BBVA Research

Creating Opportunities

United States Economic Outlook

Fourth quarter 2020

Index

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1. Editorial

One of the first steps of the Biden administration will be resetting the agenda on foreign relations and international trade. This encompasses five key priorities: Latin America, global leadership, historical alliances, China, and perceived threats. On Latin America, Biden has ample experience from serving as the point person on Plan Colombia during the Clinton administration, as ranking member and chairman of the Senate Foreign Relations Committee, and as Obama's chief emissary to the region. Biden's doctrine will invigorate his long-standing approach of providing financial and political cooperation to help build thriving economies and more open societies. Doing so could counteract drug trafficking, corruption, social unrest and poverty, which lead to domestic instability and migration to the U.S.

Closer to home, Biden could restore the American Consular office in Havana and augment humanitarian aid to Venezuelans as goodwill steps to reset relations. However, Biden will be careful not to extend an olive branch without reciprocity, particularly if he wants to win Florida in 2024. This requires a tougher stance than Obama's administration but less antagonistic than Trump's. Thus, a more likely approach will be to form alliances with Latin American countries and Europe to exert pressures and enhance civil rights and economic freedom in these two countries.

Biden's approach to Latin America won't differ significantly from past initiatives like the Plan Colombia, the Merida Initiative, the Central America Regional Security Initiative, and the Alliance for Prosperity. However, critics contend that despite millions of dollars poured into the region, these initiatives mainly served the interests of U.S. corporations and local ruling elites while violence, corruption and waves of migration continued to rise, and many countries shifted their support to left-leaning and, for the most part, anti-American politicians. In any case, Biden's top priority and major test will come from the so-called Northern Triangle (Guatemala, Honduras and El Salvador) where he is proposing a comprehensive four-year, $4bn plan. Biden will also take the opportunity next April, when the U.S. will host the Summit of the Americas, to present a multilateral approach and foster a new relationship based on trust and cooperation with our southern neighbors.

Regarding global leadership, the Biden administration will focus on three key challenges: health, climate and trade. Biden's strategy to deal with Covid-19 will focus on developing global protocols and standards to prevent this and other viruses from spreading out across countries, and promote open borders for medical equipment. This will be supported by resetting the World Health Organization relationship, restoring the White House National Security Council Directorate for Global Health Security and Biodefense, re-launching the U.S. Agency for International Development's pathogen-tracking program (PREDICT), and rebuilding the CDC office in Beijing.

On climate, Biden will fulfill his promise to rejoin the Paris Climate Agreement. However, the biggest challenge will be integrating climate change into foreign policy and national security priorities. This requires fostering global coordination to promote renewable energy investments and develop an enforcement strategy to penalize countries that try to cheat or avoid commitments. On the one hand, this could imply a global ban on fossil subsidies and tariffs on carbon-intensive imports, and on the other hand, incorporating emission reduction commitments in international trade agreements and a carbon border adjustment for countries that do not meet their goals.

On trade, the Biden administration will return to a rules-based system supported by multilateralism. In this context, the new administration could eliminate unilateral tariffs such as those on steel and aluminum and seek to replace the WTO Appellate Body to improve the dispute settlement system. It could also align its trade and environmental policies by

negotiating industrial, agriculture, fisheries, and climate-related subsidies with top trading partners. The Biden administration may also seek to improve cooperation in electronic commerce and services. A more challenging endeavor requires building support to join the Comprehensive and Progressive Agreement for Trans-Pacific Partnership, which came about after the U.S. pulled out of the TPP. This will provide access to U.S goods and services to the third-largest free-trade area in the world. Moreover, Biden could formalize the Trade in Services Agreement, aimed at boosting open trade across services.

Biden's approach to China will aim at balancing cooperation and playing by the rules. The new administration could form an alliance with other democracies to rewrite the contract that would allow China to continue developing and becoming an integral partner across global institutions as long as it abides by the rules governing exchange rate manipulation, government procurement, state-owned enterprises, foreign direct investment, intellectual property protection and market access. Since global efforts to combat climate change require China's participation, Biden could use trade policy and multilateralism, and other levers like human rights, to exert pressure and strike a deal acceptable to both sides. In this transition, Biden could reduce or eliminate some of the tariffs and adjust the Phase One agreement to kickstart the negotiations under a more congenial environment. However, Biden will not rush in if the results are not visible, and he perceives that China defies the rules.

The next priority involves repairing relations with democratic allies. This includes de-escalating tensions with Europe resulting from tit-for-tat tariffs over disputes on subsidies to Boeing and Airbus, corporate tax avoidance and evasion, and NATO's cost-sharing burden. Along with Europe, Japan, Canada, Australia, South Korea and other democracies, Biden could agree on export controls on high-technology goods and services that are both acceptable and conducive to mitigate threats to national security. In addition, he could seek to foster regulatory convergence on consumer protection, licencing and accreditation standards, as well as reaching common ground on privacy and data protection, predatory state subsidies, overcapacity, and intellectual property theft. The new administration is also likely to reset relations with Mexico to strengthen North America supply chains, but also pressure Mexico to realign domestic priorities with global efforts to combat climate change. Biden will also support Taiwan over threats from China, help improve relations between South Korea and Japan, and take a more proactive role in the Asia-Pacific Economic Cooperation group to promote cooperation with its members, some of which perceive that the U.S. has abandoned them and are concerned with China's increasing influence through the Belt Road Initiative.

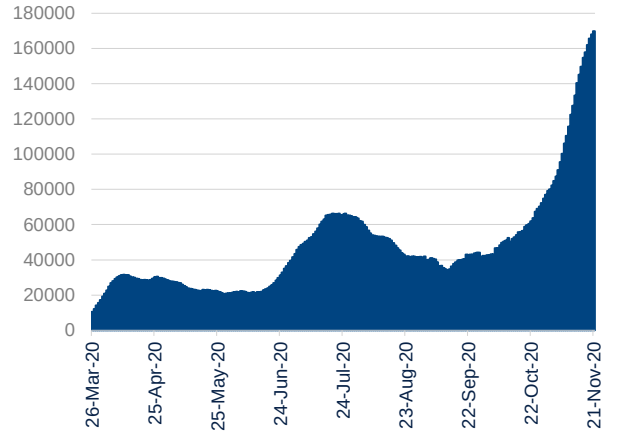
Finally, the Biden administration will change direction in areas that are perceived as threats. In particular, arms control arrangements based on the extension of the New START Treaty with Russia. This will not be an easy task since Biden could also want to increase pressure and sanctions on Russia while promoting greater integration of Central European countries with the EU and Ukraine's entry to NATO. Biden will also put pressure on Saudi Arabia to stop the war in Yemen and re-enter the Joint Comprehensive Plan of Action (nuclear deal with Iran), with some modifications to assure compliance and deter Iran from activities aimed at destabilizing the Middle East. Biden will also seek cooperation with Western allies to manage cybersecurity risks and with China to denuclearize North Korea.

Biden's long track record on foreign relations suggests he has the knowledge and experience to leave a historic mark, shaped by cooperation and trust, and supported by democratic values, science and human rights. However, geopolitics has changed dramatically in recent years and Biden's experience, which comes from an era that no longer exists, won't be enough. Still, with the right people, and some luck, the next administration could reinvigorate the country's leadership in the new international order confronted by existential risks and the ascent of China as an economic superpower.

2. U.S. battening down the hatches after exiting eye of the storm

The fiscal and monetary stimulus effectiveness and a more relaxed Covid-19 mitigation strategy produced unparalleled growth in 3Q20, pushing our estimate for 2020 to -3.6% and 3.6% in 2021. While economic activity continues to improve, the surge in Covid-19 cases and the lack of a widely available vaccine is counteracting the hard-fought momentum that was achieved in the 3Q20. Moreover, the sectors that successfully overcame the pandemic, such as automotive, telework-related service and equipment providers, and housing and household goods, are above pre-pandemic or close to surpassing those levels, suggesting that the upside for consumption and investment in these areas is moderating. Furthermore, the supply-side's excess capacity in the service sector will remain until a vaccine can change an individual's demand for travel, leisure and hospitality, undoing the behavioral shifts brought about by the pandemic. The new administration faces the daunting task of ensuring that the recovery remains on track, which will require effective management of the pandemic and additional fiscal support to bridge-the-gap until there is a vaccine widely distributed. With the higher probability of a divided government and the underlying political polarization, our baseline assumes that Biden will not accomplish the more ambitious and partisan objectives. The divisions likely remove tail risks to the upside and downside from a policy perspective, implying no significant changes to the potential of the U.S. economy over the medium-run.

Figure 2.1 **COVID-19 NEW DAILY CASES** (THOUSANDS)



Source: BBVA Research, rt.live and Johns Hopkins University

Figure 2.2 **COVID-19 HOSPITALIZATIONS TO NEW CASES** (%)

Source: BBVA Research, rt.live and Johns Hopkins University

Until there is widespread distribution of an effective vaccine, economic and Covid-19 conditions will be inexorably tied. The recent surge in cases in the Midwest and growing numbers in large urban centers on the East and West Coast are concerning. There are currently around 200,000 new Covid-19 cases and 2,000 deaths per day, up 73% and 63% over the past two weeks. Also, unlike the summer hotspots, the significant rise in cases is accompanied by a larger fraction of hospitalizations per new case, albeit still well below the worst of the pandemic in 2Q20. In some cities, local

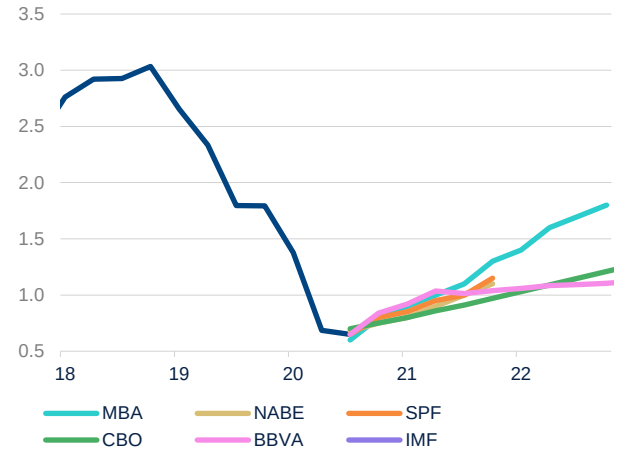
hospitals and healthcare infrastructure are reaching surge capacity and R_0, which measures the reproductive rate of Covid-19, is above one in every state excluding Mississippi. In this scenario, case levels will continue to rise for the foreseeable future or until there are additional distancing measures put in place. While the impact that Covid-19 will have on economic activity will be less severe, the current trend in new Covid-19 cases could risk pushing health care resources to the brink, forcing the government to reinstate compulsory distancing or mandatory lockdowns.

Stable financial conditions amidst rising long-term yields

While financial tensions remain subdued with nontrivial monetary accommodation, long-term yields have risen significantly in 4Q20. Nevertheless, we continue to anticipate rates will remain low for longer with persistent negative real rates. However, the recent surge in yields has been a part of a more general trend of decompression in the term premium, which reached historic lows at the height of balance sheet intervention by the Fed and the worst of the economic crisis in 1H20. With uncertainty increasing and the possibility for additional balance sheet intervention growing, we anticipate the upward movement will slow or possibly reverse course in the coming weeks, albeit not to the extent that would bring yields back to our previous baseline for 2020. Weaker incoming inflation data could also moderate inflation expectations creating additional headwinds for interest rate yields.

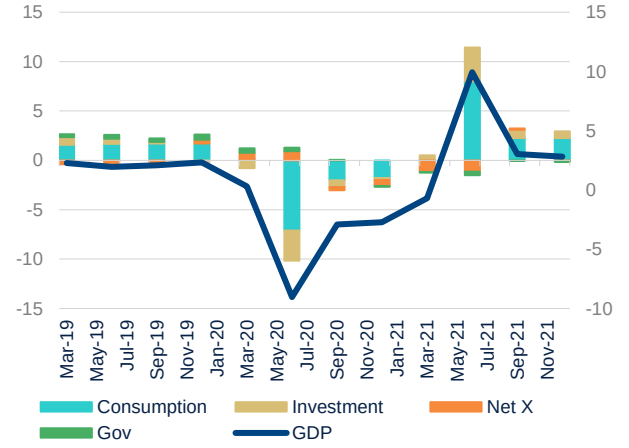
The USD has continued to depreciate against major developed economies, with the EURUSD trending around 1.18, the highest since 2018. The period of weakening following the pandemic in April and May has eased with the Fed continuing to supply ample liquidity to the market and foreign central banks through the liquidity swaps and foreign (FIMA) Repo facility. Policymakers are still at a standstill on both sides of the Atlantic, which has lowered the expectations for a growing gap in policy accommodation in Europe and the U.S. Now, the relative deterioration in the containment of the pandemic in Europe and the U.S. could increase FX volatility at year-end. Nonetheless, we expect that the EURUSD is likely to end the year hovering around 1.19.

Figure 2.3 **10YTN YIELD FORECASTS** (%)



Source: BBVA Research, MBA, NABE, FRBPhil, IMF and CBO

Figure 2.4 **CONTRIBUTION TO REAL GDP GROWTH** (YEAR-OVER-YEAR, PP)



Source: BBVA Research and BEA

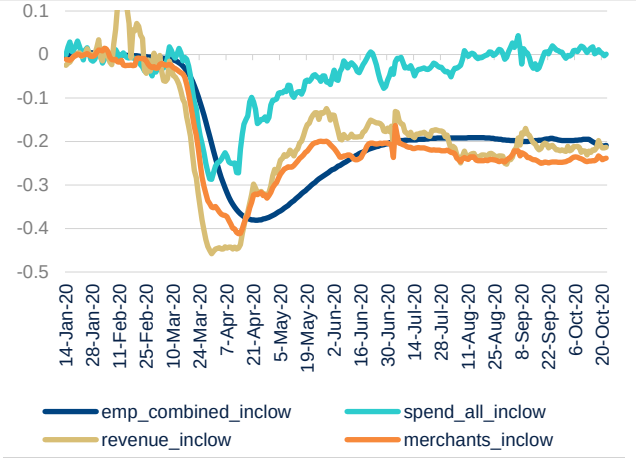
End of the pandemic in sight, but economic momentum slowing

In terms of growth, the U.S. economy showed astounding resiliency in the 3Q20, bouncing back from a 31.4% QoQa nosedive in 2Q20 with a 33.1%QoQa gain in 3Q20. Strong monetary, fiscal and administrative support from the federal government, less restrictive lockdown measures and more decisive impetus to end distancing efforts contributed to the rebound. For consumption, the unprecedented fiscal stimulus and pent up demand pushed durable goods spending up to $300bn on an annualized basis to $2.0tn, nearly $215bn above the pre-pandemic peak. Despite the elevated policy, financial and pandemic related uncertainty, both domestically and internationally, investment rebounded strongly on account of the surge in pandemic-induced demand. Low interest rates and increased demand for residential housing pushed investment up 59.3% over the quarter on an annualized basis, a trend that should continue as individuals adapt to living, working, and commuting in a world where Covid-19 remains a risk factor.

Moreover, as a share of GDP, the trade deficit (-3.5%) was the highest in 8 years but significantly lower than the record of 5.9% back in 2005. Similarly, Federal state and local expenditures also declined due to the drop in fees paid to administer the Paycheck Protection Program loans at the Federal level and dire fiscal positions of most state and local governments that have led to nontrivial cutbacks.

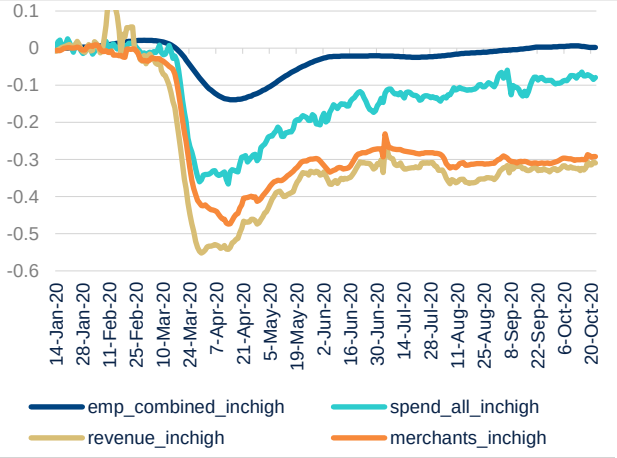
In terms of the outlook, the positive income and savings shock from the previous stimulus package has faded, and real-time indicators suggest that economic activity is at a standstill or possibly slowing due to the impasse on the next round of fiscal stimulus. Overall spending and employment have stalled after growing strongly through October, while revenues at small businesses have stagnated and are now below the summer peak. For low-income earners, the shock to small business revenues and employment has been severe and persistent. Yet, card spending relative to the beginning of the year has passed pre-pandemic levels, a trend that was likely supported by the nontrivial government transfers to this group. Conversely, high-income earners' employment levels are slightly above the pre-pandemic, but spending remains well below, suggesting that precautionary savings remain high at around $1tn.

Figure 2.5 **LOW-INCOME EARNERS HIGH-FREQUENCY INDICATORS** (JAN=0)



Source: BBVA Research, Opportunity Insights, Google, Womply & Affinity

Figure 2.6 **HIGH-INCOME EARNERS HIGH-FREQUENCY INDICATORS** (JAN=0)



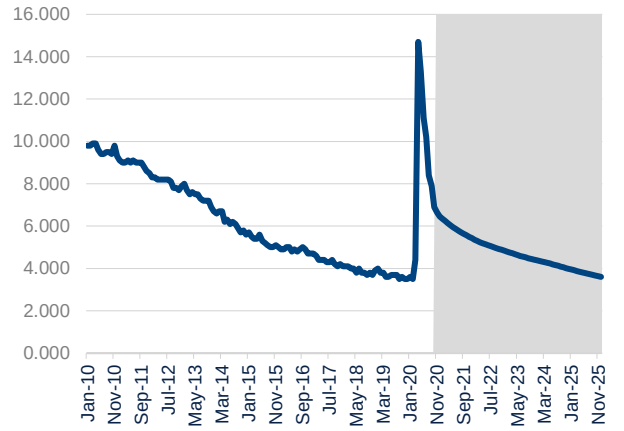
Source: BBVA Research, Opportunity Insights, Google, Womply & Affinity

Despite our expectation of a nontrivial slowdown in GDP growth in 4Q20, the strong rebound in 3Q20 adds an upside bias to our annual average forecast, implying growth of -3.6%. Our baseline assumes modest fiscal support beginning in 1Q21 and progress on the vaccine distribution in 1H21, implying growth of 3.6% for the year. With some residual effects from the fiscal stimulus and slack, we expect growth in 2022 will be slightly above our long-run forecasts for growth at 2.4%.

The labor market recovery has been a significant surprise to the upside. After rising to 14.7%, which was well below private and public sector forecasts at the time, the unemployment rate has nosedived to 6.9%. The 7.8pp drop in the unemployment rate from the peak in April was quick and significant. However, momentum in the labor market has slowed. We expect monthly job gains will slow to around 400K this year and 226K in 2021, on average. As a result, our baseline assumes that the unemployment rate will be approximately 6.5% by year-end 2020 and 5.4% by year-end 2021. Although high relative to 2015-2019, this reflects a significant improvement compared to our outlook three months ago.

