50 years. Moreover, the TRY clearly shows an upward trend, which suggests the ongoing increasing openness of the U.S. economy. In essence, we can conclude that the widening of the U.S. trade deficit has been mainly the product of higher integration to the global economy rather than unbalanced flows between exports and imports.

Figure 3.3 Trade balance to GDP ratio and its components, %



Source: BEA and BBVA Research

Figure 3.4 Actual and synthetic trade balance to GDP ratios, %

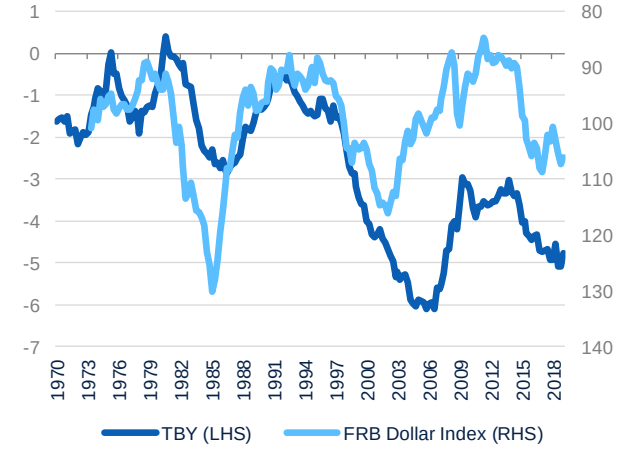


Source: BEA, Alessandria and Choi (2019) and BBVA Research

2: Alessandria, G.A. and Choi, H., 2019. *The Dynamics of the US Trade Balance and Real Exchange Rate: The J Curve and Trade Costs?* (No. w25563). National Bureau of Economic Research.

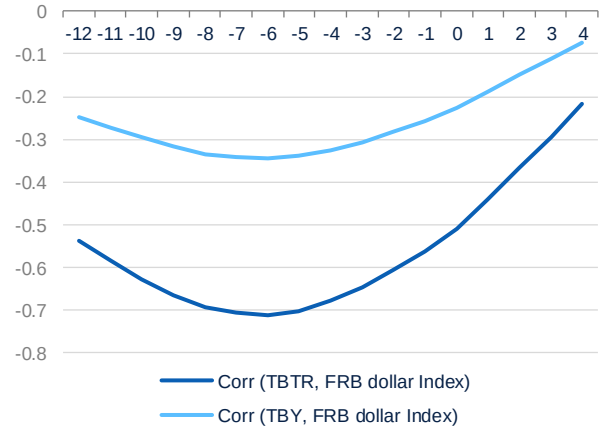
Furthermore, we can also generate synthetic trade balance to GDP ratios by fixing the value of *TRY* to illustrate the role of the openness to trade on today's trade deficit. In Figure 3.4, we assume that the openness to trade for the U.S. stays at its level in the first quarter of 1986 (before the negotiation of the free-trade agreement with Canada and other trade agreements that followed), and construct a hypothetical trade balance to GDP ratio. The figure shows that the counter-factual TBY would be -2% in 2018 — comparable to the trade deficits in the 1980s and around 60% smaller than what it is today.

Figure 3.5 Trade balance and real exchange rate
% and index (inverted)



Source: BEA and BBVA Research

Figure 3.6 Correlations with real exchange rates
Correlation coefficients



Source: BEA and BBVA Research

Moreover, the trade balance may take a significant length of time to respond to the movement in real exchange rates. As we can see from Figure 3.5, the peak of trade deficits is generally several quarters behind the spike of the value of the U.S. dollar. Figure 3.6 shows that it takes 6 quarters for both TBY and TBTR to reach their lowest points after the real exchange rate peaks. In addition, we can also see that the real exchange rate has a much higher impact on TBTR than on TBY, which is consistent with the intuition of our decomposition.

Given the decomposition and the strong link between the real exchange rate and TBTR, we can estimate the impact of a stronger U.S. dollar on the trade deficit in a partial-equilibrium setting. Based on the latest available data, a 10% increase in the real value of the U.S. dollar would drive down TBTR by 4.8% in six quarters. If we hold TRY constant at the current level, according to the decomposition equation, the decrease in TBTR will raise the trade deficit to GDP ratio by 1.5%. That is, the trade deficit will be 6.3% of GDP, a new high that will even surpass the record of 6.1% in 2006.

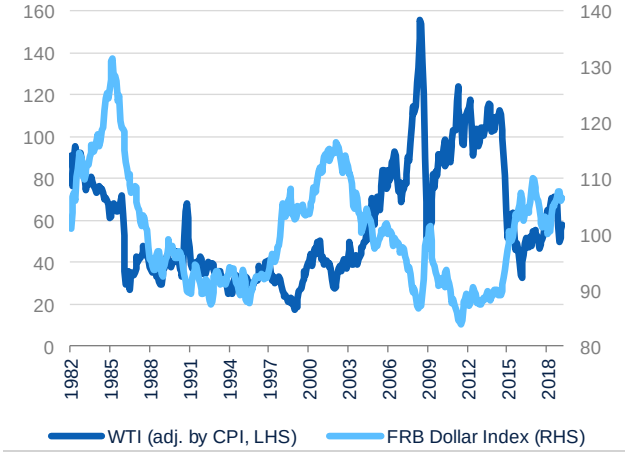
However alarming a 6.3% trade-deficit-to-GDP-ratio may sound, three things are worth noting. First, TBTR is still within its "normal range" even if it decreases by 4.8%, and is not comparable to its pre-Great-Recession low. Second, in the long run, TBTR shows strong stability and thus the drop caused by short-run exchange rate moves will eventually recover. Third, as explained before, in the long run, the trade balance to GDP ratio is driven by the level of openness for trade. Therefore, unless the U.S. systematically cuts trade links with other economies, a large trade deficit is likely to persist.

Oil prices and real exchange rates

The comovement of two of the most watched prices in global asset markets — oil and the U.S. dollar —has been widely studied since Krugman (1980),[3] and several channels are proposed on how the two affect each other. First, as oil prices are denominated in USD, an appreciation in the dollar will increase the "real price" of crude oil, thereby encouraging production and discouraging consumption, which will in turn depress oil prices. This points to a negative correlation between the dollar and oil prices. Second, as Krugman and other economists have argued, when oil price spikes, oil exporters will amass a large amount of dollars, which will later be used to purchase goods and assets in global markets. Therefore, the U.S. dollar will strengthen if oil exporters spend most of their excess dollars on American goods and assets. However, the opposite will be true if oil exporters trade a large amount of dollars for other currencies (euro, yen, yuan, etc.) for non-American goods and assets. Such trade channel suggests that the relationship between the dollar and the oil price is uncertain, and depends on the relative attractiveness of American goods and assets.

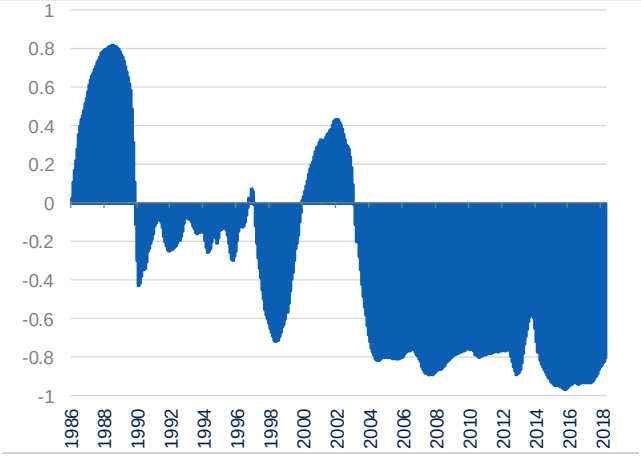
To illustrate the comovement of oil prices and real exchange rates, we plot real domestic oil prices[4] and the value of the U.S. dollar in Figure 3.7, and their 5-year rolling correlation in Figure 3.8. According to the figures, while the two may have a seemingly ambiguous relationship in the beginning, they have become significantly negatively correlated in the past 15 years. Such negative correlation is often explained by three factors. First, the long-lasting surge in the oil price reduced the real value of the dollar. Second, the rise of the global trade accelerated the decline of the traditional manufacturing sector in the U.S. Third, the prolonged zero interest rate policy weakened the attractiveness of U.S. assets. Although today's oil price is no longer surging and the monetary policy is not as dovish, we still do not see any reverse of the trend, and thus expect the negative relationship to hold in the following quarters.

Figure 3.7 Real oil prices and real exchange rate
$/bbl and index



Source: BEA and BBVA Research

Figure 3.8 Real oil prices vs. real exchange rate
5-year rolling correlation



Source: BEA and BBVA Research

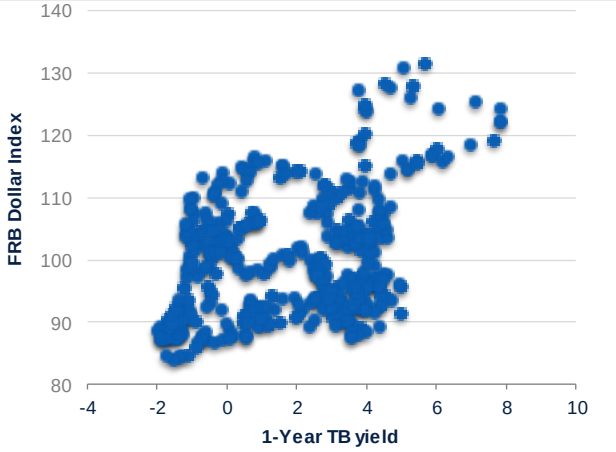
3: Krugman, P.R., 1980. *Oil and the Dollar.* (No. w0554). National Bureau of Economic Research.
4: Following the approach used by EIA's Short-Term Energy Outlook (STEO), we adjust the spot prices for West Texas Intermediate (WTI) by the CPI to get the real domestic oil prices.

So how the oil price will change if the U.S. dollar significantly appreciates? Based on the latest estimation from Kilian and Zhou (2019),[5] out of all the factors that affect oil prices, the real exchange rate can account for 14% of its fluctuations. In addition, the dollar appreciation contributed 8.4% to the oil price crash in 2014 and 2015; the WTI crude oil price decreased from 106 $/bbl in June 2014 to 37 $/bbl in December 2015. After we exclude the effects from the shocks on oil supply, demand, and inventories, the appreciation in U.S. dollar can only account for a decline of 5.8 $/bbl. If such relationship still holds, a 10% increase in the U.S. dollar value will likely reduce the oil price by 5$/bbl.

Interest rates, credit conditions, and real exchange rates

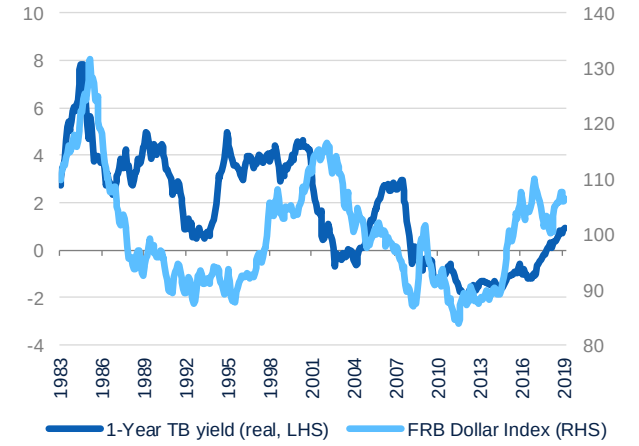
Both economists and policymakers have extensively studied the theoretical and empirical links between interest rates and exchange rates. Theoretically, some form of interest rate parity must hold in standard models, so that the system could achieve an equilibrium. In other words, the expected return on domestic assets should be equal to the exchange rate-adjusted expected return on foreign assets. Therefore, when the central bank of the home country raises interest rates, the valuation of the home currency will go up, so international investors cannot arbitrage. In addition, when the home currency appreciates, domestic assets will become more expensive and the interest rate will need to go up. That is, the theory suggests a positive relationship between exchange rates and interest rates.

Figure 3.9 Real interest rates and real exchange rate
% and index



Source: FRB and BBVA Research

Figure 3.10 Real interest rates and real exchange rate
% and index



Source: FRB and BBVA Research

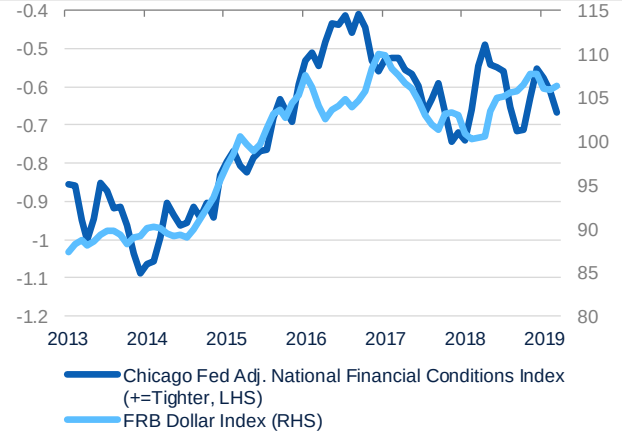
However, because of the existence of capital controls, transaction costs, and non-substitutable assets, the empirical relationship between interest rates and exchange rates is not as straightforward as in the theory, especially in the short run. In Figures 3.9 and 3.10, we plot the short-term real interest rate and the real exchange rate, where the real interest rate is defined as the one-year nominal U.S. Treasury yield, adjusted for the one-year inflation over the previous year. As Figure 3.9 shows, in the long run, the two series are positively correlated. Meanwhile, Figure 3.10 also shows that in the short run, a decrease (increase) in real interest rates is not necessarily associated with dollar depreciation (appreciation). For example, from 2003 to 2006, the real interest rate rose from -1.8% to 3.6%, while the FRB Trade-Weighted Dollar Index dropped from 106 to 96, indicating a significant currency depreciation. In contrast, between

5: Kilian, L. and Zhou, X., 2019. *Oil Prices, Exchange Rates and Interest Rates* (No. 13478). CEPR Discussion Papers.

2015 and 2018, real interest rates increased from -1.1% to 0.7% while the real trade weighted value of the dollar appreciated 11%.