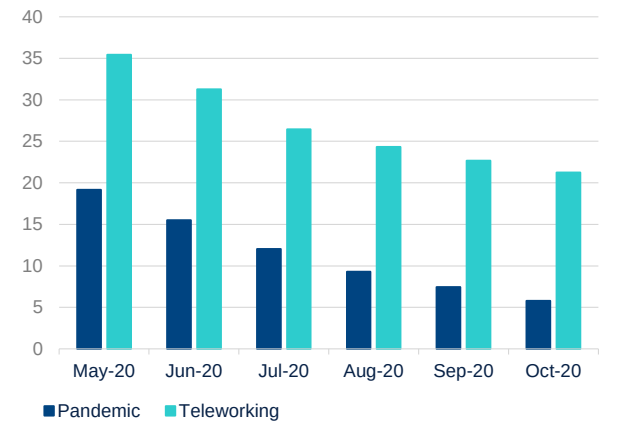
While the gains to this point have been unexpected, the central concern now relates to the growing number of permanently unemployed people, persistently high levels of people out of the labor force and the disproportionate toll the pandemic has on specific segments of the labor market. The number of permanent job losers remains 2.2M above the pre-pandemic levels at 3.6M while the number of individuals unemployed for more than 27 weeks grew by 1M. Moreover, 15.1M people reported that they have been unable to work because their employer closed or lost business due to the pandemic. In contrast, 3.6M workers said that they could not look for work because of the pandemic. Moreover, excluding Hispanics, most ethnicities' participation rate has flattened out or declined, suggesting opportunities to re-enter the labor force are narrowing. According to high-frequency estimates of employment, low-income employment has failed to recover as quickly as high-income earners; total employment for low-income earners remains 20% below the pre-pandemic peak. Moreover, considering that high-income workers' employment levels are above the pre-pandemic levels, permanent scarring from the pandemic may be concentrated in segments of the labor market with lower skills and less labor market flexibility, creating nontrivial headwinds to the recovery if left unattended.

Figure 2.7 **UNEMPLOYMENT RATE** (%)



Source: BBVA Research, BLS & Haver Analytics

Figure 2.8 **UNABLE TO WORK BECAUSE EMPLOYER CLOSED (PANDEMIC) & TELEWORKING** (%)



Source: BBVA Research, BLS & Haver Analytics

Our outlook for inflation remains unchanged with a moderate increase this year and next. Growth in core and headline consumer prices was flat in October, with energy price pressures fading, core commodity prices declining over-the-month, nondurable prices sliding and medical services plunging -0.4%, driven by a significant drop in both inpatient and outpatient hospital prices. That said, a healthy housing market has buoyed home prices thereby helping to offset the slowdown in rents. With stable inflation expectations, an increasing probability of fiscal support and the prospects for a vaccine growing, we remain optimistic about prices improving throughout 2021 and 2022. Specifically, we expect headline CPI will grow by 2.3% in 2021 and 2.2% in 2022.

Biden administration inherits challenges and opportunities

The Biden administration will have several cyclical and structural challenges to address during the first term. Even before the inauguration day, the Biden team will have to create a comprehensive strategy for dealing with the current spike in Covid-19 cases, slow economic momentum and obstacles to fairly and efficiently distribute the vaccine, and coordinate the transition that faces resistance from the current administration.

In terms of cyclical challenges, the administration needs to keep the U.S. on a sustainable growth path and counteract recent trends that could lead to the U.S. economy's persistent scarring. Based on evidence from the 2008 crisis, the risks that individuals unemployed for a long time lose their labor force competitiveness and attachment are nontrivial, requiring immediate, coordinated and possibly multi-lateral fiscal and monetary policy response. Options could include adding more generous and more lenient terms PPP funds and access, tax cuts, employment subsidies, enhanced unemployment benefits, student loan forbearance or forgiveness, and social stabilizers such as access to healthcare and food stability. Along these lines, the administration should promote automatic economic stabilizers and a basic social safety net to avoid the political frictions that can exacerbate or delay economic recoveries.

The U.S.'s structural challenges also require immediate attention, as many have been neglected for decades; the returns from these efforts could also take years to materialize. For example, addressing market failures and the increased industry concentrations in specific industries will require a new approach, as existing antitrust laws have failed to counteract empirically-evident consolidation. Other sectors that rely on technology, human capital and network effects that do not fit classic definitions of monopolistic competition will require a set of tools that allow for increased competition and innovation, but at the same time do not discourage progress and create disincentives for innovating and investing.

Rolling back the more restrictive immigration measures that deprive the U.S. of human capital and talent is imperative. Restoring the U.S. leadership role in innovation and technology will not be possible if firms are denied access to the workers they need. Without adequate access, firms could be forced to import these services from high-skilled firms or individuals abroad. Promoting education and opportunities will also be imperative to boost productivity and counteract the demographics headwinds. Infrastructure investment also remains historically weak at both the federal, state and local levels while expenditures remain skewed towards operation and maintenance rather than new capital investment creating a persistent and growing infrastructure investment gap.

While the administration has an ambitious agenda and policy platform, accomplishing all the objectives promptly and the scale promised will be next to impossible, particularly considering that the most likely makeup of Congress will be a Republican Senate and Democrat House. As a result, executive actions on immigration, foreign policy and regulation have the highest probability of impacting the administration's earliest phase. Still, the economic impact is most likely

going to be small-to-nonexistent from an economic perspective. However, forgiving student loans or continuing the Trump administration's forbearance could provide a nontrivial shock to household savings rates and discretionary income, giving a permanent boost to consumption.

Infrastructure investment remains a widely bipartisan issue, but recent administrations have failed to pass significant legislation that would counteract the slowdown in capital investment. Biden's objective of delivering a $2tn infrastructure plan in his first term through investing in carbon-free power and grid infrastructure, efficient buildings, sustainable housing, mass transit and "climate-smart" agriculture is ambitious. Still, it may have a slightly higher probability given the economy will remain below potential with a nontrivial amount of slack. Nevertheless, political obstacles will remain and thus, timing and the magnitude remain uncertain. On taxes, the failure to secure the Senate will severely handicap the administration's ability to pass tax reform. The current proposal seeks to increase income, payroll, and corporate tax rates while also enhancing middle-to-low income earners' benefits. According to the Penn-Wharton policy analysis, these reforms would increase the federal debt by $2tn between 2021-2030 and boost GDP in the long-run. Given the polarized climate in Washington and the high probability of a divided government, reaching these thresholds both in terms of the downside to the federal debt projections or the upside to growth will be a challenge.

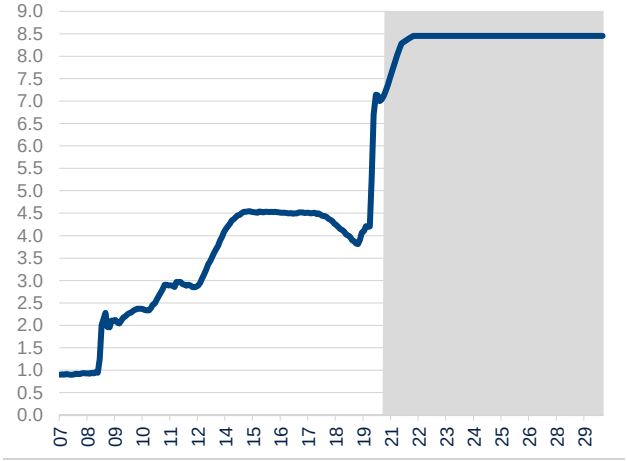
From both a pandemic and political perspective, our baseline beyond 2020 remains relatively unchanged. We continue to anticipate a solid rebound next year because of the narrowing of excess slack in the service sector. Still, beyond 2021 we assume economic growth steadily converges with potential growth rates. In this scenario, growth returns to the pre-pandemic level by 2022 but remains below the pre-pandemic trend. Reaching higher potential growth rates that would allow growth to return to trend will require additional monetary and fiscal policy support in the short-run. Addressing structural challenges that continue to constrain the U.S. economic potential will also be important if the U.S. wants to return to its pre-pandemic trend, which policymakers failed to do after the Global Financial Crisis.

3. Fed pause a precursor to further action?

Although the November meeting came and went without much fanfare, giving the stage to the presidential election, the Fed signaled growing concerns about several risks. Rising Covid-19 cases, global growth headwinds, growing labor market frictions, and waning price pressures topped the list. Moreover, Chair Powell stressed the uneven impact of the pandemic on minorities, females, younger and lower-skilled workers at the press conference. This "scarring" has become a consistent theme in the Chairman's communication. This deterioration presages a possible dovish shift in the Fed's near-term strategy, suggesting an increased probability of expanded use of the balance sheet and a prolonged period of rates remaining at the Effective Lower Bound (ELB)

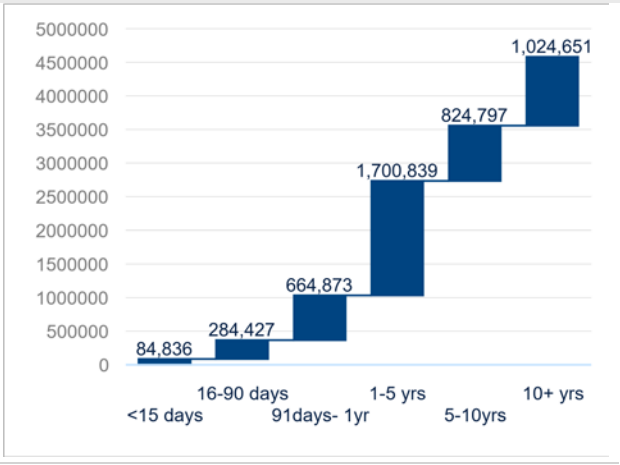
Vice-chair Clarida said that "large-scale asset purchases, such as we have had in place since March, is best equipped ex ante to achieve inflation outcomes that are consistent with price stability and well-anchored inflation expectations at the 2 percent objective." Further reinforcing forward guidance will be difficult after unleashing the dovish change in Longer-run Goals and Monetary Policy and Strategy. Yield curve targeting appears to be a part of the feasible tool-kit but remains less popular than increased Large Scale Asset Purchases (LSAP) usage. Moreover, yields in the belly of the Treasury yield curve are low and stable, and consistent with the Fed being at the ELB for some time.

Figure 3.1 **FED: FACTORS SUPPLYING RESERVE ASSETS** (USTN$)



Source: BBVA Research & FRB

Figure 3.2 **FED: MATURITY DISTRIBUTION OF FED SECURITIES** (USMN$)



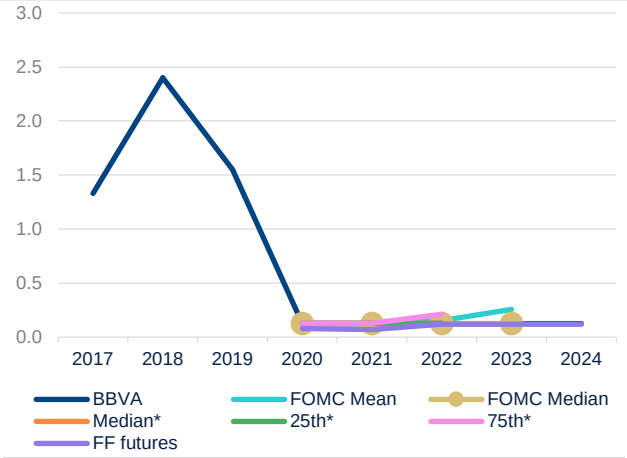
Source: BBVA Research & FRB

In terms of the balance sheet strategy, it appears the committee is preparing for some additional accommodation. Long-term yields have risen sharply, and inflation risks to the upside appear to have moderated with the increase in domestic and global growth headwinds. The standard approach would be to increase monthly purchases, which our baseline currently assumes will be around $120bn per month beginning next year. In this scenario, Treasury purchases could grow to $100bn-$120bn per month and $30bn-$40bn in mortgage-backed and commercial mortgage-backed securities. Besides, during the press conference after the November meeting, the Chairman said the committee could "shift the composition, the duration, you know, the size, the life cycle of the program." With long-term rates edging up, this statement suggests that if long-term interest rates continued to rise, maturity extension or "twisting" the yield curve

would be a viable option, possibly as early as December. Moreover, the “life-cycle” aspect could imply some enhanced forward guidance on the committee’s intentions around magnitude and duration. Nevertheless, part of the decompression of the term premium has been associated with a normalization of financial conditions implying that the FOMC may take a more cautious approach, keeping some dry powder in the event of a negative demand shock in 2021.

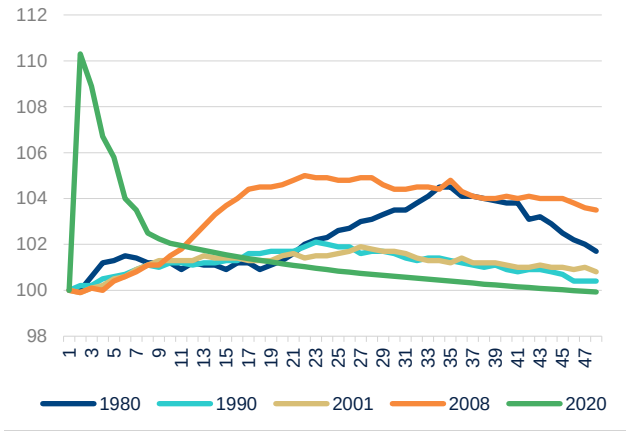
In terms of prospects for liftoff, it appears that the likelihood of rate increases will remain low for some time. For example, notwithstanding the Fed’s structural difficulties with the flexible average inflation targeting and bringing inflation and inflation expectations above 2% for some time, the commitment to returning the labor market to maximum employment will be challenging. According to Clarida, “when the unemployment rate is elevated relative to my SEP projection of its long-run level and other indicators—such as the prime-age employment-to-population and labor force participation ratios—are depressed relative to recent business cycle peaks, monetary policy should, as before, continue to be calibrated to eliminate such employment shortfalls as long as doing so does not put the price-stability mandate at risk.” While each business cycle presents new challenges and opportunities, based on the experience during the Global Financial Crisis, meeting these thresholds could take years. For example, prime-age participation did not reach pre-crisis levels for a decade, and the long-run unemployment based on the committee’s summary of economic projections of 4.1% only fell below the 2008 level after ten years.

Figure 3.3 **FED FUNDS RATE**
(%)



Source: BBVA Research and Haver Analytics

Figure 3.4 **UNEMPLOYMENT RATE RECOVERIES**
(INDEX RECESSION START=100)



Source: BBVA Research, BLS and Haver Analytics

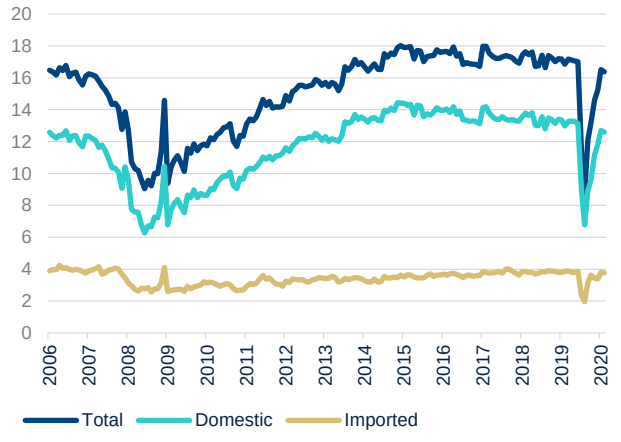
Our current baseline assumes moderate and stable inflation. We continue to expect PCE inflation to remain close to the 2% target, but falling short of the overshoot currently desired by the Fed. On unemployment, the Fed’s aggressive actions in the earliest phases of the pandemic and the massive fiscal response that was absent during the 2008 Global Financial Crisis should push the unemployment rate back to longer-run projections by 2025; earlier than was achieved in the past crisis. Risks are growing, and the potential for long-lasting “scars” will jeopardize the committee’s ability to return the labor market to “maximum” employment, implying a slow and painful recovery.

Thus, our baseline assumes that interest rates will remain at the ELB for several years before rising in 4Q25. On the balance sheet, the probability of marginal changes to the size of purchases and their composition has increased with the deterioration in the Covid-19 outlook and slowing economic momentum. The tested nature of LSAP and the uncertainty surrounding the outlook suggests this remains the preferred option. Reaching further into the bag of tools would likely require an unforeseen shock that unanchors Fed interest rate expectations or jeopardizes their credibility. Timely fiscal policy, which the FOMC continues to advocate for, would ease the pressures on the Fed to increase monetary policy accommodation. However, there is also a scenario, similar to after the Global Financial Crisis, where the divisions in Washington produce budgetary showdowns and fiscal austerity measures that will counteract the Fed's attempts to increase accommodation.

4. Auto sales outlook: health concerns at the wheel

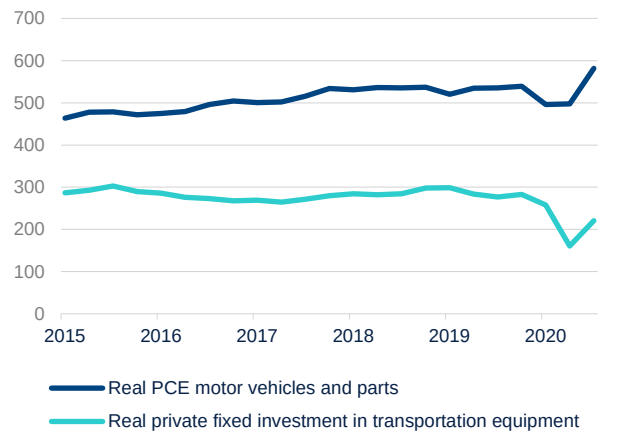
The pandemic hit auto sales hard, but a substantial recovery is underway. Sales of new vehicles dropped from 17.1 million annualized units in January to 8.7 million in April (the lowest level on record), right when lockdowns across the country were the most draconian. However, the impact proved transitory, and sales recovered in the subsequent months. By September, sales had reached 95% of the levels observed in January, stabilizing around 16.4 million.

Figure 4.1 **LIGHT VEHICLE SALES**
(SAAR, MILLION UNITS)



Source: BBVA Research and Haver Analytics

Figure 4.2 **REAL PCE AND PRIVATE FIXED INVESTMENT IN TRANSPORTATION EQUIPMENT**
(SAAR, BILLIONS OF CHAINED 2012 $)



Source: BBVA Research and Haver Analytics

Most of the recovery can be attributed to consumer demand rather than business demand. Personal consumption expenditures (PCE) in motor vehicles and parts went up from $496bn in 1Q20 to $582bn in 3Q20, $48bn more than its pre-pandemic average of $534bn (SAAR) per quarter between 4Q17 and 4Q19. PCE in motor vehicles and parts increased 8.7% in 3Q20 on a year over year basis, the highest since 2Q15. In contrast, fleet demand remained subdued by the adverse effects of the pandemic on airline travel, tourism, and ride-hailing. Despite a robust quarterly increase, nonresidential investment in transportation and related equipment remained 20% below the previous year's levels.

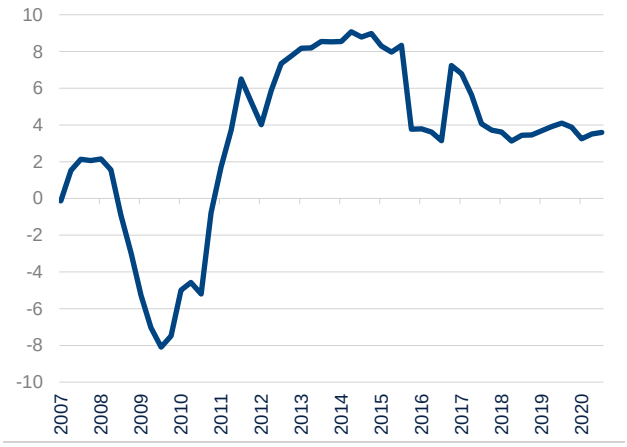
What prompted consumers to resume vehicle purchases in the middle of a pandemic that has left millions of people unemployed and forced many others to work from home? The answer seems to be both behavioral and economic reasons.

From a behavioral perspective, it could be argued that part of the rebound in auto sales is due to a change in consumer preferences. According to industry experts, the pandemic appears to have changed perceptions on car ownership, particularly in big cities. Concerns about being infected in public transportation and ride-hailing vehicles have prompted people to view private vehicles as personal protective equipment, like face masks. Consequently,

interest in car ownership has increased. As the pandemic continues, private cars will continue to be considered the safest way to move in and out of places with high population density.