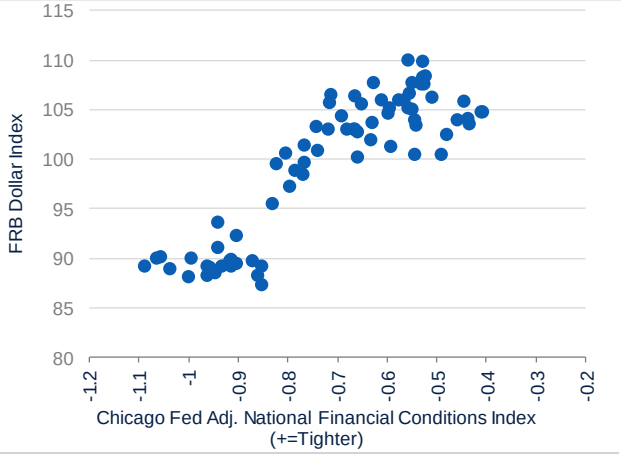
While a U.S. dollar appreciation does not necessarily put upward pressure on interest rates, a recent study by two Fed economists found that a stronger dollar could reduce the supply of commercial and industrial loans by U.S. banks.[6] Based on the pricing data of loans traded on the secondary market available from the Loan Syndications and Trading Association (LSTA), the authors argued that the fast growing sales of the U.S. syndicated loans play an important role in transmitting USD fluctuations to domestic credit conditions. That is, when the dollar goes up, U.S. syndicated loans become more expensive (and thus less attractive) to secondary market buyers, who are predominantly institutional investors with a global portfolio.[7] To cope with the change in demand, U.S. banks will make less syndicated loans, and consequently, domestic corporates will face tighter credit conditions. In Figures 3.11 and 3.12, we plot the Chicago Fed Financial Conditions Index and the FRB Dollar Index. Their comovement is apparent even before the Fed's interest hike in 2015. In other words, the link cannot be entirely explained by monetary policy actions. According to Niepmann and Schmidt-Eisenlohr (2018), U.S. banks would have lent an additional $100B to U.S. firms had it not been for the dollar appreciation from 2014 to 2017. If such relationship still holds, a 10% increase in the U.S. dollar value will likely reduce commercial loans by $50B or around 2.4% of total outstanding commercial and industrial bank loans.

Figure 3.11 Credit conditions and real exchange rates
Indexes



Source: The Conference Board, Haver and BBVA Research

Figure 3.12 Credit conditions and real exchange rates
Indexes



Source: The Conference Board, Haver and BBVA Research

Bottom line

If global weakness and uncertainty persist, the U.S. dollar could continue gaining ground as foreign investors seek refuge in U.S. dollar-denominated assets. According to our analysis, a sizeable appreciation of the foreign exchange rate would cause an increase in the trade deficit to GDP ratio, a decline in oil prices, slower growth in lending to businesses, but no significant impact on interest rates.

6: Niepmann, F. and Schmidt-Eisenlohr, T., 2018. *Global Investors, the Dollar, and US Credit Conditions* (No. 13237). CEPR Discussion Papers.
7: Lee, S.J., Liu, L.Q. and Stebunovs, V., 2017. *Risk taking and interest rates: Evidence from decades in the global syndicated loan market.* International Monetary Fund.

4. Small business lending: market size and online competitors

Small businesses, generally defined as companies employing up to 500 employees, represent a major sector of the U.S. economy. They account for close to half of total nonfarm employment[8], have an annual payroll that amounts to over $2.6T[9] and contribute with 44% of the nation's total output[10]. The survival and growth of small businesses depends on access to credit, and banks are the most common source of external credit for small firms[11]. While this market segment is critical for commercial banks, serving it comes with a number of challenges: the staff intensity of the banking relationship is high and the loan origination volume per company is smaller relative to large firms. This makes serving small businesses relatively more expensive. Moreover, the risk profiles of small businesses are different from those of larger firms. A recent survey of close to 200 banks conducted by the American Bankers Association found that the main challenges banks face in small business lending are related to efficiency, operations and costs (Figure 4.1). The market opportunity that banks have left open by not serving the smaller small firms has been exploited to some degree by nonbank online lenders that rely on cutting-edge technology and risk assessment procedures, but also charge higher interest rates. As online lenders move more mainstream, banks might become challenged on their own turf. However, banks have inherent benefits relative to online competitors, which can help them successfully defend their market share if they adjust some of their operations.

Market size

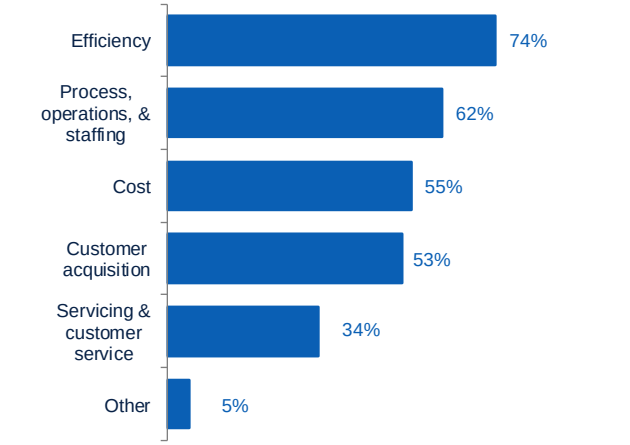
The main proxy to identify loans made to small businesses is loan size: $1M in the case of Commercial and Industrial (C&I) loans and nonfarm nonresidential loans, and $0.5M in the case of agricultural and farmland loans. However, these measures underestimate the volume of small business lending since many small business loans are larger than these amounts and the size limits are not increasing with inflation. A recent study conducted by the FDIC found that the official amount of small business C&I loans funded by FDIC-insured institutions in 2015 underestimated the actual volume by 12%. Assuming that the same level of underestimation exists in all small business loans and adjusting for inflation yields an estimation of $846B of small business loans financed by FDIC-insured depository institutions in 4Q18. This represents over 24% of all business loans held by these institutions. Considering that these lenders account for over 80% of the total small business credit market, the implied total market size is over $1T. This represents about 11% of total net bank loans and 5% of total GDP. Based on the latest thirty-year average growth rate of loan liabilities of nonfinancial noncorporate businesses, and adjusting for secular changes in the economy's growth trajectory, we expect this market to grow at an average rate between 4.5% and 5% year-over-year (YoY) over the next ten years.

8: SBA. 2018. *Small Business Profiles*. https://www.sba.gov/sites/default/files/advocacy/2018-Small-Business-Profiles-All.pdf
9: Census Bureau. 2016. *County Business Patterns*.
10: Kobe K., Schwinn R. 2018. *Small Business GDP 1998–2014.* SBA. https://s3.amazonaws.com/advocacy-prod.sba.fun/wp-content/uploads/2018/12/21060437/Small-Business-GDP-1998-2014.pdf
11: FDIC. 2018. *Small Business Lending Survey.* https://www.fdic.gov/bank/historical/sbls/full-survey.pdf

Competition from online lenders

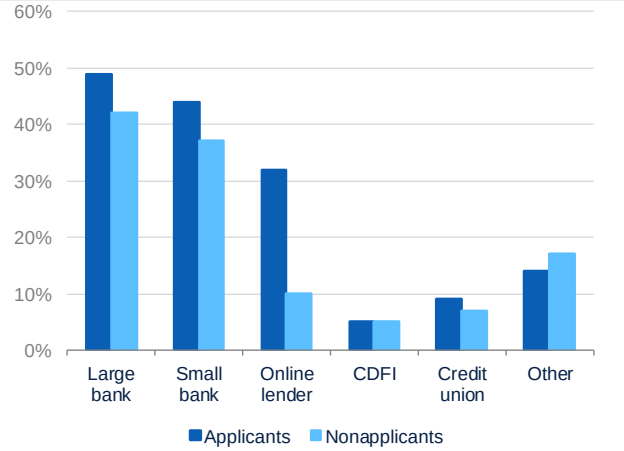
Commercial banks are the largest lenders to small businesses. The Federal Reserve's 2018 Small Business Credit Survey found that 93% of all applicants for financing during 2018 applied for credit at a large or a small bank. Out of the firms that did not apply for credit during the year, 79% had bank credit in use (Figure 4.2). Nonetheless, despite bank dominance remaining in place, there has been a significant increase in the use of nonbank online lenders over time (Figure 4.3), and the online lender application rates could approach that of banks if the current trend continues. In this scenario, the disruption that banks would face would be significant.