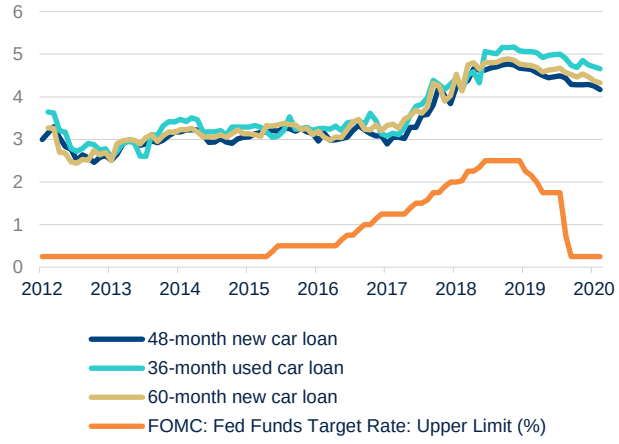
From an economic perspective, the rapid recovery of light vehicle sales has been supported, among other things, by an uninterrupted flow of credit and ultra-low borrowing costs. Motor vehicle loans[1] increased by 3.6% YoY in 3Q20, in line with its previous trend. Besides, finance companies[2] responded to the crisis by increasing the average maturity of new-vehicles loans (from 66.7 in 4Q19 to 71 months in 2Q20, the highest on record), allowing borrowers to spread their payments over more extended periods.

Figure 4.3 **CONSUMER CREDIT OUTSTANDING: MOTOR VEHICLE LOANS** (YOY % CHANGE)



Source: BBVA Research, FRB and Haver Analytics

Figure 4.4 **AUTO LOANS SELECTED INTEREST RATES** (%)



Source: BBVA Research, Haver Analytics and Bloomberg

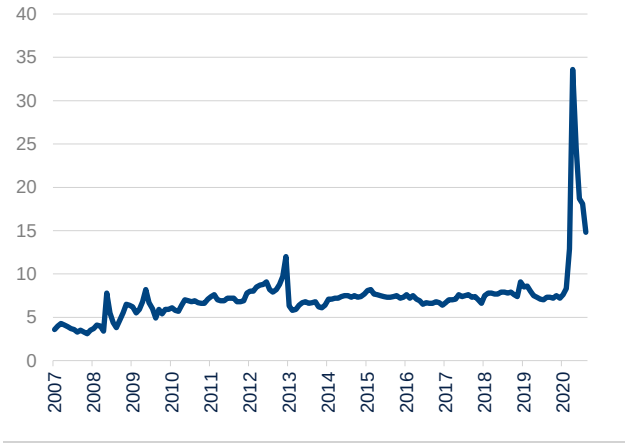
Consumers, particularly those who managed to keep their jobs, were able to take advantage of a temporary, yet significant, improvement in their finances that allowed them to purchase big-ticket items. The stimulus checks and tax returns provided consumers with extra money to spend, while the pandemic caused them to significantly reduce spending on restaurants, hotels, airline travel, and recreation. The combination of government stimulus and spending cuts resulted in higher savings. The personal savings rate went as high as 33.6% in April and, although it has declined ever since, it remains well above trend at 14.1%. This extra money arguably allowed consumers to replace their vehicles.

The recovery of the stock market and faster home price appreciation also helped households preserve their equity, avoiding a rise in delinquencies and distressed household balance sheets, and supporting the demand for loans. Meanwhile, the stimulus checks and the temporary expansion of unemployment benefits allowed borrowers in distress to continue paying their loans, which could explain why the 90-days delinquency rate for auto loans remains contained.

1: "Includes motor vehicle loans owned and securitized by depository institutions, finance companies, credit unions, and nonfinancial businesses. Includes loans for passenger cars and other vehicles such as minivans, vans, sport-utility vehicles, pickup trucks, and similar light trucks for personal use. Loans for boats, motorcycles and recreational vehicles are not included. Data for this memo item is released for each quarter-end month." (Source: Board of Governors of the Federal Reserve System)
2: "Finance companies are non-depository financial firms whose primary business is providing debt and lease financing to consumers and businesses. (Source: Board of Governors of the Federal Reserve System)."

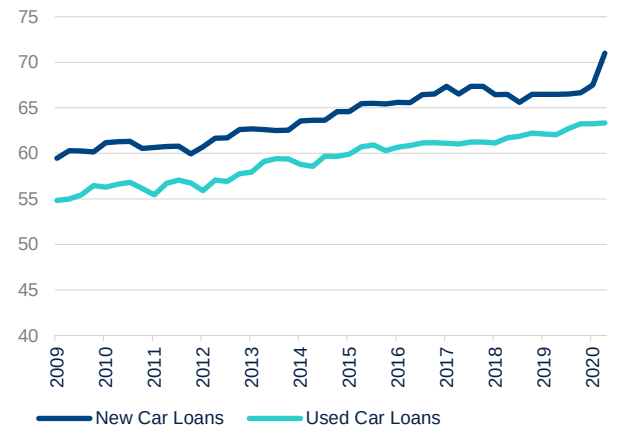
Monetary policy has also played an essential role in the recovery of auto sales as lower Fed Funds rates resulted in lower interest rates for auto loans, which declined by an average of 30 basis points between January and October. Interest rates on 36-month used car loans reached 4.6% in November, the lowest since January 2018, while interest rates on 60-month new car loans reached 4.3%, the lowest since September 2018. Nonetheless, interest rates are still well above the levels observed between 2013 and 2017, when they moved between 3.0 and 3.5%. Auto loan interest rates may decline further in the following months, as they tend to follow the Fed Funds rate with some lag.

Figure 4.5 **PERSONAL SAVINGS RATE** (%)



Source: BBVA Research and Haver Analytics

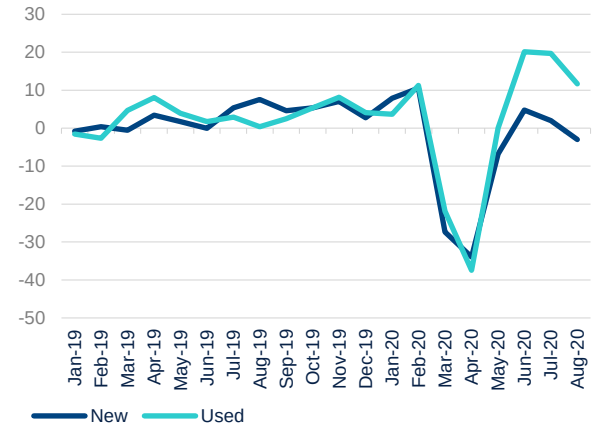
Figure 4.6 **FINANCE COMPANIES: NEW CAR LOANS AVERAGE MATURITY** (NSA, MONTHS)



Source: BBVA Research and Haver Analytics

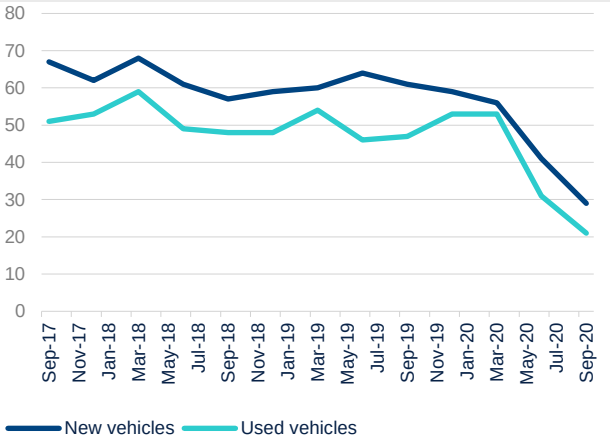
The pandemic forced automakers to halt production, tightening inventories of new vehicles temporarily. A shortage of new units drove a portion of pent up demand into the used vehicle market. Real retail sales of used cars and trucks experienced a faster recovery than sales of new units, which added pressure on used vehicle prices. The increase in the Manheim Used Vehicle Value Index in 3Q20 more than offset the losses experienced in 2Q20. Likewise, the consumer price index for used cars went up 4.5% from the previous year, more than offsetting the declines recorded in the first half of the year. In 3Q20, the Cox Automotive Dealer Sentiment Index on used-vehicle sales reached an all-time high for franchise dealers, implying significant growth. Although according to the industrial production index, vehicle manufacturing is back to its pre-pandemic trend, limited inventory was the top concern among dealers, followed by the business impacts from Covid-19.

Figure 4.7 **REAL RETAIL SALES OF CARS AND TRUCKS**



Source: BBVA Research and Haver Analytics

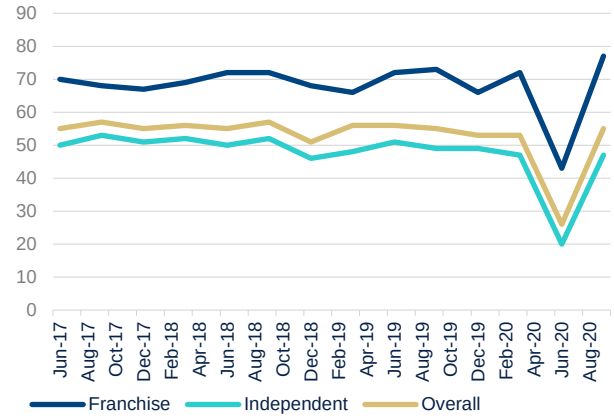
Figure 4.8 **DEALER SENTIMENT INDEX: HOW WOULD YOU DESCRIBE THE CURRENT VEHICLE INVENTORY LEVELS?** (%)



Source: BBVA Research and Cox Automotive Dealer Sentiment Index

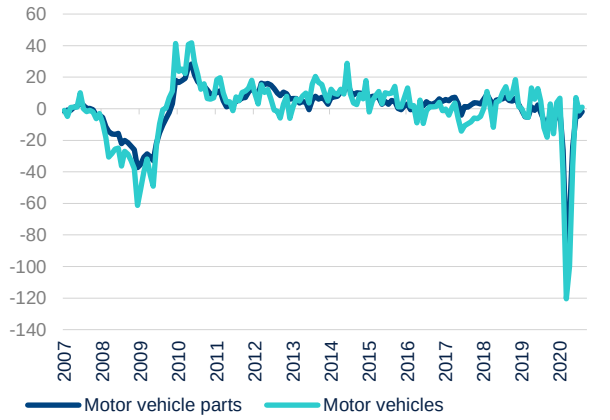
We expect sales of new vehicles to end the year on firm ground at around 16 million units. Despite the improvement, sales are likely to remain below pre-pandemic levels for some time. The unemployment rate remains high, and although the economy is in recovery mode, there is a need for another round of fiscal stimulus, whose timing and extent are still uncertain. Moreover, a resurgence in the number of Covid-19 infections would likely keep air travel and tourism subdued for more time, which will negatively affect fleet demand. Also, credit standards have tightened considerably, which could constrain demand, particularly from subprime borrowers, limiting sales in the months to come.

Figure 4.9 **DEALER SENTIMENT INDEX: HOW WOULD YOU DESCRIBE THE USED-VEHICLE SALES ENVIRONMENT?** (YOY % CHANGE)



Source: BBVA Research and Cox Automotive Dealers Sentiment Index

Figure 4.10 **INDUSTRIAL PRODUCTION: MOTOR VEHICLE AND PARTS** (YOY % CHANGE)



Source: BBVA Research and Haver Analytics

A note on electric vehicles

The pandemic also took a toll on electric vehicles (EV) sales, which declined by 41% YoY in 2Q20--the lowest rate on record. Although the economic recovery will be positive for EV sales, they may not return to pre-pandemic levels in the short-run. EVs are generally more expensive than internal combustion vehicles, which could deter potential buyers during uncertain economic times. But the pandemic is not the only cause behind subpar EV sales. Government incentives have eased. Tesla and GM already achieved the 200,000 units cap, after which buyers can no longer qualify for a $7,500 federal tax credit (Nissan and Ford will probably be next in line). A proposal to expand the threshold to 600,000 units was rejected by Congress –with the White House approval- during the negotiations to avert a government shut-down back in December.[3] Meanwhile, the Trump administration relaxed the fuel economy and greenhouse gas emission standards, eroding a powerful incentive to produce and sell electric vehicles. In addition, the pandemic has forced automakers to delay the release of new models at a moment when they still need to align their product offering to Americans' preference for SUVs and pick-ups.

Nonetheless, there is reason to be optimistic about electric vehicles in the mid- and long-run. Once the economy is out of the woods, mass adoption may improve significantly. Experts agree that price parity with internal combustion vehicles could become a reality before the first half of the decade. Moreover, the incoming Biden Administration will most likely promote policies that accelerate the electrification of transportation, including spending on R&D, charging infrastructure, and tax incentives. In such an environment, the country is expected to catch up with Europe and China, which currently have policies that are more ambitious.

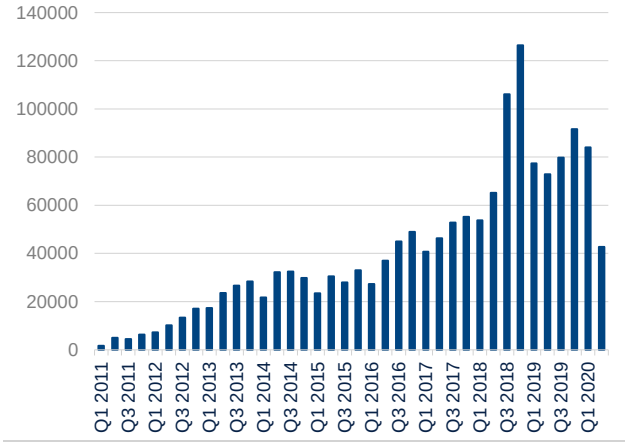
Summing up

Vehicle sales were severely impacted by the Covid-19 pandemic. Nevertheless, the recovery has been surprisingly strong, to the point that sales of new vehicles have almost reached the levels observed at the beginning of the year. Although we expect both new and used vehicle sales to remain relatively stable in the upcoming months, challenges still lie ahead. Despite sound figures in 3Q20, the economy is still fragile, and further fiscal stimulus is needed to consolidate the recovery. Although most of the rebound in auto sales was due to consumers, in the absence of a vaccine, fleet demand is likely to remain subdued for more time.

Finally, structural trends like autonomous vehicles, ride-sharing, and electrification have also been disrupted by the pandemic. Companies delayed projects, and consumers changed transportation habits in response to the health emergency. However, these trends are likely to pick up their pace once the pandemic is under control, and consumers feel more confident to resume their everyday lives. Electrification is not only a critical step towards reducing carbon emissions, but it is also key to the development of autonomous vehicles that could yield hundreds of thousands of miles with minimum maintenance. Autonomous vehicles, in turn, will be at the center of the next generation of ride-sharing businesses. Investments in these three areas are likely to continue as the economic and social benefits far outweigh the status quo.

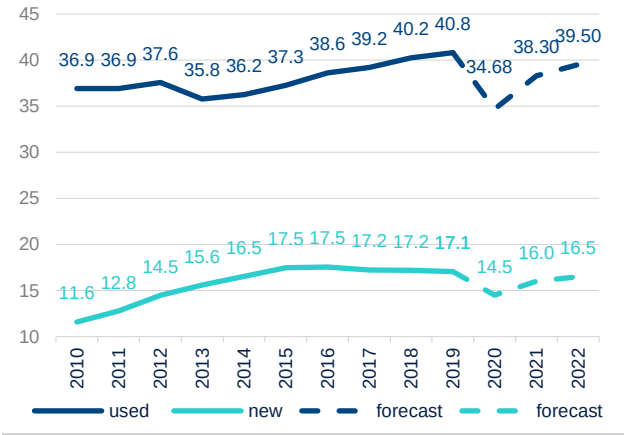
3: Greg Gardner (2019). “Tesla, GM Lose Bid To Raise Ceiling For Federal EV Tax Credit.” Forbes. 2019.

Figure 4.11 **ELECTRIC VEHICLE SALES** (UNITS)



Source: BBVA Research and Bloomberg New Energy Finance

Figure 4.12 **LIGHT-VEHICLE SALES FORECASTS**



Source: BBVA Research

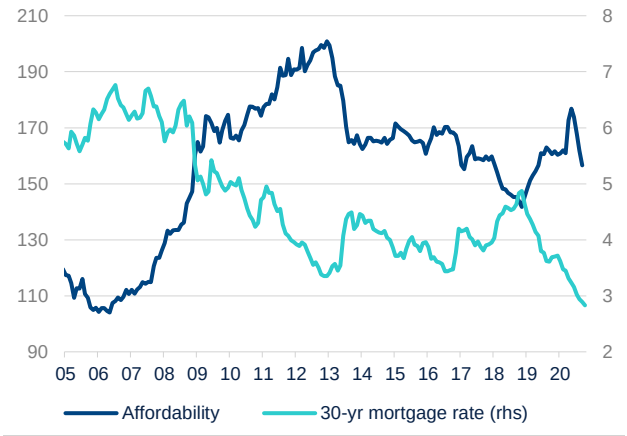
5. Housing market conditions and outlook

Helped by low interest rates and fiscal stimulus, the housing market emerged as a bright spot during the Covid-19 crisis. The pickup in activity and prices was quick and turned out to be stronger than anticipated. The FHFA monthly home price index (HPI) in August, which is the latest available data point for the series, was 8.0% higher YoY, posting the biggest increase since 2006. At the same time, median home prices, after decelerating in May to around 2% YoY, were 15.5% higher YoY by October. In addition to record low interest rates and a recovering economy after the Covid-19 shock in March-April, these developments also reflect strong fundamentals in terms of demographics and household balance sheets, as well as a limited supply of both existing and new homes for sale after a period of suboptimal new construction during the last decade.

Interest rates and affordability

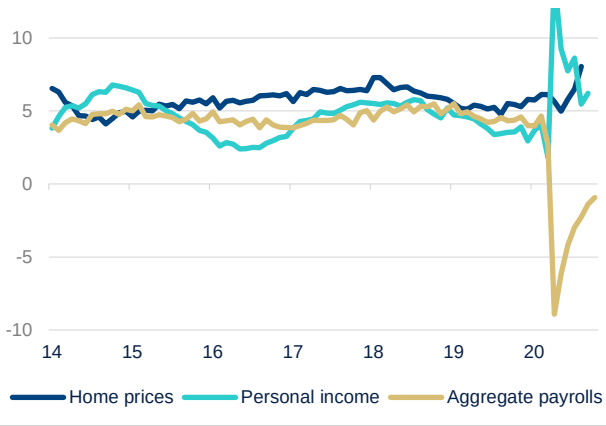
The 30-year fixed mortgage rate reached its historical minimum of 2.83% in October, after declining 86 basis points over one year, which greatly supported affordability (Figure 5.1). A decrease of this magnitude in interest rates translates to a 10% decline in monthly mortgage payments from $1,100 to $990 for a median-priced home.[4] At an annual level, this represents a decrease in expenses of $1,300, or almost 2% of the median household income last year. Favorable interest rates, solid job security that white-collar professionals have enjoyed so far, as well as enhanced unemployment benefits that boosted personal income (Figure 5.2) also supported new home sales and construction, despite lower employment and some offsetting effects in affordability from price appreciation.

Figure 5.1 **HOUSING AFFORDABILITY INDEX AND 30YR FIXED MORTGAGE RATES** (INDEX SA, MEDIAN INCOME = QUALIFYING INCOME, %)



Source: BBVA Research, FHLMC and NAR

Figure 5.2 **HOME PRICES, PAYROLL AND PERSONAL INCOME** (% YOY)



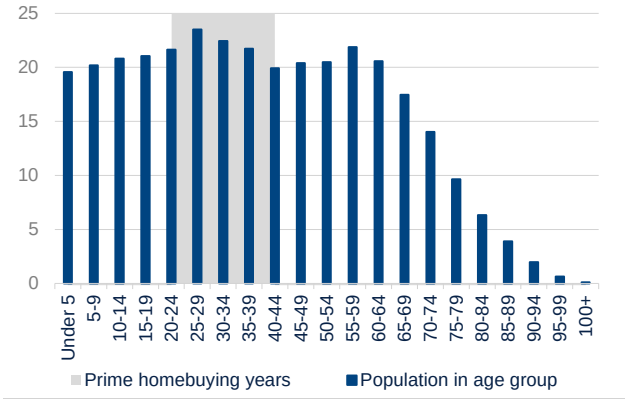
Source: BBVA Research, FHFA, BEA and BLS

4: The calculation assumes median home prices remain unchanged at $300,000 (median home price in 3Q20, seasonally adjusted) and a loan to value ratio of 80%. Assuming no change in prices, the calculation allows us to focus on the impact of lower interest rates.

Demographics and structural trends

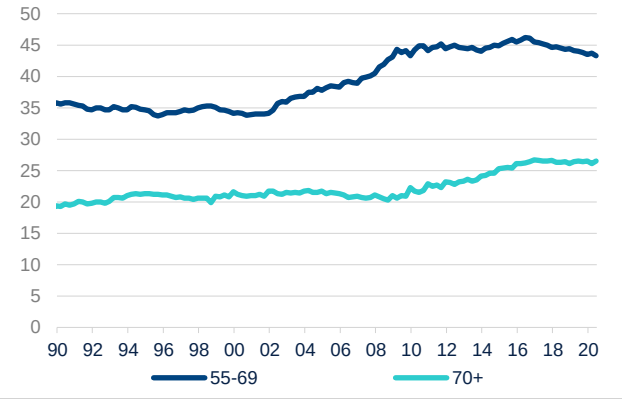
While the housing market has been supported by interest rates and income trends, it has also been undergirded by demographics. A large share of Millennials, the biggest generational cohort, is in their prime home-buying years (Figure 5.3). At the same time, Baby Boomers are successfully postponing downsizing due to having locked in favorable financing for their current homes over the last decade, and having deleveraged since the Great Recession. They have also accumulated relatively more wealth than previous generations at the same stage in their lifecycle (Figure 5.4). At the same time, new construction has only recently surpassed our estimates of optimal housing starts based on demographic trends (Figure 5.5). The suboptimal level of new constriction over the last decade has pushed down the ratio of existing housing units to adult population to a level last seen in the early to mid-1980s (Figure 5.6). These conditions will persist for some time and will continue to support the housing market for years to come.

Figure 5.3 **POPULATION BY AGE GROUPS AND PRIME-HOME BUYING YEARS** (MILLION)



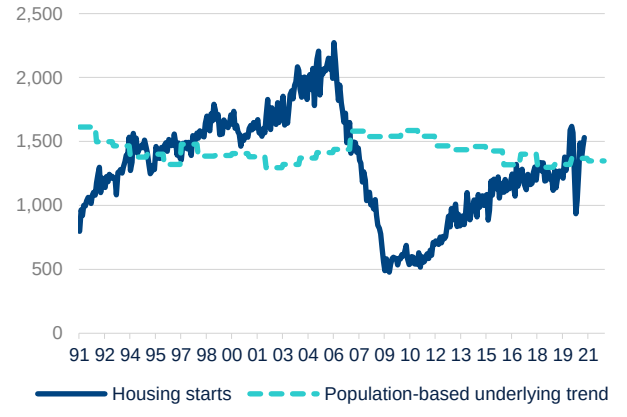
Source: BBVA Research and Census Bureau

Figure 5.4 **WEALTH BY AGE** (SHARE OF TOTAL)



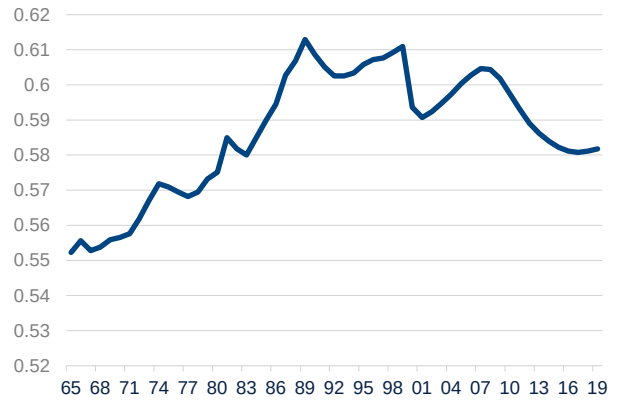
Source: BBVA Research and Federal Reserve

Figure 5.5 **HOUSING STARTS AND POPULATION-BASED TREND** (MILLION)



Source: BBVA Research estimates and Census Bureau

Figure 5.6 **HOUSING STOCK TO POPULATION AGE 20-84** (RATIO)



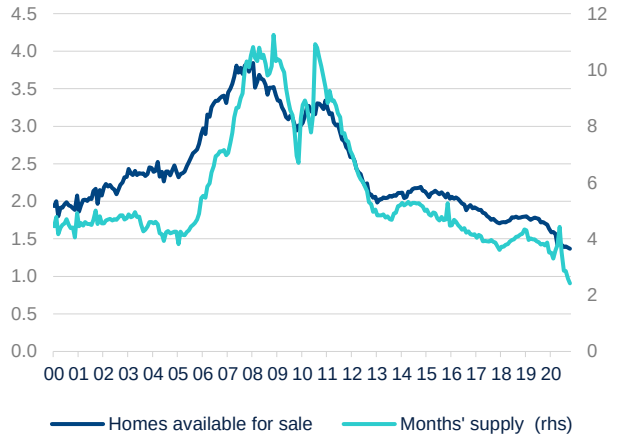
Source: BBVA Research and Census Bureau

In addition, despite its negative immediate impact, the pandemic is likely to have a positive effect on housing demand over the mid- to long-term as it has accelerated the acceptance of telecommuting. As a result, young professionals will not be as incentivized as in the past to live close to central business districts. For the ones that telework several days a week, longer commute times during the days that they are in the office will become more acceptable. This shifts demand to the suburbs and exurbs, which have more buildable lots than downtown areas, alleviating price pressures and making more homes affordable over time. Moreover, employees that can telecommute full-time will help rebalance the demand for housing away from high-cost metropolitan areas to lower-cost locations. As a result, we expect the single-family segment to perform particularly well in the 2020s. At the same time, multifamily will remain a critical housing solution and a solid market and asset class, particularly in knowledge-intensive metropolitan areas with high real estate costs.

Existing homes market

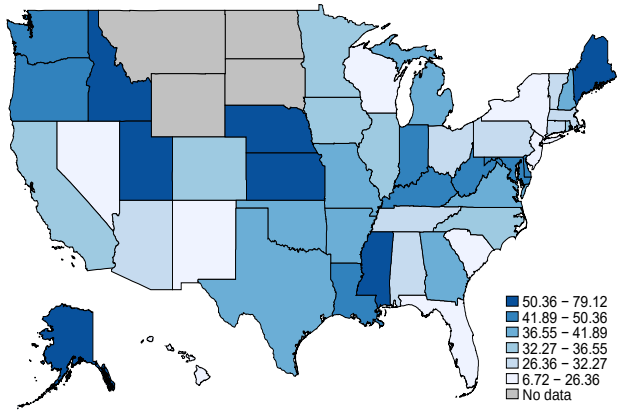
At the beginning of 2020, the relative supply of existing homes for sale stood at 3.5 months, an indicator of a very tight market[5]. The relative supply increased to 4.4 months in May, as sales fell from over 5 million units annualized before the Covid-19 slowdown to 3.9 million. Once the economy started reopening, however, sales recovered quickly, leading to renewed tightening. In October, the market stood at 2.4 months' supply – a record low (Figure 5.7). The market in October was extremely tight not only because of strong sales, which at 6.8 million were the highest since 2005 but also because of low listings. According to Redfin, inventory over the last twelve months has declined in all states and increased only in the District of Columbia. The decline has been strongest in Mississippi, Idaho, Utah, Maine, Kansas and Alaska, and weakest in New York, Hawaii, and South Carolina (Figure 5.8). By metropolitan area, the locations with the tightest markets are generally located in the western continental states, whereas the locations with the highest relative supply were in the east coast and Hawaii (Figure 5.9).

Figure 5.7 **EXISTING HOMES SUPPLY** (MILLION AND MONTHS, SEASONALLY ADJUSTED)



Source: BBVA Research and NAR

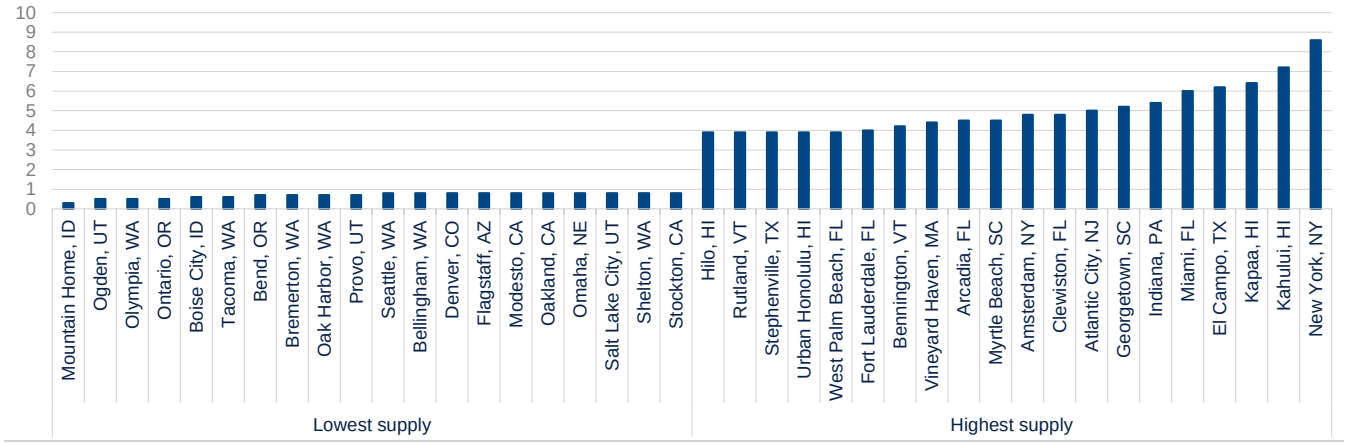
Figure 5.8 **DECLINE IN INVENTORY, SEPTEMBER 2020 RELATIVE TO SEPTEMBER 2019** (%)



Source: BBVA Research and Redfin

5: Traditionally, six months' supply at current sales rate is considered to represent<<t a balanced market.

Figure 5.9 **EXISTING HOMES SUPPLY BY METROPOLITAN AREA** (MONTHS)

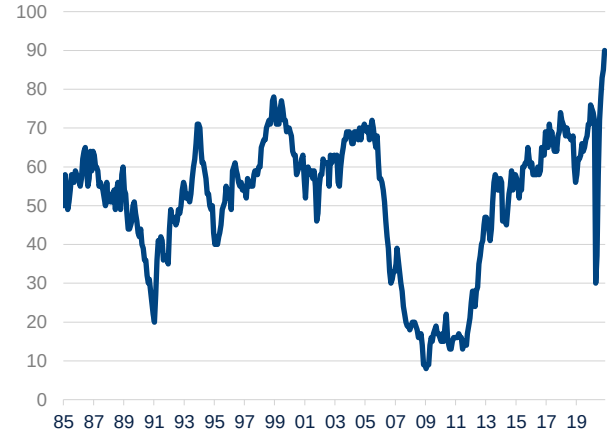


Source: BBVA Research and Redfin

New construction

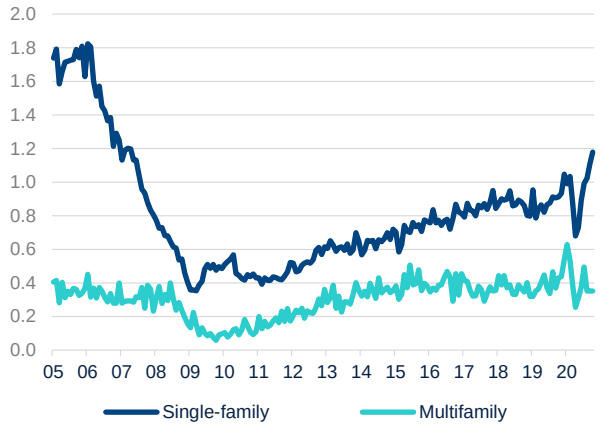
After collapsing briefly in April, new housing starts quickly recovered to their pre-crisis levels. The strong demand for new housing units, evident in the level of sales and reported traffic of prospective buyers has elevated the latest reading of the Home Builders' Market Index to a historical high (Figure 5.10). In fact, single-family housing starts reached 1.179 million SAAR in October, their highest level since 2007 (Figure 5.11). Attractive interest rates, solid income growth and housing shortages in many markets are expected to sustain a high level of construction activity in the single-family segment. Meanwhile, multifamily housing starts are expected to remain suppressed over the next several years. Construction of apartments will be held back by somewhat higher vacancies, which have been increasing over the last year. Apartment vacancies are expected to climb further over the next nine to twelve months as moratoria on evictions are lifted, prospective new renters postpone forming new households, and unemployment remains elevated, resulting in some leases that expire to not be renewed.

Figure 5.10 **HOME BUILDERS' HOUSING MARKET INDEX** (100 = ALL GOOD)



Source: BBVA Research and NAHB

Figure 5.11 **HOUSING STARTS** (THOUSANDS, SAAR)



Source: BBVA Research and Census Bureau

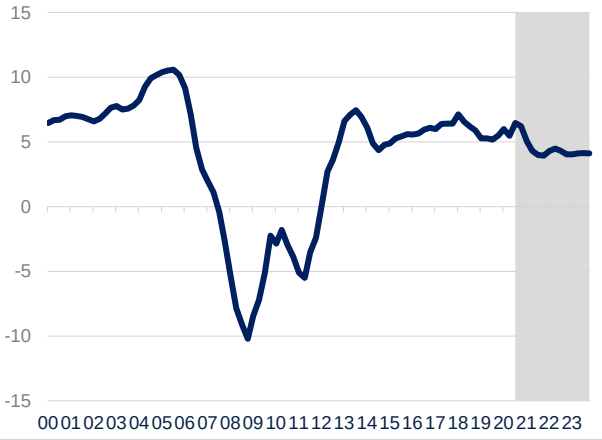
Interest rates and home prices

The economic downturn that we are emerging from was severe and unpredictable. In addition, Covid-19 cases, hospitalizations, and deaths are on the rise once again. However, the effects from the fiscal stimulus enacted in the first half of the year, as well as solid household balance sheets before the Covid-19 recession coupled with low interest rates, low supply of existing homes for sale, and favorable demographic trends, not only prevented home price declines but accelerated their growth even further over the last six months.

Figure 5.12 **30-YEAR FIXED-RATE MORTGAGES: U.S.** (%)

Source: BBVA Research and FHMLC

Figure 5.13 **FHFA HOME PRICE INDEX** (% YOY)



Source: BBVA Research and FHFA

We expect mortgage rates to remain around their current level over the next six months, as any increase in the reference treasury yields due to the improved growth outlook of the economy will be roughly offset by a decline in the risk premium. Around the middle of next year, mortgage rates are expected to start gradually increasing, while nevertheless remaining supportive of further home price appreciation (Figure 5.12). As a result, we expect home prices to continue increasing at a solid pace. That said, the rate of appreciation is also expected to decelerate somewhat in response to by now elevated home prices, as well as the recovery proceeding forward at a slower pace compared to what we saw in 3Q20 (Figure 5.13).

Bottom line

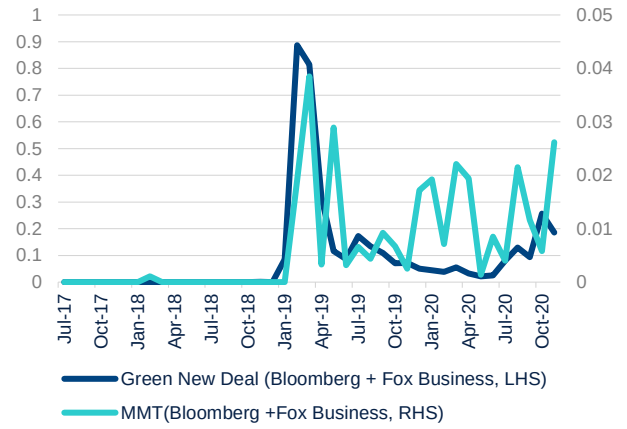
The housing market showed remarkable resilience in the wake of the Covid-19 crisis. Supply remains low and demand high due to low interest rates, favorable demographic trends, and solid personal income trends, despite elevated unemployment. As a result, home price appreciation will remain solid at around 4% annually in the next four years. Over the mid- and long-term, we are optimistic about the future of housing, especially for the single-family segment.

6. MMT: We are the government and we are here to help

Modern Monetary Theory (MMT) has gained popularity in the last few years, especially among the Green New Deal supporters. (Figure 1) In particular, MMT's influence took off after the progressive Congresswoman Alexandria Ocasio-Cortez (AOC) won her seat for New York's 14th congressional district and gained national recognition in early 2019 (Figures 6.1 & 6.2).

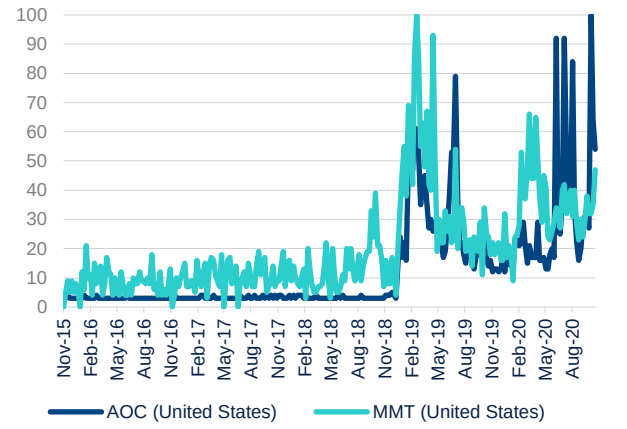
With MMT championed on social media, its surging popularity drew attention from curious economists. In February 2019, after rounds of exchanges with MMT supporters, Paul Krugman published an opinion piece in his New York Times column.[6] The Nobel Prize winner suggested that MMT was not a coherent framework. Instead, it was like a collection of ideas trying to refute textbook macroeconomics in an ad-hoc manner. The opinion piece seemed to end the debate. The MMT trend had gradually waned and been treated as just another "heterodox" theory promoted by politicians to advance their own agenda.

Figure 6.1 **AIRTIME: GREEN NEW DEAL & MMT** (%)



Source: BBVA Research and GDELT TV Explorer

Figure 6.2 **GOOGLE TRENDS: AOC & MMT** (INDEX, NORMALIZED, 0-100)



Source: BBVA Research and Google Trends

However, as we can see from the figures, the second wave of MMT's popularity has been taking off since early 2020. When the coronavirus pandemic wreaked havoc on the economy, MMT supporters again started to propose their solutions to rescue the economy. As a result, more and more mainstream economists began to scrutinize this movement. This article examines MMT's main ideas and sheds light on their validity and policy implications in the current environment.

6: https://www.nytimes.com/2019/02/25/opinion/running-on-mmt-wonkish.html

Modern monetary theory: key features

The most prominent MMT economists are Stephanie Kelton (SUNY-Stony Brook, US), Bill Mitchell (University of Newcastle, Australia), Warren Mosler (University of Missouri-Kansas City, US), and Randall Wray (University of Missouri-Kansas City, US). While everyone's opinion somehow differentiates from each other, they share the same views on some key policy proposals, including unlimited government deficits, taxes as the business cycle stabilizer, and job guarantees for maximum employment. This chapter will briefly explain those proposals and highlight their differences from mainstream monetary economics.

Unlimited government deficits

The most crucial feature distinguishing MMT from other economic theories is their treatment of the government budget constraint. In standard macroeconomic theories, the government needs to balance the budget. In other words, in the long run, government expenditure has to be fully covered by fiscal revenues from taxes and other government investment activities.

In contrast, MMT claims that such budget constraint wrongly treats the government as a household and puts unnecessary limitations on its spending power. Because the government can print money in its own currency, the default risk of domestic debts is virtually zero. Therefore, policymakers do not have to worry about funding channels for expensive public projects. Moreover, repaying public debts requires the government to either cut their spending or raise tax rates. Both will negatively impact the economy. In fact, MMTers argue that the 2001 recession resulted from the Clinton Administration's budget surplus.[7] Therefore, the government's optimal solution is to remove the budget constraint from its priority list and borrow as much as needed.