Figure 4.1 Biggest challenges in U.S. small-business lending, 2018



Source: BI Intelligence and ABA

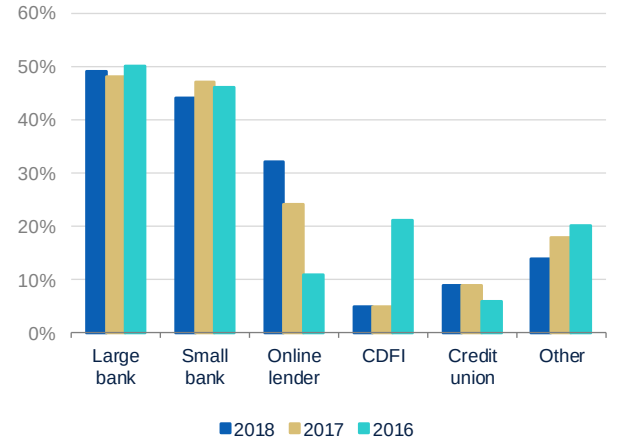
Figure 4.2 Use of external financing by small businesses, 2018



Source: Federal Reserve

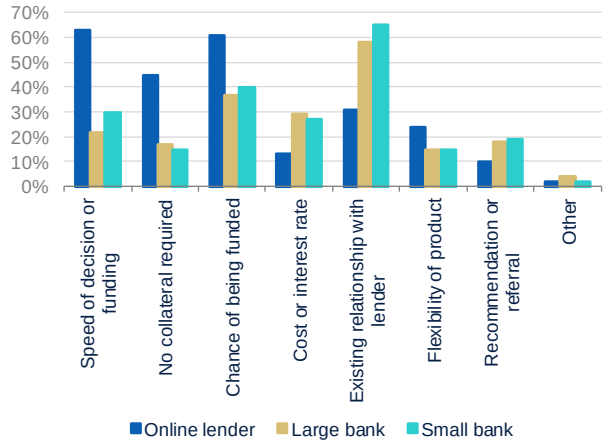
Small businesses that applied for credit with online lenders generally did so because of the easy application process, the low collateral requirements and the high approval rate (Figure 4.4). Smaller firms tend to apply to online lenders more frequently than larger ones (Figure 4.5) and they pay significantly higher interest rates (Figure 4.6). Because of higher borrowing costs, the benefits extended by online lenders do not result in higher overall satisfaction. On the contrary, the net level of satisfaction with online players is the lowest among all lenders (Figure 4.7). This means that small businesses likely apply to online lenders because of urgency and/or lack of collateral, when borrowing costs or interest rates are not the predominant factor, or when businesses believe that a bank will not approve their loan application. This suggests that online lenders focus on serving small-amount, high-risk/high-reward market segments and do not represent ideal bank substitutes. That said, circumstances could change as online lenders continue improving their value propositions and expand their product and service offerings. In this sense, their agility and lower regulatory constraints work in their favor.

Figure 4.3 Application rate by source of loan and year



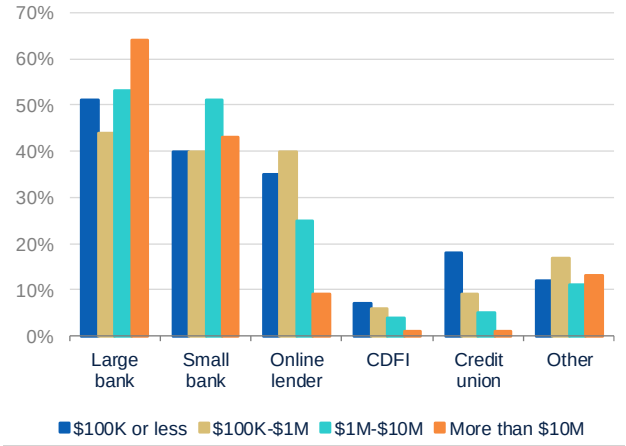
Source: Federal Reserve

Figure 4.4 Factors influencing where firms apply for loan, line of credit, and cash advance, 2018



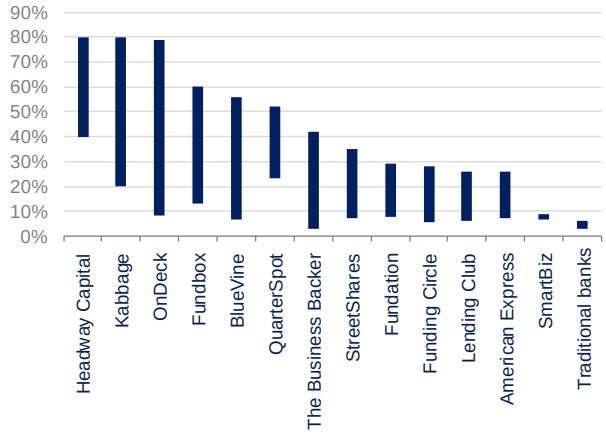
Source: Federal Reserve

Figure 4.5 Application rate by source of loan and annual revenue of applicant, 2018



Source: Federal Reserve

Figure 4.6 Approximate interest rates by small business lender



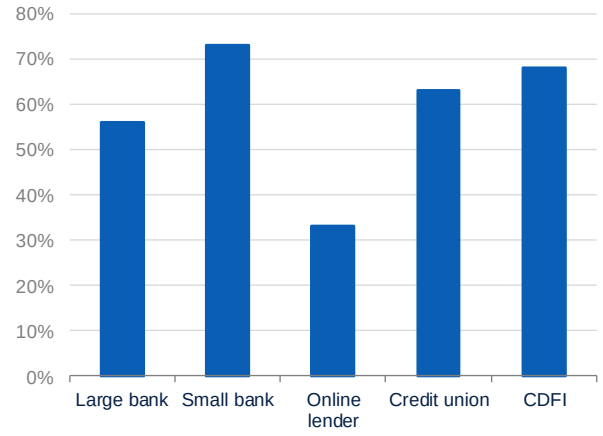
Source: Fundera https://www.fundera.com/business-loans/guides/business-loan-interest-rate, accessed May 10, 2019

Success factors for commercial banks

From the customers' perspective, commercial banks lag behind online competitors in application processing time and easiness, as well as in transparency (Figure 4.8). Addressing these issues requires comprehensive change. First, banks need to leverage all available alternative data to augment their risk assessment procedures and tailor their risk models. Second, banks need to cut the cost of processing small business loan applications. Third, banks need to expand their services by introducing small business products that balance higher risks with higher interest rates. Last

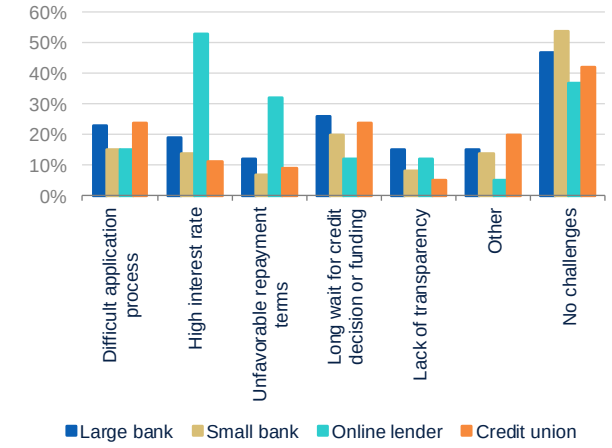
but not least, they need to improve their user experience. Technology holds the key to solving many of these challenges and online competitors can provide valuable lessons to banks.