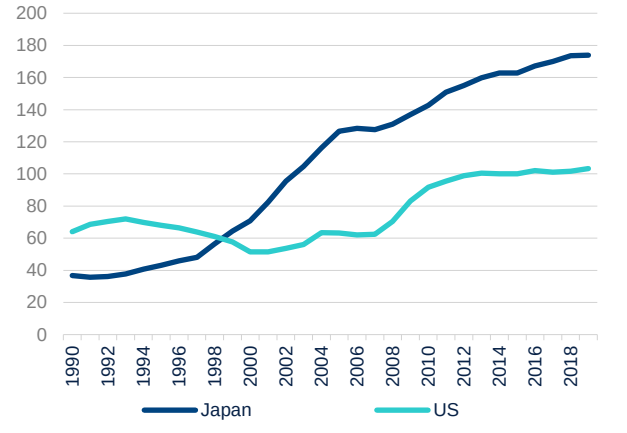
Inflation control and tax as the business cycle stabilizer

This idea of unlimited spending power of the government is counter-intuitive. One of the most common critiques is that unlimited government spending backed by money printing will lead to hyperinflation. Although the US is unlikely to have scenarios as bad as Venezuela or Zimbabwe, a two-digit inflation rate that substantially harms the economy seems plausible.

However, MMT supporters dismiss such concerns. An often-used counter-example is Japan. The Japanese economy has a higher debt to GDP ratio expanding at a faster pace than the US. Despite this being the case for two decades, the economy still lives with ultra-low inflation and interest rates (Figures 6.3 & 6.4). Many studies have argued that the majority of the Japanese debts were issued in yen and held by domestic individuals and institutions.[8] Therefore, the yield will not be pushed up, as investors of government bonds do not worry about default risk.

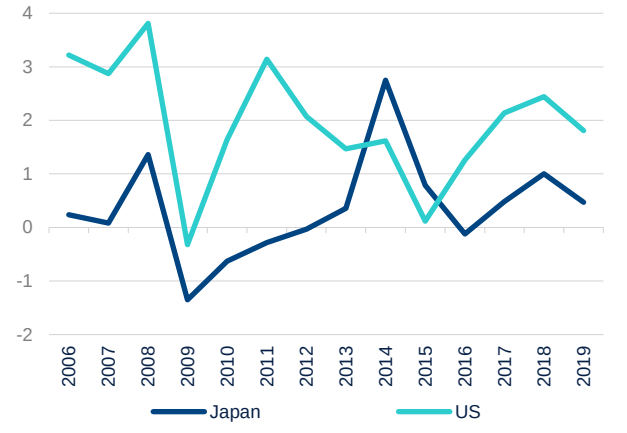
7: https://www.cnbc.com/video/2019/03/01/stephanie-kelton-explains-modern-monetary-theory.html
8: Hoshi, T., & Ito, T. (2014). Defying gravity: can Japanese sovereign debt continue to increase without a crisis?. *Economic Policy*, 29(77), 5-44.

Figure 6.3 **GOVERNMENT DEBT-TO-GDP RATIO** (%)



Source: BBVA Research and BoJ, FRB and Haver Analytics

Figure 6.4 **HEADLINE INFLATION** (%)



Source: : BBVA Research and BoJ, FRB and Haver Analytics

Moreover, according to MMT, taxes are an essential instrument to curb inflation and overheating. In an MMT world, the government does not need to tax income to finance public projects. Instead, taxes are a tool to take money away from households. With less money on hand, individuals will have to cut their consumption and investment. In this way, the economy will cool down due to suppressed demand.

Job guarantees for maximum employment

Even with unlimited firepower for government spending, there may still be individuals who cannot find a job. According to standard textbooks, structural and frictional factors, such as skills mismatch and job-seeking costs prevent a small fraction of the labor force from getting a job even under a "full employment" economy. Under these conditions, the unemployment rate is called "the natural rate of unemployment."

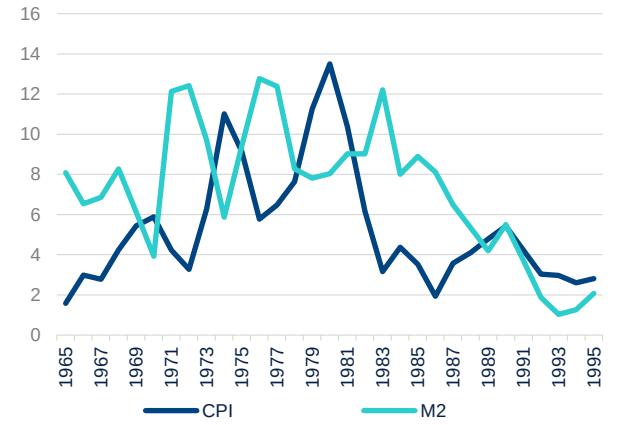
Again, MMTers disagree on the idea of a "natural rate of employment." In the MMT world, anyone who wants a job will have one in a full-employment economy. To achieve a zero unemployment rate, the government will hire all unemployed workers for public projects with a minimum wage until they get a better job. This policy proposal is called "job guarantees." In this way, the government improves people's welfare through public projects, provides basic income to unemployed workers, and avoids driving up inflation with minimum wages. In addition, workers employed in public projects benefit from having a job and feeling productive rather than collecting unemployment benefits and feeling purposeless.

Unlimited government spending vs. helicopter money

Is hyperinflation avoidable with unlimited government spending and money printing? To most economists, the answer is a capitalized "NO." Glenn Hubbard – the chairman of the Council of Economic Advisers under George W. Bush – commented, "The free lunch is just silly. No serious person believes this." As the government keeps injecting money

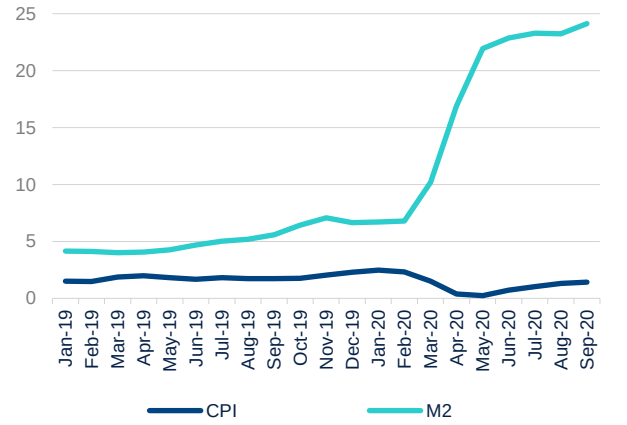
into the economy, an extended period of stagflation will follow, which is the price that we have to pay for the reckless monetary and fiscal policies.

Figure 6.5 **HISTORICAL MONEY SUPPLY AND CPI GROWTH** (%, YOY)



Source: BBVA Research, BEA, FRB and Haver Analytics

Figure 6.6 **CURRENT MONEY SUPPLY AND CPI GROWTH** (%, YOY)



Source: BBVA Research, BEA, FRB and Haver Analytics

Today's macroeconomic theory mostly builds its foundation on policy failures and successes in the 1970s and 1980s. After President Nixon took office, his administration infamously bullied the Fed to adopt an ultra-easy monetary policy, which significantly contributed to the decade's lengthy stagflation.[9] At the end of the 1970s, two-digit inflation proved to be a mighty enemy that seemed immune to all monetary policies.

In the early 1980s, the Fed –lead by the staunch Chairman Paul Volcker- resorted to drastically tightening money supply (Figures 6.5 & 6.6) Although it successfully brought the inflation rate under control, the side effect was severe recessions. From lessons that we have learned in these decades, unlimited government spending combined with easy money is a recipe for economic disasters.

However, if we substitute the word "unlimited" to "massive" in the question, the answer can be much more nuanced. Especially if we think outside the MMT box, significantly increasing the money supply to fund government projects is not as radical as it seems. In an influential article by Ben Bernanke, the former Federal Reserve Chairman discussed the idea of "helicopter money" monetary policy through a Money-Financed Fiscal Program (MFFP) under extraordinary circumstances.[10] In this program, Congress approves a significant amount of extra fiscal deficits. Instead of the standard practice of issuing Treasuries to the public, the government sells the debt to the Fed, who agrees to hold it indefinitely and rebates all interest payments. In this way, the fiscal stimulus is financed by extra printed money, not public debts. Thus, the government's debt burden will not increase.

9: Mallaby, S. (2016). *The man who knew: The life & times of Alan Greenspan.* Bloomsbury Publishing.
10: Bernanke, B. (2016). What tools does the Fed have left? Part 3: Helicopter money. *Brookings Institution.*

As Bernanke argues and recent data shows, today's main challenge seems no longer uncontrollable inflation.[11] On the contrary, risks associated with deflation have become a headache for global policymakers. Therefore, as long as the central bank is credible, the increased short-run expected inflation may even benefit the economy: It further reduces the real interest rate and encourages business investment.

Risks lying in redesigning policy institutions

It is worth noting that although MFFP may seem to partially support MMT, in theory, they are fundamentally different and thus require a drastically different institutional and legal infrastructure. In Bernanke's proposal, government projects are financed by money creation, not deficits. Therefore, policymakers are relieved from mounting public debts. The only concern will be potential inflation surges, mitigated by a well-functioning central bank in a deflationary environment. Moreover, since the helicopter money policy is reserved as a last resort, the risk of creating hyperinflation is further dampened.

Unlike the former Fed Chairman, who has integrated the current institutional arrangement in his thinking, MMT economists argue that the infrastructure of economic and financial policies should be redesigned. First, since debt issued in dollars can go up indefinitely, the central bank's job is to maintain a zero interest rate to minimize interest payments. In other words, the central bank's independence is at stake. Second, as inflation is created by excessive money chasing real goods and services, taking money away from individuals through hiking tax rates will mechanically suppress inflation. Again, the fiscal authority takes over a critical responsibility of the central bank. Third, with unlimited funding, the government uses job guarantee programs to achieve maximum employment.

Therefore, in the MMT world, the Fed transfers its dual-mandate of price stabilization and employment maximization to fiscal authorities. Moreover, by permanently setting the federal funds rate at zero, the central bank also gives up its independence. Meanwhile, Congress and the White House will amass incredible economic powers that set both monetary and fiscal policies. Such a power shift – from an independent central bank to Congress and the White House – will inherently politicize economic policies and create tremendous risks. In today's increasingly polarized society, people's distrust or even resentment of the opposite party will significantly reduce policies' effectiveness under such an institutional arrangement.

Another profound change could occur in financial markets. As the central bank does not directly create jobs, monetary policy has to work through financial intermediaries, whose role of so-called "financial accelerators" to business cycles and economic growth has been extensively studied and documented.[12] In contrast, in an MMT world, economic policies work through fiscal policies with permanent zero interest rates. Financial transactions will be significantly suppressed. Thus, investors may not be able to effectively allocate their resources and risk exposure with the financial market's help.

11: Although the Fed significantly increased money supply since March 2020, the inflation rate went down.
12: Bernanke, B. S., Gertler, M., & Gilchrist, S. (1999). The financial accelerator in a quantitative business cycle framework. *Handbook of macroeconomics*, 1, 1341-1393.

Bottom line

MMT supporters bring the idea of financing massive fiscal projects with unlimited budgetary deficits to the public eyes. While the seemingly unsustainable government debts for the U.S. economy has been a concern for economists and policymakers, the solution provided by MMT is too good to be true. Moreover, as Bernanke shows, even if the government plans to rescue the economy through helicopter money, the goal can still be achieved within the standard macroeconomic framework without reinventing the wheels.

Studies of past experiences have shown us the utter importance of an independent central bank. Under MMT, the central bank will have to compromise its independence and hand over its most critical responsibilities to fiscal authorities. Even if we do not consider the overly polarized and politicized environment, such a concentration of economic powers is extremely dangerous. As president Reagan once said, "The most terrifying words in the English language are: I'm from the government and I'm here to help."

7. BBVA U.S. MSA Civil Unrest Index

This year has brought with it the largest protest movement in U.S. history in terms of number of protests, protestors and participants as a percentage of the population, which surrounds racialized policing and calls for civil justice that harken back to the sustained Civil Rights movement of the 1950s and 1960s. The preconditions for civil unrest exist as features of discontent, which have been exaggerated by the ongoing global economic and health crises. The situation in parts of the U.S. has reached a boiling point in which existing discontent paired with mass unemployment, financial hardship and alienation will erupt into demonstrations given an opportune ignition.

Demonstrations in this and recent years have revealed facts about the short-term and long-term stability of these geographies and the potential for their development. Normal business operations can be interrupted as citizens either take charge in demonstrations or isolate themselves in fear of them. In addition, municipalities often impose restrictions that limit traffic in order to prevent congregation, which will affect the non-participating public. Should any geography experience persistent unrest, existing assets in that geography run the risk of impairment or becoming stranded. Insurance claims filed following the first wave of protests and corollary riots is estimated to have cost between one and two billion dollars' worth of damage which may make it the costliest in U.S. history next to the 1992 Los Angeles Riots[13].

If the preconditions of conflict are not addressed, then the implied long-term economic effects of discontent are costlier. Systemic inequity and injustices, in so far as they contribute to growing disparities in wealth, are shown to maintain a considerable drag on economies. In particular, decaying demand resulting from transfers of cash to the wealthiest in an economy depresses potential demand and has realized effects. Cynamon and Fazzari (2015)[14] present an argument for which upward transfer of wealth combined with the majority having its debt-consumption buffer stripped away can describe the weakness in the recovery following the Great Recession. Alichi, Kantenga and Sole (2016)[15], use a regression based model to estimate a 1pp drag on U.S. GDP caused by the aggregate drag on demand from the increase in inequality between 1998 and 2013. Extrapolating the drop in demand created by the current trend in rising inequality starting around 1979, there is an estimated drag on demand equal to 4pp of U.S. GDP annually for which increases in labor and capital efficiency must make up.

13: https://www.axios.com/riots-cost-property-damage-276c9bcc-a455-4067-b06a-66f9db4cea9c.html
14: Cynamon, Barry Z. and Fazzari, Steven M, Inequality, the Great Recession, and Slow Recovery (October 24, 2014). Available at SSRN: https://ssrn.com/abstract=2205524 or http://dx.doi.org/10.2139/ssrn.2205524
15: Alichi, Ali & Kantenga, Kory & Sole, Juan. (2016). Income Polarization in the United States. IMF Working Papers. 16. 1. 10.5089/9781475522501.001.

Table 7.1 **TOP 10 AND BOTTOM 10 LARGE MSAS BY UNREST RANKING FOR 2017-2020** (POPULATION GREATER THAN 500,000)

Overall	MSA	Overall	MSA
1	Fayetteville, AR	99	Virginia Beach, VA
2	Tulsa, OK	100	McAllen, TX
3	Las Vegas, NV	101	New York, NY
4	Cincinnati, OH	102	Bridgeport, CT
5	Provo, UT	103	San Francisco, CA
6	Louisville/Jefferson County, KY	104	Chicago, IL
7	Detroit, MI	105	Boston, MA
8	Memphis, TN	106	Lancaster, PA
9	Syracuse, NY	107	Allentown, PA
10	Boise City, ID	108	Oxnard, CA

Source: BBVA Research

Table 7.2 **TOP 10 AND BOTTOM 10 SMALL MSAS BY UNREST RANKING FOR 2017-2020** (POPULATION LESS THAN 500,000)

Overall	MSA	Overall	MSA
1	Midland, MI	265	East Stroudsburg, PA
2	Mansfield, OH	266	Chambersburg, PA
3	Sebring, FL	267	Lewiston, ID
4	Columbus, IN	268	Homosassa Springs, FL
5	Springfield, OH	269	Myrtle Beach, SC
6	Enid, OK	270	San Luis Obispo, CA
7	Billings, MT	271	St. Joseph, MO
8	Green Bay, WI	272	Altoona, PA
9	Logan, UT	273	Cheyenne, WY
10	Jefferson City, MO	274	Hammond, LA

Source: BBVA Research

The BBVA U.S. MSA Civil Unrest Index takes 332 variables across 7 categories (wealth, education, housing, ineffective politics, policing, racism and unemployment) in order to measure a geography's potential for sparking unrest in the short term and hosting the conditions for general discontent in the long term. In the relative ranking of 382 U.S. Metropolitan Areas, Hammond, LA, Cheyenne, WY, and Altoona, PA take the position of the most stable MSAs; while, Midland, MI, Mansfield, OH, and Serbing, FL are the most unstable.

Background and methodology

This index borrows from a tradition of researching American unrest which begins with the National Advisory Commission on Civil Disorders (the Kerner Commission)[16] which was established by Lyndon B. Johnson in 1967 in the midst of the Civil Rights movement and its related protests. The commission, headed by Illinois governor Otto Kerner Jr., was tasked with studying patterns of unrest, identifying its preconditions and prescribing measures for preventing further unrest. The commission concluded that there were twelve factors which contributed to general grievances in three increasing levels of intensity. The factors at the lowest level of intensity were: disrespectful white attitudes; discriminatory administration of justice; inadequacy of federal programs; inadequacy of municipal services; discriminatory consumer and credit practices; and inadequate welfare programs. At the middle level of intensity is: inadequate education; poor recreational facilities and programs; and ineffectiveness of the political structure and grievance mechanisms. The most intense factors include: police practices; unemployment and underemployment; and inadequate housing.

Contemporary research on civil unrest globally recognizes that it is the result of socio-economic and political stressors. With special attention paid to raced-based unrest which has defined the conversation on discontent and the 2020 race protests, we have defined seven classes of socio-economic and political stressors which are intended to measure a base-line stability for each MSA and a proxy for the likelihood that an MSA would erupt into demonstrations given the right kind of incendiary action. Factors and their aggregation into each class of variables were selected while considering their ability to predict incidents of civil unrest across all MSAs.

Unrest in the U.S. spans from the spectacular to the more routine. In aggregate, protests spawning from the 2020 race protests make up the largest protest movement in U.S. history commanding more than fifteen million participants to take to the streets over the span of several months. But these large waves like the 2020 race protests, the 2018 March for Our Lives and the 2017 Women's March are exceptional and rare. Our analysis considers a total of 35,600 demonstrations which have taken place since the start of 2017 whose median participant size was 100 demonstrators. The cause of these demonstrations are also seldom based on more distant grievances but instead on local political issues.

In order to incorporate the particular role that race relations and policing play into American unrest, we dedicate two variables to capture the more overt consequences of racism across the U.S. The Policing variable looks at violent or fatal encounters between the police and civilians controlled for race in a given metropolitan area and the evolution of these features over time. The Racism variable contains non-policing measures of racial inequality which are not otherwise completely enmeshed into the structures of wealth, education, housing and labor such as racialized mortality rates, health care outcome and quality of infrastructure.

The remaining variables contain features which are not independent from racial inequality, but are controlled for race in order to capture causes for discontent separate from racism. These include: wealth which seeks to measure inequality and the economic health of a local economy which would otherwise contribute to financial hardship; educational attainment as a proxy for social mobility; housing security describing homelessness or the threat of homelessness; ineffective politics which tracks the efficacy of government programs and of municipal government action; and

16: Report of the National Advisory Commission On Civil Disorders. [Washington: United States, Kerner Commission : U.S. G.P.O., 1968.

unemployment which not only contributes to financial hardship but can multiply the size of a demonstration, as employment is often a barrier to citizen direct action.

Data for the index was collected from publically available resources and databases. Regional demographics, macroeconomic and housing statistics were collected from the Census Bureau, Bureau of Labor Statistics and the Bureau of Economic Analysis. Data on healthcare outcomes is from the Robert Wood Johnson Foundation's County Health Rankings & Roadmaps program[17] which describes discrepancy in healthcare outcomes across U.S. counties. Demographic inequality is sourced from the Harvard School of Public Health and the Ohio State University Kirwan Institute for the Study of Race and Ethnicity's DiversityData.org[18] project which tracks racialized quality of life metrics. Policing data matches instances of police violence collected by FatalEncounters.org[19] to a municipality and adjusts these features to account for local demographic and crime statistics.

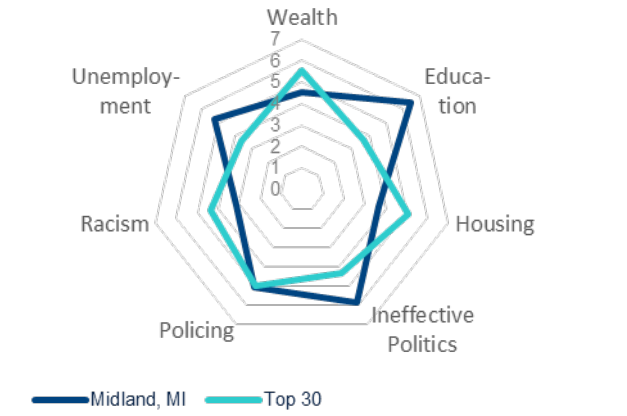
Extra caution is taken to avoid magnifying the effect of confounding factors. None of these variables are independent from one another, but in order to measure the components which underlie each variable as to create seven independent measures of discontent, factors are normalized whenever possible based on features such as race, economic productivity and population.

Once the factors are normalized, transformed and layered, they are reduced into their principal components via PCA[20]. In essence, the variables are described as the independent underlying features which describe the variance within and between each other. Each observation's loadings are weighted by the eigenvalues (roughly, a scalar corresponding to importance) of the decomposition and summed to create a category's score. An MSA's average score between all variables is used in order to determine its final ranking.

17: https://www.countyhealthrankings.org/
18: http://diversitydata.org/
19: http://diversitydata.org/
20: Principal Component Analysis

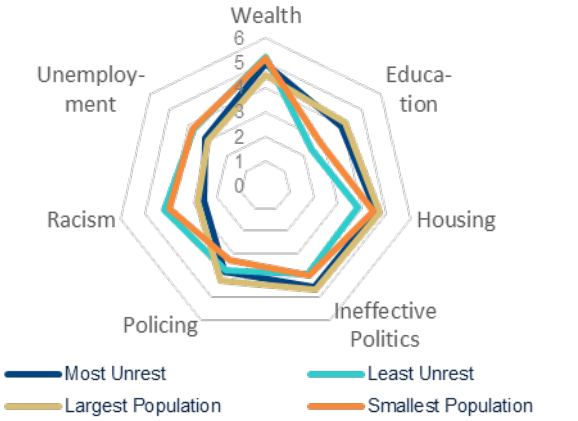
Results and analysis

Figure 7.1 **MSA CIVIL UNREST SCORECARD**



Source: BBVA Research

Figure 7.2 **SCORECARD BY MAJOR CATEGORY**



Source: BBVA Research

The **wealth insecurity** score penalizes MSAs with large non-racialized disparities in income, household wealth, average earnings, savings, consumer-credit and other non-housing debt obligations. The highest ranking MSAs are those with large wealth gaps in which the lowest-earners are equivalently those with the largest leverage ratios. MSAs in the South and Midwest without large urban centers are by far the most wealth-insecure. Before 1979, wealth inequality was largely associated with the racialized South, but deindustrialization through the 1980s and 1990s resulted in unemployment in the American Rustbelt which was not fully replaced by a transition to service sector jobs. In fact, deindustrialization and depression of investments and asset prices promoted population flight from more rural areas to be partially replaced by wealthier specialists in the service sector[21]. Wealth inequalities controlled for race, housing insecurity, unemployment and underemployment increases the likelihood of unrest related to labor disputes and collective bargaining which is the second most common type of disruption behind topics related to civil rights and immigration.

Inadequate education considers the distribution of educational attainment controlled for race and wealth as compared to the expectation for developed economies. Disparities in gendered educational attainment are considered in order to describe regional gender inequality assuming uniform distribution of the genders. Individuals are classified as having less than a high school education, high school education or GED equivalent, associate's degree, bachelor's degree or a graduate's or post-graduate's degree. The rate of decay towards higher-levels of education is a proxy for educational attainment or social mobility. This is paired with indexes of child opportunities. Lower instances of upward mobility are heavily associated with greater potential for unrest specifically anti-government demonstrations in the form of riots and general strikes[22]. Our results show that inadequate education and a lack of social mobility are not region-specific but

21: Doussard, Marc, Jamie Peck, and Nik Theodore. "After Deindustrialization: Uneven Growth and Economic Inequality in "Postindustrial" Chicago." Economic Geography 85, no. 2 (2009): 183-207. Accessed November 18, 2020. http://www.jstor.org/stable/40377297.
22: Christian Houle, 2019. "Social Mobility and Political Instability," Journal of Conflict Resolution, Peace Science Society (International), vol. 63(1), pages 85-111, January.

correlates very well with large urban populations. While this is not to say that more rural metropolitan areas have higher rates of educational attainment, this does suggest that rates of educational attainment drops-off much faster in urban populations. Less urban metropolitan areas have more uniform education levels which serves to draw attention away from stagnation in social mobility and systemic inequalities.

Housing insecurity sits at the edge of economic conditions; however, this category should describe all kinds of housing insecurity which includes home-ownership and the change in home-ownership, rent and change in rent prices, mortgage ratios, under-housed and homelessness controlled for a region's median wealth. Several regional patterns follow from this variable. The metropolitan areas with the most expensive housing are also the most housing insecure even when controlling for wealth. This is to say that higher rent, home prices and the cost of living outweighs higher average earnings and creates disproportionate stress for the least wealthy in these MSAs which is consistent with research on gentrification and urban decay. These regions are concentrated around the West Coast, the North East and high-growth MSAs like the Texas Triangle. Another severe pattern in housing insecurity traces the Midwest and Rust Belt states which were some of the hardest hit in the Subprime Mortgage Crisis paired with having the weakest recoveries[23].

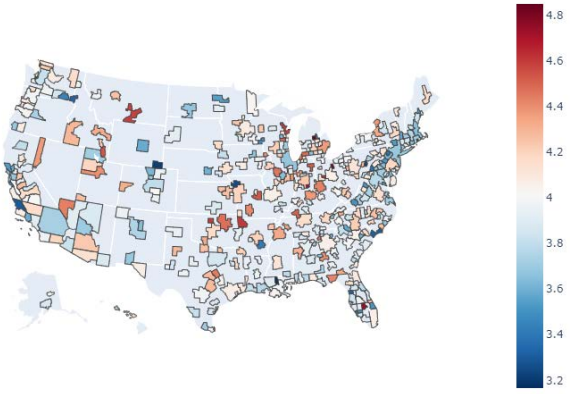
The **ineffective politics** score evaluates a local and state's government ability to prevent stress via its investments and grievance mechanisms. This includes resources allocated towards those in need of short or long-term relief and the efficacy of public infrastructure like access to recreation, public works and services, sanitation, roads and public transit and the effect which these two have on the average commute time to work. As was the case with inadequate education, more urban metropolitan areas generally have less effective political structures. This shouldn't be confused with tax revenues which are higher in these areas, but the government's ability to meet the average citizen's grievances with this tax revenue. The impoverished or those in need of public relief services like Medicaid/CHIP and Food Stamps are less likely to have their basic need fulfilled in more densely populated and urban areas; moreover, local and state governments are unable to scale their revenues as to fully combat the effects of population density. Greater investments in roads, public transit and recreation are not enough to reduce transit times or build public works on what little public land is available.

Unemployment is an important variable, as the unemployed population not only contributes to increases in wealth insecurity and financial stress, but it serves as kindling to demonstrations. Unemployed people are more available to post themselves at demonstrations without having to worry about taking time off for work or retribution by their employer for having participated. Key to this variable is the proportion of disconnected youth (individuals aged 16 to 24 who do not participate in employment, education or training). Protestors across movements and grievances tend to skew young, and this combined with disconnection to the labor market can create a demographic which is rife with action[24]. Non-urban metropolitan areas in the Sunbelt are the regions with the highest combination of unemployment across demographic groups and disconnected youth and therefore score the highest in terms of the unemployment index.

23: https://www.corelogic.com/downloadable-docs/corelogic-peak-totrough-final-030118.pdf
24: Chabanet D., Faniel J. (2012) Introduction: The Mobilization of the Unemployed in a Comparative Perspective. In: Chabanet D., Faniel J. (eds) The Mobilization of the Unemployed in Europe. Europe in Transition: The NYU European Studies Series. Palgrave Macmillan, New York. https://doi.org/10.1057/9781137011862_1

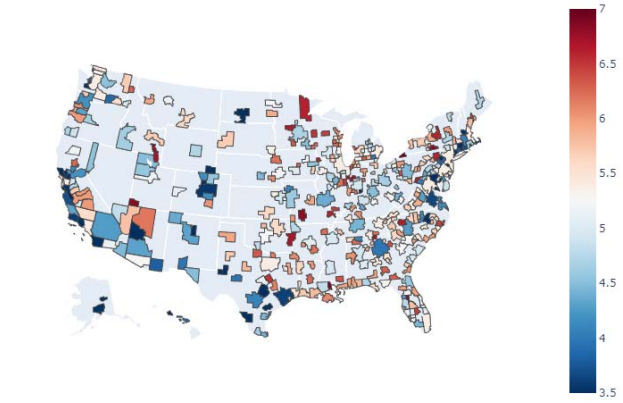
Racialized policing includes incidences of violent encounters with the police and arrests controlled for a region's crime and demographic profile; whereas, the **racism** score tries to isolate a region's racial disparity via healthcare outcomes and the racial component isolated from all other scores. Racialized policing scores differs from the racism score in that greater incidents of racialized policing does not proceed historical structural inequalities. Racialized policing does not appear to be isolated to any one region or pattern of regions. It can be found uniformly across the United States with a slight bias towards the eastern half of the country. Racism, on the other hand, skews towards the South, specifically in regions with minority-majorities or otherwise large minority representation. As the racism index tracks disparate outcomes across quality of life controlled for wealth, it is unsurprising that regions with a history of racialized legislation would score higher. Some more urban metropolitan areas in this region are cushioned possibly as a result of more progressive action towards racial minorities, but history and demographics dominate otherwise, and this is reflected in the racism index.

Figure 7.3 **UNREST INDEX**



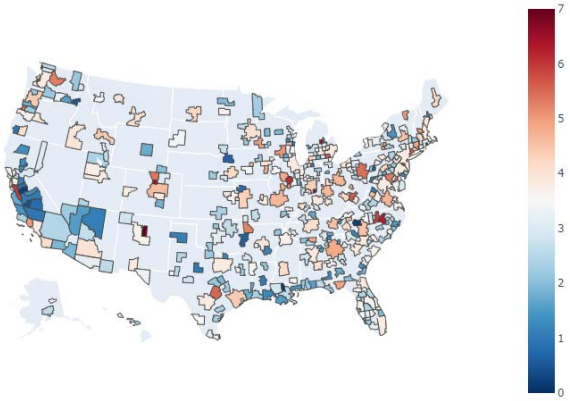
Source: BBVA Research

Figure 7.4 **WEALTH INSECURITY SCORE**



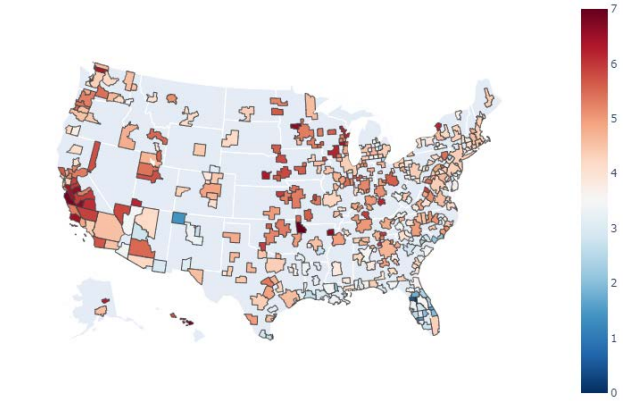
Source: BBVA Research

Figure 7.5 **INADEQUATE EDUCATION SCORE**



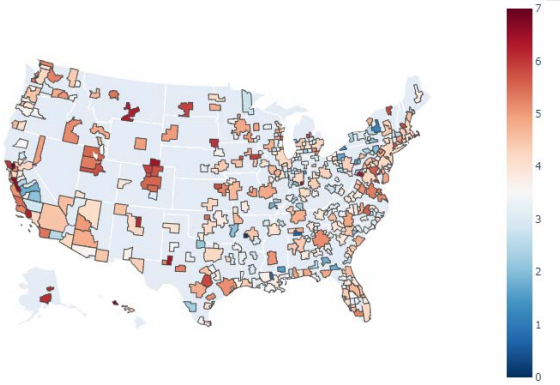
Source: BBVA Research

Figure 7.6 **INSECURE HOUSING SCORE**



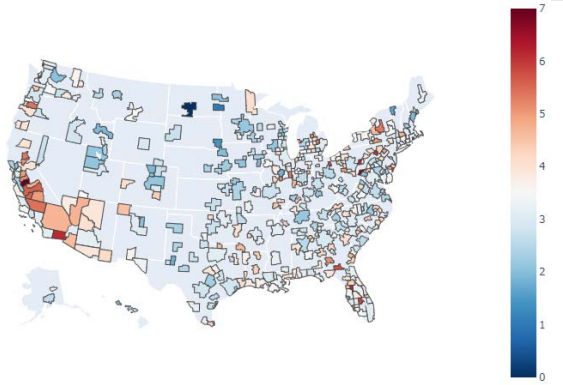
Source: BBVA Research

Figure 7.7 **INEFFECTIVE POLITICS SCORE**



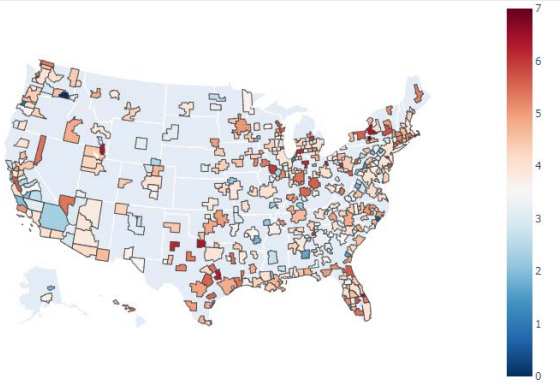
Source: BBVA Research

Figure 7.8 **UNEMPLOYMENT SCORE**



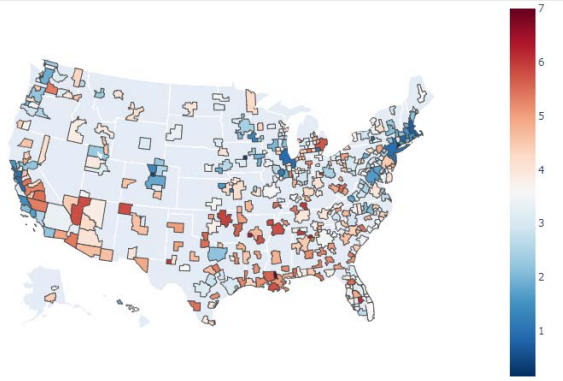
Source: BBVA Research

Figure 7.9 **RACIALIZED POLICING SCORE**



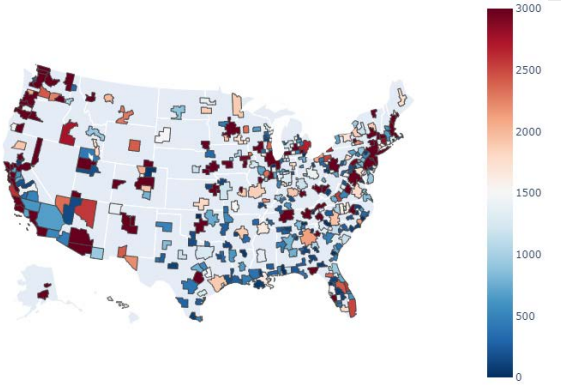
Source: BBVA Research

Figure 7.10 **RACISM SCORE**



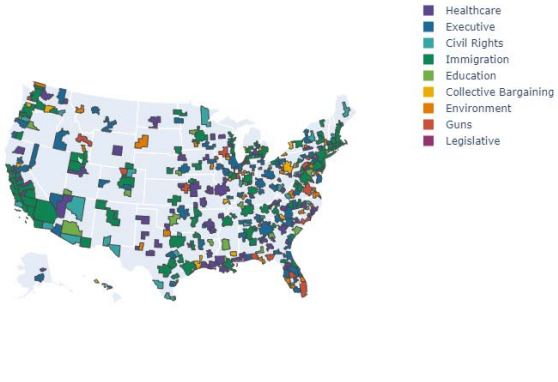
Source: BBVA Research

Figure 7.11 **PROTESTORS PER 100,000 INDIVIDUALS**



Source: BBVA Research

Figure 7.12 **AVERAGE PROTEST SIZE**



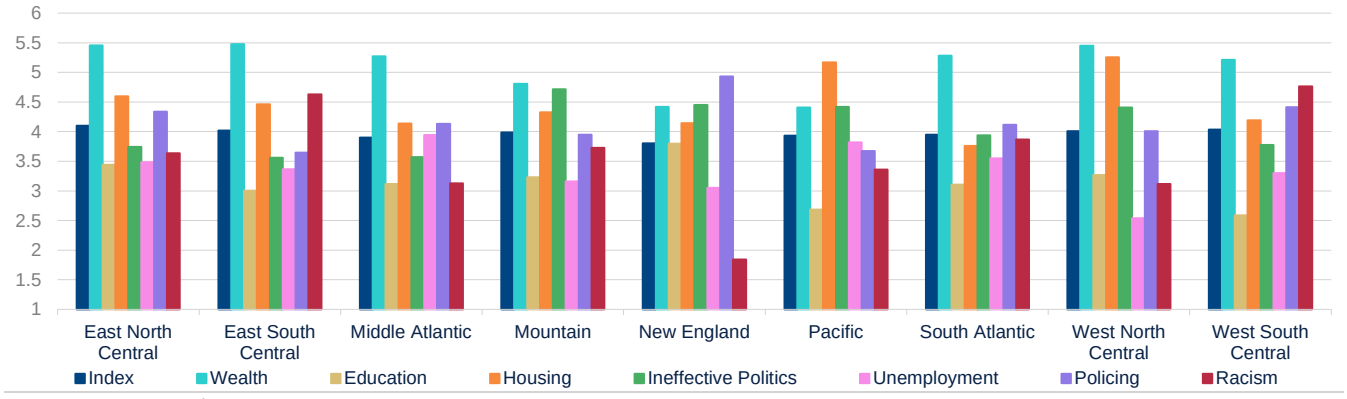
Source: BBVA Research

When mapping out social unrest between the start of 2017 and today, we can glean a few patterns from its distribution. First, there is a mild relationship between a public's likelihood to participate in protests and demonstrations, and population size. Some more urban areas skew towards having a more active population; however, activity seems to be more so a feature of culture and local grievances. Select urban MSAs on the West Coast, the East Coast and in the Rustbelt have the highest level of activity; whereas, equally urban MSAs in the Sunbelt and the Midwest have much less activity per capita. There is more diversity in top concerns in these less active regions which may reflect a cultural distinction which contributes to decreased action. Regions which have larger per capita participation in demonstrations are generally more concerned about issues of civil rights and immigration.

Wealth, education, racism and policing are, by far, the most significant predictors of social unrest using data from all domestic demonstrations between 2017 and today. The contribution of racialized policing make sense in the light of the 2020 race protests, as it is instances of racialized policing which served as a justification for direct action throughout an unnerved population. Wealth inequality and inadequate education, independent of one another, may underpin the cultural narrative of social unrest. Wealth, as the material basis of discontent, traces most of the objects of demonstrations. Documented and undocumented immigrants are more likely to fall under the poverty line as are the subjects of civil rights violations, and wealth compounds the issues of health care inaccessibility, inadequate education, environmental erosion and collective bargaining.

The material reality of racism, on the other hand, actually has an inverse relationship to protests and demonstration. Regions with greater realized effects of racism have the same, if not higher, proportions of racial minorities than less racist areas. However, racist structures seem to act as a stopgap for protests, especially those around immigration and civil rights. This is realized in the lower levels of unrest across the Sunbelt. This is an observation which dates back to the aftermath of the Civil Rights movement cited in order to call into question the connection between systemic racism and anti-racism protests for which several counter-hypotheses have been put forth[25]. Perhaps, intense disparity deters those affected from direct action or disenfranchises them from the political process altogether; or, perhaps, the lack of racist structures is part and parcel of a majority that is willing to participate in unrest alongside affected groups of people.