Figure 4.7 Net satisfaction with lender, 2018



Source: Federal Reserve

Figure 4.8 Challenges obtaining loan, line of credit, or cash advance product, 2018



Source: Federal Reserve

Kabbage and Square offer two good examples. Kabbage uses accounting software data to cut down application process times to less than 10 minutes, which also means that small businesses do not need to gather their financial records themselves.[12] Moreover, the accuracy of the accounting software data improves the quality of information, which reduces the rates of rejection due to application errors[13]. It also gives the lender "a more holistic view of a [small business'] financial situation allowing it to re-underwrite small businesses continuously and increase lines of credit to match customers' live business performance".[14] Square Inc., which was initially a company that provided credit and debit card payment processing through merchants' cell phones and an innovative proprietary hardware attachment, has subsequently developed a large scale small business lending operation. Square's lending platform is based on the large amount of transaction data that the company stores when processing payments. Square utilizes cutting-edge data science to identify potential customers, recommend most suitable products, process loan applications, identify fraud etc. The company "can look into a seller's payment history, inventory movements, and hiring practices… and easily determine who qualifies for a small business loan based on their ability to repay"[15].

Banks that achieve faster approval times, provide more transparent and better user experience, augment their underwriting process with alternative data such as checking account activity and data from third-party sources, as well as lower their processing costs through automation, can reap significant rewards. By doing this, banks would build on the primary advantages that they inherently have over online lenders: an already established relationship with small businesses through a checking account, easy access to small business owners and share-of-mind, data on small business operations and transactions, and competitive cost of funds relative to many non-bank competitors.[16] In fact, the cost of funds is a particularly potent source of competitive advantage as "bank's cost of funds for a line of credit will

12: Nonninger, L. 2019. *SMB Lending Report*. BI Intelligence.
13: Ibid
14: Ibid
15: Vera, S. 2017. *A Peek into Machine Learning at Square*. https://developer.squareup.com/blog/a-peek-into-machine-learning-at-square
16: Rotman, F. et al. 2015. *The brave 100. The battle for supremacy in small business lending*. QED Investors and Oliver Wyman. https://qedinvestors.com/wp-content/uploads/2015/10/The-Brave-100-The-Battle-for-Supremacy-in-Small-Business-Lending_vf.pdf

typically be in the range of 50-60 basis points—a fraction of the 600-1,200 basis points marginal cost for non-bank lenders."[17]

Bottom line

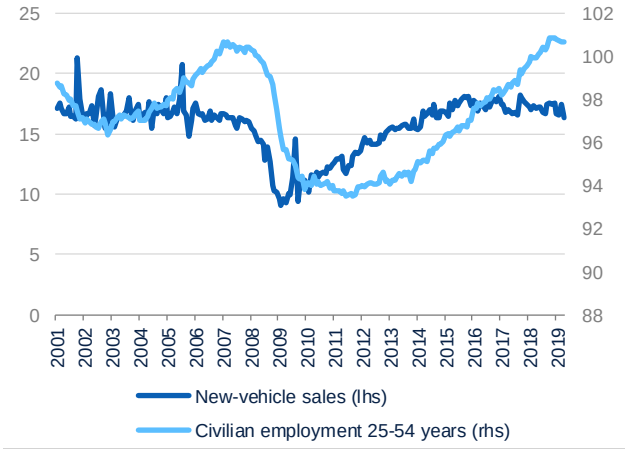
The small business loan market is significant and it is valued at over $1T. While banks still hold close to 80% market share, nonbank online competitors have successfully exploited the challenges that traditional financial institutions face in serving small businesses. Online lenders are currently concentrated only on a specific market niche – higher cost loans with fast approval times and easy application procedures- but could soon expand into traditional credit segments. Banks can learn vastly from the experience of online lenders, especially on how to move beyond traditional underwriting methods, which are widely recognized to be "costly, slow and not particularly effective at differentiating risk"[18], even though this could be challenging due to regulatory constraints. Because of their inherent advantages over online lenders, banks can successfully defend their market share if they adopt some of the technologies and procedures in use by online lenders. Improved transparency, easier application procedures, shorter approval times, a wider array of bank products and services, and a better user experience would also be a great benefit for small businesses and would help their productivity in the long-run. This would boost profitability, investment and job creation, which would not only increase banking opportunities but also translate into higher economic growth.

17: Ibid
18: Ibid

5. New-vehicle sales outlook

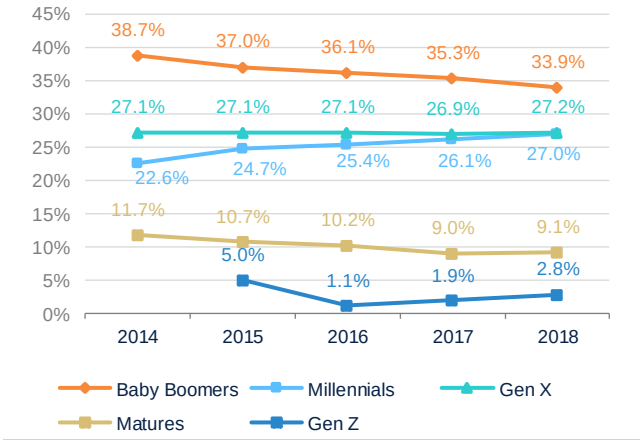
After the great recession, light vehicle sales experienced a sustained recovery supported by job creation, access to credit, and low interest rates. The period between 2015 and 2018 was notoriously favorable for light-vehicle sales, in line with the improvement of economic fundamentals. Millennials emerged as the driving force of light-vehicle sales, accounting for nearly one out of three new vehicle registrations in 2018. Consumer confidence showed levels of optimism not seen since the second half of the 90s. The economy added around 10M jobs. Interest rates on auto loans were very low compared to the previous expansionary cycle, while auto loan originations reached record levels. As a result, in 2016, sales of new light-trucks and cars reached a record high of 17.5M units, followed by lower but still strong sales of 17.2M units in both 2017 and 2018.

Figure 5.1 Total light-new-vehicle sales and civilian employment by age (SAAR million units & SA millions)



Source: BBVA Research and Haver Analytics

Figure 5.2 New vehicle registrations by demographic generation (4Q, eop)



Source: Experian

Could new-vehicle sales maintain momentum in 2019 and beyond?

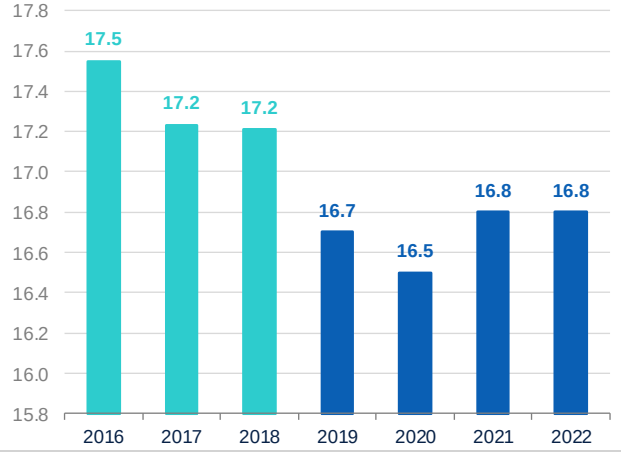
According to recent economic and industry trends, the answer is probably not.

In the first quarter, GDP figures showed that real personal consumption expenditures on motor vehicles and parts declined, relative to the previous year, for the second consecutive time. When measured in units, auto sales declined for the third consecutive time, standing at 16.9M in the first quarter. In April, sales went down to 16.4M, the lowest reading in nearly five years. This is consistent with a slower pace of growth in the labor force.

For the period between 2019 and 2022, we expect auto sales to decelerate in line with our baseline projections for the U.S. economy. During this period, we expect GDP growth to slow down from 2.5% in 2019 to its long-term trend of 1.8% by 2022. The effect of the 2017 tax cuts will diminish over time, depriving consumers and the auto industry of the boost enjoyed in previous years. Slower economic growth will most likely translate into slower disposable income growth, a slower pace of job creation, and a higher unemployment rate. In addition, auto sales will also feel the impact

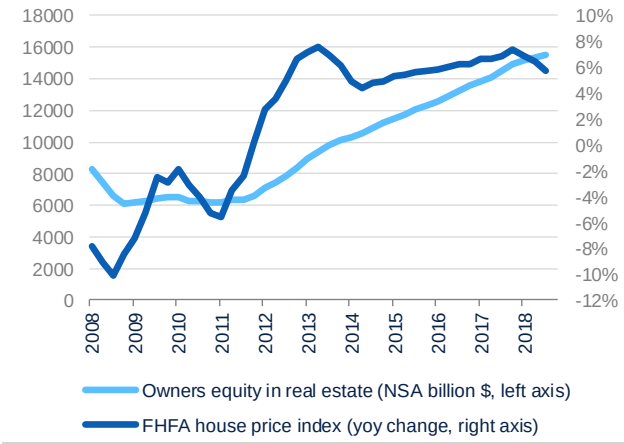
of higher interest rates, resulting from previous and expected increases in the Fed funds rate. Higher interest rates will negatively affect the demand of motor vehicles since purchases of 85% of new and 54% of pre-owned units are financed.

Figure 5.3 Total new light vehicle sales forecast (SAAR, million units)



Source: BBVA Research and Haver Analytics

Figure 5.4 Households equity in real estate



Source: BBVA Research and Haver Analytics

However, it should be noted that we only expect one additional rate increase in the forecasting period. Moreover, despite being higher than in previous years, rates would remain relatively low. This, together with healthy leverage ratios and owners' equity in real estate should prevent the demand for motor vehicles from weakening significantly.

Considering all the macroeconomic factors at play, the overall net effect will be a lower demand for motor vehicles through the forecasting period.

Industry considerations

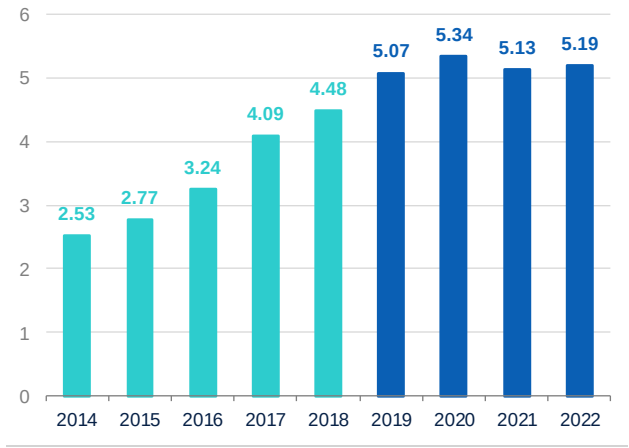
An industry factor that will most likely drag down new-vehicle sales in the forecasting period is the unprecedented large volumes of off-lease vehicles available in the market, which predictably triggered a substitution effect between new and pre-owned units.

Leasing has become an increasingly popular option to acquire a new-vehicle. Today, nearly one out of three new-vehicles sold in the country are leased, the highest rate on record. Leasing penetration varies by type of vehicle, being the highest among mid-range luxury cars (55.8%), and the lowest among vans (1.8%).

Leasing expanded between 2015 and 2018 in tandem with demand for autos and historically low interest rates. However, as leased terms from early years began to expire in big numbers, millions of off leased vehicles became available for purchase. We estimate that the number of off-lease vehicles went from 2.5M in 2014 to 4.5M in 2018. Given the strong sales observed in the past four years and assuming an average lease term of 36 months, the peak of available off-lease vehicles will most likely be reached at 5.34M units by 2020.

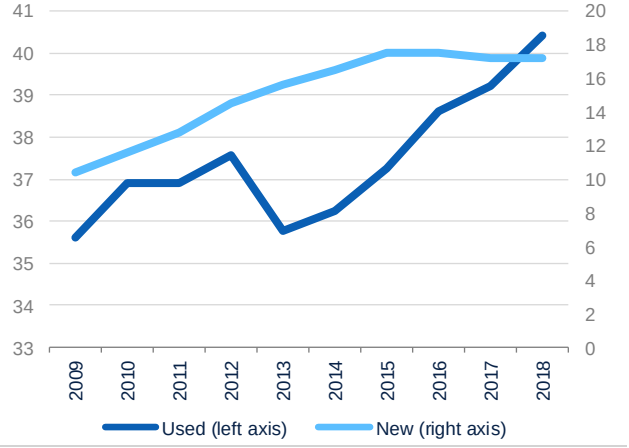
Large volumes of off-lease vehicles benefit consumers, which can now choose from a variety of pre-owned cars and SUVs in good conditions at affordable prices. However, a larger pool of pre-owned units has put some pressure on the new-vehicle segment. As Chart 5.6 shows, when sales of new-vehicles flattened between 2017 and 2018, sales of used-vehicles continued to growth. As the economy decelerates, we should see a deceleration of both new- and used-vehicle sales; however, the former may slow down faster. Prices of used vehicles may go down as supply increases and demand weakens, however, a shortage of 2008 and 2010 models caused by the great recession, should help preserve the value of more recent and more abundant models.