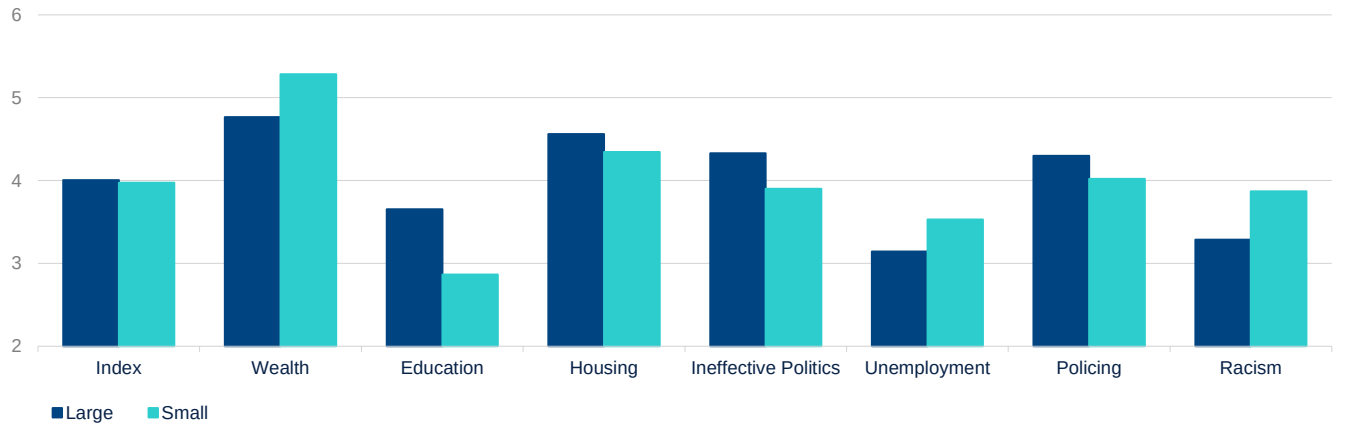
Figure 7.13 **2020 MSA UNREST RANKING BY GEOGRAPHIC SUBDIVISION**



Source: BBVA Research

25: Scott Martelle, Detroit, Chicago Review Press 2012; Page 194-195

Figure 7.14 **2020 MSA UNREST RANKING BY MSA SIZE**



Source: BBVA Research

Additional considerations

This index is a tool for considering how different metropolitan areas in the U.S. compare to one another in terms of the underlying features of civil unrest. Realized civil unrest is not so much a result of these underlying tensions, but requires existing discontent in relation to an area's grievance mechanisms and a motivation or incendiary action. Unrest like that seen over the past year is the result of increasing tensions either predating or concurrent to the Covid crisis and an inability to unwind this stress via some political process. Anyone who is trying to predict instances of unrest needs to also track their spontaneous causes. Existing research on this topic utilizes spatial models and organization via social media[26] in order to create a map with likelihoods that a specific past event will manifest a demonstration during a future timeframe filtered on proximity to the event and conversations being had about the event. Tools such as the index can serve as inputs for tuning such models, but can also be used in anticipation of the long-term effects of discontent rather than the more spectacular demonstrations which capture our attention.

With the Covid-19 crisis being far from over, and the permanent effects which will scar across everyday reality serving as long-term stressors, we should not expect these waves in social unrest to calm anytime soon. The preconditions for unrest have not been addressed and have only been laid bare by triple health, socioeconomic and geopolitical crises. We have yet been given an opportunity to consider what life will look like after a vaccine becomes available and how policy makers will affect changes to relieve social stress. They might issue job programs, public works projects, social security payments or additional business loans in order to soften financial hardship on workers whose industries have been all but destroyed by the pandemic. They might continue to defer collections of federal debt to allow individuals to

26: Basnet, Sudeep, "Analysis of Social Unrest Events using Spatio-Temporal Data Clustering and Agent-Based Modelling" (2019). Computer Science and Engineering: Theses, Dissertations, and Student Research. 176.

rebuild savings to something resembling their pre-Covid shares. Those with undeniable racial disparities may begin towards closing those gaps as to keep incidents from igniting.

Which industries have died due to the pandemic? Will governments pursue austerity measures or seek to try to salvage people's standard of living from before the pandemic? How will a financial crisis and the depletion of savings compound existing stressors? Will this year's demonstrations result in local governments increasing counter insurgent measures, and would this result in more frequent incendiary action and, thus, more unrest?

High wealth, housing and education insecurity paired with a high frequency of racialized policing encounters has made the Midwest the epicenter of the 2020 race riots and the most prone to civil unrest according to the index. Currently, this region is also the most affected by the third peak of Covid-19 cases in the U.S. Regional governments have been averse to raising restrictions opting to avoid economy trauma at the cost of an unprecedented spread of the virus. Should legal restrictions be put in place in order to curb the spread of the virus, an altercation resulting from increased restrictions may not be far behind and threatens to ignite a new wave of social unrest regionally and nationwide.

Table 7.3 **BBVA U.S. MSA CIVIL UNREST INDEX & RANKING**

Final ranking	CBSA Name	Wealth	Education	Housing	Ineffective Politics	Policing	Racism	Unemployment
1	Midland, MI	299	4	298	19	59	265	19
2	Mansfield, OH	145	57	259	279	8	106	10
3	Sebring, FL	25	136	375	286	19	4	7
4	Columbus, IN	356	2	67	4	62	305	149
5	Springfield, OH	225	87	70	237	115	7	126
6	Fayetteville, AR	264	19	1	108	331	56	307
7	Enid, OK	107	304	47	37	240	53	67
8	Billings, MT	146	75	246	8	161	149	157
9	Green Bay, WI	60	196	15	152	23	147	297
10	Logan, UT	9	229	51	277	5	107	335
11	Jefferson City, MO	91	119	69	67	192	160	156
12	Fort Wayne, IN	82	277	128	273	10	43	137
13	Clarksville, TN	166	227	102	131	99	30	113
14	Fond du Lac, WI	46	47	9	98	288	291	237
15	Kalamazoo, MI	196	65	214	244	12	116	181
16	Tulsa, OK	149	235	76	236	69	9	220
17	Peoria, IL	266	32	140	111	14	306	119
18	Rome, GA	130	254	23	294	16	62	249
19	Waco, TX	20	313	132	283	35	35	127
20	Las Vegas, NV	259	288	34	112	40	117	121
21	Cincinnati, OH	297	38	95	148	26	158	285
22	Niles, MI	93	48	229	241	18	209	193
23	Tallahassee, FL	197	29	323	80	68	193	112
24	Springfield, MO	6	237	50	229	191	79	202

Table 7.3 **BBVA U.S. MSA CIVIL UNREST INDEX & RANKING (cont.)**

Final ranking	CBSA Name	Wealth	Education	Housing	Ineffective Politics	Policing	Racism	Unemployment
25	Columbus, GA	168	162	109	261	241	40	66
26	Provo, UT	218	112	38	24	177	267	258
27	Dubuque, IA	17	121	36	282	66	229	279
28	Watertown, NY	208	190	16	96	105	237	198
29	Danville, IL	22	317	90	339	266	36	18
30	Louisville/Jefferson County, KY	247	97	104	179	33	142	256
31	Reno, NV	294	195	37	71	38	150	296
32	Detroit, MI	183	110	206	173	235	16	222
33	Lafayette, IN	8	124	40	344	129	191	174
34	Jackson, TN	116	172	266	331	57	54	65
35	Memphis, TN	242	122	110	190	265	13	234
36	Johnson City, TN	124	43	135	253	278	71	194
37	Syracuse, NY	96	214	150	347	4	236	38
38	Valdosta, GA	35	306	220	373	60	57	9
39	Lawton, OK	258	285	30	222	127	19	180
40	Idaho Falls, ID	129	51	55	83	242	175	374
41	Grand Junction, CO	226	118	218	204	139	99	83
42	Tuscaloosa, AL	63	215	226	141	164	120	109
43	Johnstown, PA	100	284	258	377	22	101	4
44	Weirton, WV	31	249	314	332	11	83	95
45	Boise City, ID	284	83	130	54	93	187	266
46	Lubbock, TX	122	248	148	266	9	61	327
47	Austin, TX	368	13	114	21	32	299	349
48	Sebastian, FL	223	142	378	76	3	190	49
49	Decatur, IL	213	20	235	238	339	205	20
50	Killeen, TX	228	303	71	120	169	91	101
51	Topeka, KS	249	158	81	49	188	151	282
52	St. George, UT	3	261	18	196	305	211	165
53	Merced, CA	128	380	7	349	355	28	1
54	Champaign, IL	50	127	59	191	56	350	182
55	Wichita Falls, TX	33	291	178	361	6	22	284
56	Raleigh, NC	354	5	97	31	61	340	353
57	Great Falls, MT	220	82	96	40	259	159	345
58	Wilmington, NC	141	131	111	309	96	231	71
59	Sherman, TX	54	357	127	225	108	102	37
60	Manhattan, KS	185	81	26	26	190	362	246

Table 7.3 **BBVA U.S. MSA CIVIL UNREST INDEX & RANKING (cont.)**

Final ranking	CBSA Name	Wealth	Education	Housing	Ineffective Politics	Policing	Racism	Unemployment
61	Jonesboro, AR	44	298	4	329	365	10	141
62	St. Cloud, MN	12	232	5	245	141	270	332
63	Indianapolis, IN	244	53	89	175	39	292	310
64	Phoenix, AZ	315	78	54	91	255	163	213
65	Rockford, IL	137	250	144	211	160	129	61
66	Charleston, WV	309	9	192	292	253	20	324
67	Eau Claire, WI	21	312	75	73	204	136	309
68	Stockton, CA	236	360	32	247	158	98	28
69	Mount Vernon, WA	195	200	11	205	116	225	251
70	Jackson, MI	103	183	306	287	78	132	70
71	Charlotte, NC	320	46	105	78	91	288	236
72	Pocatello, ID	7	170	288	124	318	111	169
73	Madison, WI	239	21	14	97	148	346	363
74	Texarkana, TX	58	210	336	262	140	76	41
75	Beckley, WV	211	85	332	220	41	65	250
76	Rocky Mount, NC	143	212	342	183	65	125	58
77	Morgantown, WV	109	146	275	234	25	301	84
78	Lansing, MI	205	86	145	194	174	239	102
79	Little Rock, AR	229	84	169	123	277	82	243
80	Davenport, IA	187	155	176	200	44	245	171
81	Kansas City, MO	288	54	72	107	246	145	333
82	El Centro, CA	221	316	173	348	180	64	5
83	Salt Lake City, UT	293	120	65	41	171	176	364
84	Knoxville, TN	169	41	122	218	206	172	295
85	Fayetteville, NC	167	268	182	259	143	88	52
86	South Bend, IN	125	113	98	322	271	118	153
87	Philadelphia, PA	181	108	204	171	233	114	223
88	Albany, NY	271	45	216	132	17	339	178
89	Kahului, HI	340	282	2	125	31	206	326
90	Winston, NC	138	153	153	224	166	198	134
91	Longview, TX	94	276	307	316	36	49	124
92	Oklahoma City, OK	204	191	86	176	83	189	286
93	Sioux Falls, SD	186	230	48	15	70	277	380
94	Florence, SC	161	92	354	314	86	27	151
95	Bakersfield, CA	150	370	29	334	321	33	13
96	Fresno, CA	73	365	24	372	295	38	11

Table 7.3 **BBVA U.S. MSA CIVIL UNREST INDEX & RANKING (cont.)**

Final ranking	CBSA Name	Wealth	Education	Housing	Ineffective Politics	Policing	Racism	Unemployment
97	Spokane, WA	127	299	162	136	142	135	155
98	Bangor, ME	272	72	193	221	50	207	201
99	Saginaw, MI	256	198	333	298	15	86	78
100	Gainesville, FL	76	128	310	251	163	178	89
101	Springfield, IL	254	33	152	209	307	242	63
102	Durham, NC	329	8	100	93	125	343	303
103	Nashville, TN	306	69	103	94	107	174	358
104	Longview, WA	118	294	125	249	267	113	44
105	Owensboro, KY	88	209	101	356	88	224	45
106	Joplin, MO	67	193	58	207	337	87	260
107	Tucson, AZ	210	184	234	257	179	90	110
108	Richmond, VA	348	36	158	43	187	171	306
109	Trenton, NJ	374	10	190	56	13	347	179
110	Racine, WI	191	194	215	99	34	279	257
111	Ithaca, NY	61	22	291	321	1	378	200
112	Atlantic City, NJ	170	281	331	317	21	69	53
113	Dayton, OH	261	62	115	212	237	164	215
114	Omaha, NE	216	59	33	140	152	307	351
116	Scranton, PA	18	265	63	369	310	68	64
118	Pittsburgh, PA	301	14	196	153	156	284	269
119	Corvallis, OR	101	16	56	104	380	337	48
120	Chico, CA	40	351	263	328	128	130	17
121	Staunton, VA	95	42	123	117	375	280	82
122	Bellingham, WA	165	241	151	45	43	321	221
123	Jackson, MS	241	61	287	62	345	75	204
124	Gadsden, AL	222	324	138	308	287	3	74
125	Flint, MI	250	79	366	313	263	60	16
126	Appleton, WI	164	220	84	74	72	248	366
127	Burlington, VT	270	26	305	20	54	298	379
128	Jacksonville, FL	290	96	302	110	20	259	208
129	Salem, OR	62	322	66	289	123	165	162
130	Ames, IA	43	44	62	28	216	381	319
131	Terre Haute, IN	85	252	245	346	185	81	35
132	Winchester, VA	335	138	60	5	297	216	362
133	Beaumont, TX	159	325	335	269	42	42	94
134	Crestview, FL	273	236	208	85	100	109	265

Table 7.3 **BBVA U.S. MSA CIVIL UNREST INDEX & RANKING (cont.)**

Final ranking	CBSA Name	Wealth	Education	Housing	Ineffective Politics	Policing	Racism	Unemployment
135	Huntsville, AL	333	28	160	82	193	247	271
136	Williamsport, PA	148	99	253	351	114	162	93
137	Salisbury, MD	255	201	296	77	147	148	145
138	Harrisburg, PA	269	56	117	129	131	283	292
139	Minneapolis, MN	277	76	78	79	64	318	359
140	Wenatchee, WA	295	18	233	44	200	266	370
141	Brunswick, GA	65	319	284	343	77	52	69
142	Hagerstown, MD	281	231	121	293	132	137	59
143	Glens Falls, NY	71	186	223	155	74	325	168
144	Des Moines, IA	232	159	46	114	117	262	365
145	El Paso, TX	300	173	163	150	289	66	183
146	Medford, OR	252	66	294	187	219	199	103
147	Houston, TX	350	52	156	59	90	281	263
135	Huntsville, AL	333	28	160	82	193	247	271
136	Williamsport, PA	148	99	253	351	114	162	93
137	Salisbury, MD	255	201	296	77	147	148	145
138	Harrisburg, PA	269	56	117	129	131	283	292
139	Minneapolis, MN	277	76	78	79	64	318	359
140	Wenatchee, WA	295	18	233	44	200	266	370
141	Brunswick, GA	65	319	284	343	77	52	69
142	Hagerstown, MD	281	231	121	293	132	137	59
143	Glens Falls, NY	71	186	223	155	74	325	168
144	Des Moines, IA	232	159	46	114	117	262	365
145	El Paso, TX	300	173	163	150	289	66	183
146	Medford, OR	252	66	294	187	219	199	103
147	Houston, TX	350	52	156	59	90	281	263
148	St. Louis, MO	310	39	228	81	207	217	278
149	College Station, TX	55	280	224	242	7	290	287
151	Miami, FL	180	107	203	170	232	213	224
152	Atlanta, GA	337	31	139	58	308	220	253
153	Santa Maria, CA	351	266	8	46	63	341	161
154	Bloomsburg, PA	108	123	177	330	368	263	6
155	Salinas, CA	346	331	3	63	183	258	136
156	Columbus, OH	282	37	52	157	199	316	316
157	Lexington, KY	201	89	17	250	306	186	356
158	Iowa City, IA	136	35	212	137	55	345	371

Table 7.3 **BBVA U.S. MSA CIVIL UNREST INDEX & RANKING (cont.)**

Final ranking	CBSA Name	Wealth	Education	Housing	Ineffective Politics	Policing	Racism	Unemployment
159	Columbia, MO	193	71	27	178	244	309	352
160	Kankakee, IL	268	168	256	199	224	138	117
161	Houma, LA	56	340	326	267	146	14	150
162	Columbia, SC	200	93	340	128	218	128	238
163	Eugene, OR	74	132	172	255	286	295	98
164	Youngstown, OH	69	188	293	374	110	58	100
165	Duluth, MN	15	283	155	338	276	141	86
166	Toledo, OH	133	211	141	325	94	215	147
167	Athens, GA	29	165	129	304	290	238	164
168	Brownsville, TX	307	116	364	156	159	134	50
169	Fairbanks, AK	365	143	13	11	373	226	143
170	Huntington, WV	189	60	316	337	238	72	140
172	Yuba City, CA	328	352	87	203	279	74	22
173	Visalia, CA	72	374	19	367	353	24	26
174	Colorado Springs, CO	327	114	147	35	269	256	244
175	San Jose, CA	382	7	10	3	27	374	331
176	Rochester, NY	131	182	278	315	28	293	142
177	Asheville, NC	123	74	318	113	75	289	344
178	Akron, OH	190	171	222	149	172	273	187
179	Albany, OR	317	290	170	197	202	230	14
180	New Orleans, LA	206	239	338	213	104	51	189
181	Lawrence, KS	209	70	31	130	126	369	314
182	Rochester, MN	296	25	73	65	136	368	340
183	Ann Arbor, MI	336	11	227	57	52	371	304
184	Evansville, IN	275	80	118	264	67	233	343
185	Hanford, CA	245	379	6	240	370	100	12
186	Portland, OR	323	50	79	119	145	330	262
187	Augusta, GA	207	94	356	223	291	95	88
188	San Antonio, TX	334	117	213	88	80	269	268
189	Odessa, TX	364	178	268	47	294	5	283
190	Missoula, MT	92	149	260	105	92	324	317
191	Coeur d'Alene, ID	37	204	167	276	198	304	111
192	New Bern, NC	24	342	184	323	81	127	235
193	Yakima, WA	173	300	61	320	334	31	167
194	Binghamton, NY	5	259	312	365	79	286	25
195	Elmira, NY	251	30	328	288	85	322	79

Table 7.3 **BBVA U.S. MSA CIVIL UNREST INDEX & RANKING (cont.)**

Final ranking	CBSA Name	Wealth	Education	Housing	Ineffective Politics	Policing	Racism	Unemployment
196	Bremerton, WA	343	125	264	72	87	282	172
197	San Angelo, TX	339	221	180	42	49	212	329
198	Barnstable Town, MA	349	152	270	10	2	372	300
199	The Villages, FL	4	228	382	151	189	210	3
200	Cleveland, TN	53	330	22	291	292	122	299
201	Farmington, NM	311	216	380	115	165	11	42
202	Macon, GA	156	218	300	300	303	59	68
203	Kingsport, TN	158	144	301	318	248	182	60
204	Lakeland, FL	111	264	358	260	124	70	118
205	Olympia, WA	367	64	265	38	178	252	133
206	San Diego, CA	363	67	41	39	205	332	233
207	Albany, GA	36	328	252	370	299	45	21
208	Canton, OH	279	156	146	215	333	173	76
209	Amarillo, TX	89	361	124	195	133	55	342
210	Greeley, CO	292	197	191	25	102	312	302
211	Modesto, CA	265	373	21	252	309	161	23
212	Gulfport, MS	84	344	254	284	222	80	85
213	Pueblo, CO	66	323	251	311	274	96	57
214	Cedar Rapids, IA	291	77	168	16	151	352	347
215	Daphne, AL	80	289	355	75	194	194	105
216	Shreveport, LA	144	160	324	303	251	105	132
217	Alexandria, LA	41	364	337	327	95	50	62
218	Vallejo, CA	369	258	93	55	71	241	146
219	Parkersburg, WV	286	34	322	310	260	85	185
221	Hilton Head Island, SC	233	167	325	121	184	121	270
223	Lima, OH	238	309	221	188	84	200	120
224	Fort Smith, AR	11	377	107	366	280	17	96
225	Buffalo, NY	112	137	257	354	120	201	163
226	Cleveland, OH	237	68	194	272	262	250	160
227	Abilene, TX	106	367	137	299	45	89	280
228	Greensboro, NC	117	205	166	243	284	179	216
229	Birmingham, AL	248	98	311	134	250	112	318
230	New Haven, CT	345	49	281	90	30	358	191
231	Savannah, GA	253	187	219	161	243	234	158
232	Sheboygan, WI	57	368	53	30	239	303	312
233	Monroe, LA	68	297	343	333	201	63	56