Figure 5.5 Off-lease vehicles available
(million units)



Source: BBVA Research and Bloomberg

Figure 5.6 New and pre-owned vehicle sales
(SAAR, million units)

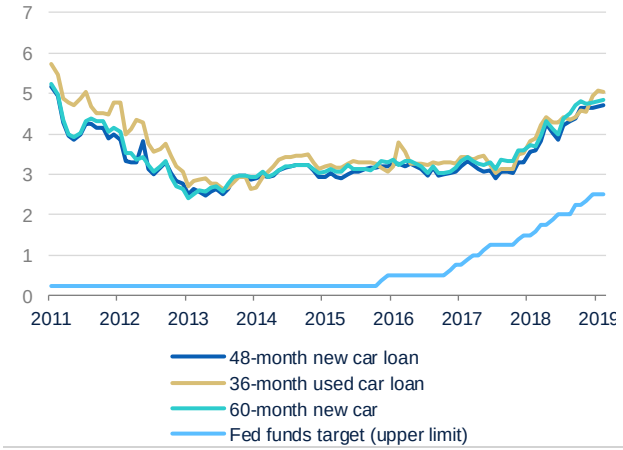


Source: BBVA Research and Haver Analytics

From a financial perspective, pressures on affordability may be increasing. Average new-vehicle prices continue to reach new heights ($36,843 as of April of this year). Elevated prices are not only due to solid demand but also to a change in the mix of new vehicles in favor of more expensive SUVs. A structural shift in consumer preferences towards SUVs and other types of light trucks has characterized the recent period of expansion, to the point that they now account for roughly 70% of new vehicle sales, from 53% on average between 2000 and 2013. Consumers have been able to cope with higher prices by borrowing more and for longer terms. In 2018, auto loan originations reached $584B, the highest in the nineteen years since originations have been recorded by the New York Fed. In 4Q18, the average auto loan reached a record high of $31,722 for new-vehicles and $20,077 for used-vehicles. The average loan term for new vehicles stood at 69 months, implying that there is a large pool of auto loans with terms that exceed the typical 5 years.

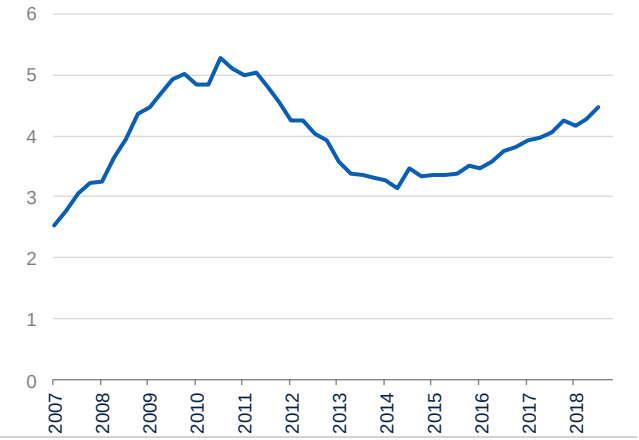
Meanwhile, interest rates on 36, 48 and 60-month new auto loans went up by 181, 200 and 169 basis points respectively since mid-2017. Average monthly payments hit record highs of $545 for new vehicles and $387 for used vehicles. Until now, higher vehicle and financing costs have not been a major problem due to favorable macroeconomic conditions as well as ample liquidity and risk appetite. According to the latest data, outstanding asset-backed securities (ABS) of prime auto loans reached $87.1B in 1Q19, around 13% lower than the peak in 2003. However, outstanding subprime ABS were $54.6B in the same period, marking a new record high.

Figure 5.7 Selected interest rates
(%)



Source: BBVA Research and Haver Analytics

Figure 5.8 Auto loan 90+ days delinquent
(% of balance)



Source: BBVA Research and Haver Analytics

Slower economic growth could impair the ability to pay of many borrowers and force financial institutions to tighten credit standards, which could potentially affect demand, particularly from subprime borrowers. In fact, although most of the recent increase in credit has concentrated in prime borrowers, delinquencies are increasing due to the large volume of subprime borrowers that have also benefited from the expansion of credit.

The balance of risks is tilted to the downside

Although our baseline macroeconomic scenario points to a gradual deceleration, economic growth could slow down faster-than-expected, leading to a much weaker demand.

An additional source of risk comes from the impact of U.S. trade policy on light-vehicle prices. Protectionism could negatively affect auto sales by increasing the cost of intermediate and final goods that could eventually be passed to consumers in the form of higher retail prices. There are four aspects of the U.S. trade policy that if implemented in their entirety could have negative repercussions on new-vehicle sales.

First, the tariffs on steel aluminum, which are already causing havoc among automakers. So far, these tariffs have cost nearly $1B to GM and Ford, respectively and could increase costs to Fiat Chrysler by $350B. Second, the United States, Mexico, Canada Trade Agreement (USMCA), still to be ratified by Congress, introduces new rules of origin that effectively increase the share of U.S. content for vehicles produced in Canada and Mexico plus new provisions to increase wages in Mexico's manufacturing plants. Third, the Trump administration is also considering imposing 25% tariffs on imported cars and auto parts from all other countries on national security grounds. A final decision is still pending and there has been intense lobbying from the industry to prevent these tariffs from happening. Fourth, the lack of a meaningful agreement in trade negotiations between the U.S. and China could extend for a long period. So far, the U.S. government has imposed tariffs on $250B worth of Chinese goods, including dozens of auto parts, and threatened to tariff another $325B.

Bottom line

After four years of bonanza, new-vehicle sales are likely to moderate in the following years due to slower economic growth and higher interest rates. This trend will be aggravated by the large amounts of off-lease vehicles available in the market. However, despite the expected deceleration, our forecasts still point to what could still be considered reasonably good figures. Demand for new vehicles will continue to be supported by job creation and access to credit, albeit with less impetus. In the short-run, risks are tilted to the downside as the probability of recession has increased and U.S. trade policy has the potential to inflict significant pain on automakers, dealers and consumers.

6. Forecasts

Table 6.1 U.S. macro forecasts

	2012	2013	2014	2015	2016	2017	2018 (e)	2019 (f)	2020 (f)	2021 (f)	2022 (f)
Real GDP (% SAAR)	2.2	1.8	2.5	2.9	1.6	2.2	2.9	**2.5**	**2.0**	**1.9**	**1.8**
Real GDP (Contribution, pp)											
PCE	1.0	1.0	2.0	2.5	1.9	1.8	1.8	**1.6**	**1.5**	**1.2**	**1.2**
Gross Investment	1.6	1.1	0.9	0.8	-0.2	0.8	1.0	**0.8**	**0.7**	**0.8**	**0.8**
Non Residential	1.2	0.5	0.9	0.3	0.1	0.7	1.0	**0.7**	**0.7**	**0.7**	**0.7**
Residential	0.3	0.3	0.1	0.3	0.2	0.1	0.0	**-0.1**	**0.0**	**0.0**	**0.1**
Exports	0.5	0.5	0.6	0.1	0.0	0.4	0.5	**0.4**	**0.6**	**0.7**	**0.7**
Imports	-0.5	-0.3	-0.9	-1.0	-0.3	-0.8	-0.8	**-0.3**	**-0.9**	**-0.9**	**-1.0**
Government	-0.4	-0.5	-0.2	0.3	0.3	0.0	0.3	**0.2**	**0.1**	**0.0**	**0.0**
Unemployment Rate (%, average)	8.1	7.4	6.2	5.3	4.9	4.4	3.9	**3.7**	**4.0**	**4.2**	**4.4**
Avg. Monthly Nonfarm Payroll (K)	181	192	251	227	193	179	223	**187**	**160**	**135**	**113**
CPI (YoY %)	2.1	1.5	1.6	0.1	1.3	2.1	2.4	**1.8**	**2.0**	**2.1**	**2.1**
Core CPI (YoY %)	2.1	1.8	1.8	1.8	2.2	1.8	2.1	**2.0**	**2.0**	**2.0**	**2.0**
Fiscal Balance (% GDP, FY)	-6.8	-4.1	-2.8	-2.4	-3.2	-3.5	-4.0	**-4.2**	**-4.2**	**-4.3**	**-4.8**
Current Account (bop, % GDP)	-2.6	-2.1	-2.1	-2.2	-2.3	-2.3	-2.4	**-2.3**	**-2.4**	**-2.5**	**-2.6**
Fed Target Rate (%, eop)	0.25	0.25	0.25	0.50	0.75	1.50	2.50	**2.75**	**2.75**	**2.75**	**2.75**
Core Logic National HPI (YoY %)	4.0	9.7	6.8	5.3	5.5	5.9	5.7	**3.7**	**3.0**	**3.2**	**3.5**
10-Yr Treasury (% Yield, eop)	1.72	2.90	2.21	2.24	2.49	2.40	2.83	**2.84**	**3.06**	**3.22**	**3.37**
Brent Oil Prices (dpb, average)	111.7	108.7	99.0	52.4	43.6	54.3	71.1	**66.6**	**55.8**	**60.8**	**60.0**

e: estimated
(f): forecast
Source: BBVA Research

Table 6.2 U.S. state real GDP growth, %

	2014	2015	2016	2017	2018 (e)	2019 (f)	2020 (f)	2021 (f)	2022 (f)
Alaska	-2.8	0.7	-1.8	-0.2	-0.3	**0.5**	**-0.4**	**-0.3**	**-0.2**
Alabama	-1.0	1.3	0.5	1.8	2.0	**1.3**	**1.0**	**0.6**	**1.1**
Arkansas	0.8	0.4	0.5	0.9	0.9	**0.8**	**0.3**	**0.2**	**0.0**
Arizona	1.2	2.2	3.3	3.0	4.0	**2.4**	**1.9**	**1.3**	**1.1**
California	4.0	5.0	3.0	3.6	3.5	**3.3**	**3.0**	**3.4**	**3.4**
Colorado	4.4	4.4	2.4	3.1	3.5	**3.2**	**2.3**	**2.0**	**1.9**
Connecticut	-1.5	1.8	-0.2	-0.6	1.0	**1.1**	**0.5**	**0.3**	**0.1**
Delaware	7.7	3.0	-2.9	-0.1	0.3	**1.9**	**1.7**	**1.4**	**1.1**
Florida	2.6	3.9	3.4	2.5	3.5	**3.0**	**2.5**	**2.5**	**2.2**
Georgia	2.9	3.3	3.3	2.9	2.6	**2.3**	**1.7**	**1.6**	**1.4**
Hawaii	0.3	3.4	2.3	1.6	1.0	**1.5**	**1.1**	**0.9**	**0.8**
Iowa	5.2	2.1	0.4	-0.3	1.4	**2.2**	**1.6**	**1.4**	**1.2**
Idaho	2.6	3.0	3.7	2.4	4.1	**2.6**	**1.8**	**1.5**	**1.3**
Illinois	1.3	1.0	0.3	0.6	2.1	**1.8**	**1.6**	**1.4**	**1.3**
Indiana	3.0	-1.0	1.7	1.6	1.9	**2.4**	**1.0**	**1.2**	**1.0**
Kansas	1.9	1.2	2.3	0.8	1.9	**1.9**	**1.1**	**0.8**	**0.6**
Kentucky	0.2	0.5	0.5	1.1	1.4	**0.8**	**0.8**	**0.6**	**0.4**
Louisiana	2.3	-0.2	-1.2	0.1	1.1	**2.4**	**1.4**	**0.8**	**0.3**
Massachusetts	1.9	3.6	1.7	2.2	2.7	**2.8**	**2.0**	**1.7**	**1.6**
Maryland	1.1	1.7	3.1	2.0	1.6	**1.6**	**1.0**	**0.8**	**0.6**
Maine	1.7	0.4	2.1	1.7	1.9	**1.6**	**1.1**	**0.9**	**0.7**
Michigan	1.5	2.3	1.9	1.6	2.7	**1.3**	**0.9**	**0.9**	**0.8**
Minnesota	2.5	1.0	2.0	2.1	2.2	**2.8**	**1.2**	**1.1**	**0.9**
Missouri	0.3	1.1	-0.9	0.9	2.3	**0.5**	**0.2**	**0.2**	**0.2**
Mississippi	-0.2	0.4	0.3	0.5	1.0	**0.3**	**-0.1**	**-0.1**	**0.0**
Montana	1.6	3.8	-1.1	0.4	0.9	**2.0**	**1.1**	**0.9**	**0.7**
North Carolina	1.9	3.1	1.1	1.9	2.9	**2.1**	**1.4**	**1.2**	**1.0**
North Dakota	7.2	-3.0	-7.1	-1.6	2.5	**1.0**	**0.5**	**0.6**	**0.5**
Nebraska	2.0	2.4	0.5	0.3	1.5	**0.8**	**0.4**	**0.4**	**0.5**
New Hampshire	1.0	2.4	1.9	2.0	2.2	**2.2**	**1.0**	**0.7**	**0.5**
New Jersey	0.3	1.6	0.7	1.3	2.0	**1.3**	**0.6**	**0.4**	**0.3**
New Mexico	3.1	1.9	0.1	0.0	1.8	**0.9**	**0.3**	**0.2**	**0.1**
Nevada	1.1	4.2	2.4	2.5	3.2	**3.7**	**2.3**	**1.9**	**1.8**
New York	2.2	1.5	1.4	1.4	2.1	**2.0**	**1.7**	**1.6**	**1.4**
Ohio	3.6	1.2	0.7	1.6	1.8	**2.1**	**1.5**	**1.4**	**1.2**
Oklahoma	5.9	3.5	-2.8	0.2	1.8	**2.7**	**2.3**	**2.3**	**2.2**
Oregon	3.5	5.3	4.6	3.2	3.4	**2.1**	**2.3**	**2.3**	**2.0**
Pennsylvania	2.1	2.0	1.1	1.7	2.1	**1.1**	**1.0**	**1.1**	**1.0**
Rhode Island	0.2	1.5	0.0	0.8	0.6	**0.4**	**0.3**	**0.2**	**0.3**
South Carolina	2.4	3.2	2.8	2.6	1.6	**2.2**	**1.8**	**1.7**	**1.5**
South Dakota	1.1	2.6	0.3	-0.4	1.3	**3.8**	**2.7**	**2.4**	**2.0**
Tennessee	1.6	3.1	1.9	2.4	3.0	**2.2**	**1.9**	**1.9**	**1.8**
Texas	2.7	5.1	0.2	2.0	2.8	**3.3**	**3.0**	**3.2**	**3.1**
Utah	3.0	4.0	3.9	2.7	4.3	**3.3**	**2.4**	**2.2**	**2.0**
Virginia	-0.2	1.9	0.3	1.8	2.8	**1.0**	**0.1**	**0.0**	**-0.1**
Vermont	0.0	1.1	1.6	1.3	1.2	**1.2**	**0.6**	**0.5**	**0.4**
Washington	3.5	4.2	3.8	4.1	5.7	**3.6**	**3.4**	**3.4**	**3.3**
Wisconsin	1.8	1.4	1.1	1.4	2.5	**1.6**	**1.4**	**1.4**	**1.3**
West Virginia	-0.4	-0.5	-1.2	1.4	2.4	**0.4**	**0.0**	**-0.1**	**-0.2**
Wyoming	0.1	2.6	-3.8	0.5	0.3	**3.6**	**3.4**	**2.5**	**1.9**

(f): forecast
Source: BBVA Research

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