Table 7.3 **BBVA U.S. MSA CIVIL UNREST INDEX & RANKING (cont.)**

Final ranking	CBSA Name	Wealth	Education	Housing	Ineffective Politics	Policing	Racism	Unemployment
234	Charleston, SC	246	141	308	92	113	223	315
235	Rapid City, SD	126	163	240	69	320	244	293
236	Fargo, ND	97	129	44	87	316	251	381
237	Erie, PA	1	278	161	378	311	115	47
238	Cape Girardeau, MO	16	301	157	371	360	25	46
240	Bloomington, IN	52	91	244	363	157	294	116
241	Lake Havasu City, AZ	115	339	315	312	330	12	31
242	Los Angeles, CA	175	102	198	165	227	310	225
243	Cape Coral, FL	199	273	334	133	101	202	123
244	Sacramento, CA	322	206	77	158	137	331	97
245	Wheeling, WV	240	247	295	355	138	131	27
246	Baton Rouge, LA	257	213	317	248	208	18	247
247	Bowling Green, KY	59	332	25	357	361	6	248
249	Hot Springs, AR	70	164	303	382	257	2	80
250	Muskegon, MI	38	335	361	368	82	77	24
251	Wausau, WI	23	314	49	296	282	261	197
252	North Port, FL	224	157	368	186	53	188	242
253	Orlando, FL	231	139	309	100	215	255	203
254	Elkhart, IN	121	366	83	302	98	93	294
255	Carson City, NV	280	296	20	231	273	133	313
256	Vineland, NJ	132	347	347	210	186	143	29
257	Chattanooga, TN	171	207	136	216	176	208	321
258	Naples, FL	304	185	360	48	37	300	166
259	Montgomery, AL	230	73	290	226	376	44	154
260	Wichita, KS	142	272	108	160	249	228	301
261	Palm Bay, FL	217	145	369	147	168	196	144
262	Sierra Vista, AZ	344	245	350	127	109	94	73
263	Madera, CA	75	348	82	326	350	144	30
264	Ocean City, NJ	325	321	339	95	304	154	8
265	Elizabethtown, KY	313	192	120	206	328	78	210
266	Grand Rapids, MI	139	222	179	138	150	272	328
267	Flagstaff, AZ	51	362	241	181	252	185	107
268	Anchorage, AK	361	242	159	13	270	119	311
269	Victoria, TX	359	270	341	60	29	48	320
270	Greenville, NC	140	253	282	285	106	285	75
271	Ocala, FL	194	260	377	198	261	21	54

Table 7.3 **BBVA U.S. MSA CIVIL UNREST INDEX & RANKING (cont.)**

Final ranking	CBSA Name	Wealth	Education	Housing	Ineffective Politics	Policing	Racism	Unemployment
272	Decatur, AL	42	240	131	381	223	8	245
273	Michigan City, IN	28	217	175	280	379	108	55
274	Florence, AL	154	305	210	159	203	177	255
275	Manchester, NH	366	23	133	23	182	348	338
276	Panama City, FL	153	286	344	268	212	34	188
277	Lincoln, NE	64	224	45	189	154	355	337
279	Dallas, TX	177	104	200	167	229	335	226
280	Corpus Christi, TX	305	274	154	184	97	167	290
281	Dalton, GA	10	354	88	319	356	67	170
282	Kennewick, WA	342	181	143	84	121	276	288
283	Tyler, TX	155	135	283	193	281	204	281
284	Lynchburg, VA	99	263	269	232	122	287	176
285	Mankato, MN	32	279	165	254	155	333	152
286	Midland, TX	362	246	187	7	112	155	378
287	Utica, NY	19	345	236	379	197	152	15
288	Tampa, FL	262	134	330	139	221	221	184
289	Hickory, NC	13	381	276	297	173	92	92
290	Portland, ME	114	90	217	118	162	336	375
291	Hartford, CT	358	27	255	68	47	377	177
292	Carbondale, IL	27	154	280	352	302	260	87
293	Yuma, AZ	302	315	321	162	338	29	40
294	Cumberland, MD	14	369	211	364	366	192	2
296	Seattle, WA	179	106	202	169	231	353	227
297	Warner Robins, GA	160	202	183	227	352	156	192
298	Laredo, TX	376	151	106	358	73	26	212
299	Sioux City, IA	47	375	35	256	149	157	372
300	Lake Charles, LA	119	271	365	143	283	139	128
301	Greenville, SC	147	208	262	201	210	240	291
302	Burlington, NC	113	225	239	235	272	181	308
303	Muncie, IN	49	238	261	376	245	197	39
304	Redding, CA	219	349	250	275	220	103	99
305	Janesville, WI	90	333	68	342	213	146	259
306	Denver, CO	352	40	113	33	211	356	360
307	Hinesville, GA	134	341	248	230	377	41	36
308	Deltona, FL	81	234	371	219	130	222	129
309	Mobile, AL	86	302	319	341	315	23	130

Table 7.3 **BBVA U.S. MSA CIVIL UNREST INDEX & RANKING (cont.)**

Final ranking	CBSA Name	Wealth	Education	Housing	Ineffective Politics	Policing	Racism	Unemployment
310	Pensacola, FL	105	334	297	192	134	184	240
311	Hattiesburg, MS	30	148	277	375	344	46	209
312	Washington, DC	178	105	201	168	230	361	228
313	Monroe, MI	263	140	372	50	175	203	298
314	Morristown, TN	152	343	188	258	348	84	91
315	Lafayette, LA	110	356	349	301	153	47	135
316	Worcester, MA	332	63	164	144	111	364	218
319	Dothan, AL	87	353	271	350	298	37	108
320	Albuquerque, NM	316	130	329	163	325	97	239
322	State College, PA	120	166	232	135	347	349	114
324	Charlottesville, VA	318	133	94	61	340	315	305
325	Goldsboro, NC	102	318	357	353	51	126	139
326	Bend, OR	283	95	185	270	167	313	267
327	Riverside, CA	321	255	171	122	362	246	32
328	Roanoke, VA	192	257	116	239	301	268	219
329	Springfield, MA	163	295	285	345	58	334	33
330	Milwaukee, WI	202	150	126	265	217	338	272
331	Baltimore, MD	373	17	149	32	258	359	334
332	Ogden, UT	298	267	142	34	135	326	357
333	Providence, RI	285	203	174	228	48	366	186
334	Urban Honolulu, HI	377	174	39	2	118	354	373
335	York, PA	267	226	273	214	264	214	175
336	Virginia Beach, VA	330	180	249	53	195	302	325
337	Lebanon, PA	188	269	57	126	349	311	241
338	McAllen, TX	287	189	353	274	103	183	190
340	Boulder, CO	370	3	238	29	181	380	368
341	Prescott, AZ	360	233	359	66	225	140	90
342	Jacksonville, NC	172	307	91	146	381	153	51
343	Grants Pass, OR	276	371	231	102	332	124	104
344	Gettysburg, PA	289	320	225	86	89	278	330
345	Las Cruces, NM	338	100	346	246	275	166	148
346	Auburn, AL	157	161	243	182	358	249	252
347	New York, NY	174	101	197	164	226	373	229
348	Bridgeport, CT	380	12	279	27	24	382	196
349	San Francisco, CA	184	111	207	174	236	375	230
350	Anniston, AL	98	336	327	295	364	32	72

Table 7.3 **BBVA U.S. MSA CIVIL UNREST INDEX & RANKING (cont.)**

Final ranking	CBSA Name	Wealth	Education	Housing	Ineffective Politics	Policing	Racism	Unemployment
351	Chicago, IL	176	103	199	166	228	376	231
352	Bismarck, ND	357	58	195	18	247	168	382
353	Waterloo, IA	214	293	230	89	196	323	273
355	Battle Creek, MI	34	326	320	359	300	39	199
356	Norwich, CT	347	175	209	116	119	344	214
357	Boston, MA	182	109	205	172	234	379	232
359	Bloomington, IL	308	6	112	106	357	370	377
360	Lancaster, PA	212	256	189	145	296	297	276
361	Santa Fe, NM	378	1	363	12	346	264	369
362	Oshkosh, WI	39	355	92	281	170	296	350
363	Dover, DE	324	126	352	109	144	257	322
364	Kokomo, IN	278	199	247	263	209	195	346
365	Gainesville, GA	198	338	74	180	312	235	341
366	Allentown, PA	341	88	267	103	327	317	173
367	Fort Collins, CO	326	15	289	17	341	367	376
368	Sumter, SC	78	244	370	360	326	73	77
370	Grand Island, NE	303	287	12	307	319	218	339
371	Oxnard, CA	381	24	119	9	268	360	277
372	Casper, WY	274	329	186	70	317	271	254
373	Pittsfield, MA	104	223	272	336	76	351	261
374	Napa, CA	379	115	134	1	293	327	361
375	Spartanburg, SC	79	359	304	202	329	110	275
377	California, MD	375	55	237	22	335	274	354
378	Lewiston, ME	26	350	292	335	285	243	159
379	Grand Forks, ND	203	310	85	177	351	227	367
388	Kingston, NY	243	176	348	185	324	329	106
389	Santa Rosa, CA	371	169	43	14	343	363	336
390	Reading, PA	260	292	299	290	322	232	81
391	Port St. Lucie, FL	227	311	376	233	46	253	205
392	Blacksburg, VA	135	179	274	217	314	357	264
393	Punta Gorda, FL	215	243	379	154	214	275	122
394	Harrisonburg, VA	162	363	28	142	342	314	348
395	La Crosse, WI	45	275	42	305	372	319	323
396	Santa Cruz, CA	372	147	99	51	359	342	195
397	Bay City, MI	234	327	351	340	256	123	138
398	Walla Walla, WA	151	337	242	64	382	170	115

Table 7.3 **BBVA U.S. MSA CIVIL UNREST INDEX & RANKING (cont.)**

Final ranking	CBSA Name	Wealth	Education	Housing	Ineffective Politics	Policing	Racism	Unemployment
399	Pine Bluff, AR	48	358	362	324	374	15	206
400	East Stroudsburg, PA	353	177	367	52	367	320	34
401	Chambersburg, PA	312	251	181	101	378	308	131
402	Lewiston, ID	235	378	313	271	323	104	211
403	Homosassa Springs, FL	319	219	381	278	254	180	43
404	Myrtle Beach, SC	83	262	373	306	313	219	289
405	San Luis Obispo, CA	314	346	80	36	371	365	217
406	St. Joseph, MO	331	372	64	208	363	169	355
407	Altoona, PA	77	376	286	362	336	254	125
408	Cheyenne, WY	355	308	345	6	354	328	274
409	Hammond, LA	2	382	374	380	369	1	207

Source: BBVA Research

8. Forecasts

Table 8.1 **U.S. MACRO FORECASTS**

	2013	2014	2015	2016	2017	2018	2019	2020 (f)	2021 (f)	2022 (f)	2023 (f)
Real GDP (% SAAR)	1.8	2.5	3.1	1.7	2.3	3.0	2.2	**-3.6**	**3.6**	**2.4**	**2.0**
Real GDP (Contribution, pp)											
PCE	1.0	2.0	2.6	1.9	1.8	1.9	1.7	**-2.7**	**3.0**	**1.8**	**1.4**
Gross Private Investment	1.1	1.0	1.0	-0.3	0.6	1.1	0.3	**-1.2**	**1.3**	**0.7**	**0.7**
Non Residential	0.5	1.0	0.3	0.1	0.5	1.0	0.4	**-0.6**	**0.7**	**0.6**	**0.7**
Residential	0.3	0.1	0.3	0.2	0.1	0.0	-0.1	**0.1**	**0.2**	**0.1**	**0.1**
Exports	0.5	0.6	0.1	0.0	0.5	0.4	0.0	**-1.8**	**0.4**	**0.4**	**0.5**
Imports	-0.3	-0.8	-0.9	-0.3	-0.8	-0.7	-0.2	**2.0**	**-0.9**	**-0.5**	**-0.7**
Government	-0.5	-0.2	0.3	0.3	0.2	0.3	0.4	**0.2**	**-0.1**	**0.0**	**0.0**
Unemployment Rate (%, average)	7.4	6.2	5.3	4.9	4.3	3.9	3.7	**8.1**	**5.8**	**5.1**	**4.6**
Avg. Monthly Nonfarm Payroll (K)	192	250	227	195	176	193	177.8	**-734**	**261**	**151**	**118**
CPI (YoY %)	1.5	1.6	0.1	1.3	2.1	2.4	1.8	**1.2**	**2.3**	**2.2**	**2.0**
Core CPI (YoY %)	1.8	1.8	1.8	2.2	1.8	2.1	2.2	**1.7**	**2.2**	**2.0**	**1.9**
Fiscal Balance (% GDP, FY)	-4.1	-2.8	-2.4	-3.1	-3.4	-3.8	-4.6	**-15.6**	**-10.0**	**-6.0**	**-4.9**
Current Account (bop, % GDP)	-2.0	-2.1	-2.2	-2.1	-1.9	-2.2	-2.2	**-2.9**	**-2.5**	**-2.5**	**-2.5**
Fed Target Rate (%, eop)	0.25	0.25	0.50	0.75	1.50	2.50	1.8	**0.25**	**0.25**	**0.25**	**0.25**
Core Logic National HPI (YoY %)	9.6	6.7	5.2	5.4	5.8	5.7	3.7	**5.1**	**3.9**	**4.3**	**4.1**
10-Yr Treasury Yield (%, eop)	2.90	2.21	2.24	2.49	2.40	2.83	1.9	**0.88**	**1.05**	**1.11**	**1.27**
WTI Oil Prices (dpb, average)	97.9	93.3	48.7	43.2	50.9	65.0	57.0	**38.4**	**47.0**	**54.2**	**57.4**

(f): Forecast.
Source: BBVA Research

Table 8.2 **U.S. STATE REAL GDP GROWTH, %**

	2014	2015	2016	2017	2018	2019	2020 (f)	2021 (f)
Alabama	-0.7	1.3	0.7	1.2	2.8	1.4	**-3.7**	**3.0**
Alaska	-2.7	1.0	-2.0	0.0	0.7	0.6	**-5.4**	**5.0**
Arizona	1.3	2.4	3.2	3.5	4.1	3.1	**-2.3**	**3.8**
Arkansas	1.0	0.8	0.6	0.7	1.7	0.6	**-3.5**	**3.2**
California	4.1	5.0	3.0	4.4	4.3	3.4	**-4.6**	**2.3**
Colorado	4.7	4.6	2.4	4.0	3.5	3.9	**-2.5**	**3.7**
Connecticut	-1.4	2.2	0.0	0.4	0.5	0.9	**-5.2**	**3.0**
Delaware	7.3	3.7	-4.2	-0.6	0.0	1.8	**-4.6**	**3.4**
Florida	2.7	4.2	3.3	3.4	3.2	2.8	**-3.9**	**3.6**
Georgia	3.3	3.4	3.5	3.7	2.4	1.6	**-3.4**	**4.0**
Hawaii	0.3	3.6	2.2	2.3	2.4	0.3	**-8.8**	**1.2**
Idaho	2.6	2.8	3.9	3.5	4.0	3.4	**-2.8**	**4.5**
Illinois	1.4	1.3	0.4	0.9	2.1	0.5	**-5.1**	**2.6**
Indiana	3.2	-0.7	1.6	1.9	2.0	1.6	**-5.0**	**2.5**
Iowa	5.4	2.6	-0.3	-0.3	2.2	0.4	**-3.5**	**4.3**
Kansas	2.1	1.9	2.6	1.0	2.1	1.2	**-4.1**	**2.5**
Kentucky	0.3	0.7	0.7	1.1	1.4	1.8	**-5.5**	**1.9**
Louisiana	3.1	-0.5	-1.8	1.4	2.6	2.1	**-6.3**	**3.4**
Maine	1.7	0.7	2.2	2.2	2.2	2.6	**-5.4**	**2.4**
Maryland	1.1	1.9	3.4	0.9	2.5	1.4	**-3.1**	**3.8**
Massachusetts	2.0	3.8	1.7	2.5	3.1	2.4	**-4.8**	**3.0**
Michigan	1.7	2.5	2.2	1.5	2.5	0.8	**-7.3**	**1.4**
Minnesota	2.9	1.2	1.9	1.9	2.6	1.1	**-5.0**	**2.9**
Mississippi	0.5	0.1	0.4	0.9	1.3	0.6	**-4.6**	**2.1**
Missouri	0.5	1.3	-0.4	1.0	2.4	1.0	**-4.9**	**2.9**
Montana	1.7	3.9	-1.4	1.7	2.6	2.8	**-3.8**	**2.8**
Nebraska	2.0	2.9	0.4	2.1	0.9	2.0	**-3.2**	**3.1**
Nevada	1.3	4.2	2.9	3.2	4.2	2.7	**-7.0**	**2.6**
New Hampshire	1.1	2.8	1.8	1.8	2.3	1.4	**-6.2**	**2.8**
New Jersey	0.5	1.8	0.9	0.7	2.2	1.4	**-5.5**	**2.0**
New Mexico	3.2	2.2	0.1	0.1	2.5	5.2	**-3.9**	**2.1**
New York	2.3	1.7	1.3	2.1	1.2	1.6	**-6.7**	**2.2**
North Carolina	2.2	3.2	1.2	2.1	2.4	1.9	**-3.6**	**3.8**
North Dakota	7.6	-2.9	-7.0	0.0	3.6	0.9	**-3.9**	**1.4**
Ohio	3.8	1.5	0.8	1.6	1.9	1.5	**-5.3**	**2.6**
Oklahoma	5.7	4.3	-3.0	0.8	2.6	2.4	**-6.8**	**1.9**
Oregon	3.4	5.6	4.7	3.8	3.8	2.8	**-3.9**	**3.0**
Pennsylvania	2.3	2.2	1.3	0.6	2.6	2.4	**-5.6**	**2.6**
Rhode Island	0.1	1.8	0.0	-0.2	1.2	1.0	**-5.7**	**2.2**
South Carolina	2.6	3.5	2.9	3.3	2.6	2.8	**-5.4**	**3.1**
South Dakota	1.3	2.9	0.5	-0.1	1.9	0.6	**-2.7**	**4.4**
Tennessee	1.7	3.4	2.1	1.9	3.1	1.6	**-6.8**	**3.4**
Texas	3.5	4.8	0.2	2.9	4.0	2.9	**-3.8**	**4.8**
Utah	3.2	4.1	4.0	3.9	3.7	3.8	**-1.2**	**5.1**
Vermont	0.1	1.3	1.6	0.1	1.2	0.8	**-7.1**	**2.4**
Virginia	-0.2	2.0	0.4	1.8	2.6	2.2	**-3.0**	**4.0**
Washington	3.6	4.4	3.5	5.2	5.8	4.6	**-1.8**	**3.9**
West Virginia	-0.4	-0.2	-1.2	1.5	2.3	0.7	**-6.2**	**2.8**
Wisconsin	2.1	1.8	1.2	1.3	2.4	1.4	**-5.9**	**3.3**
Wyoming	0.6	2.6	-4.2	-0.1	0.1	1.3	**-6.8**	**1.9**

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

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