

Capital Markets Strategy

Essential insights for the C-Suite



The Uneven Recovery

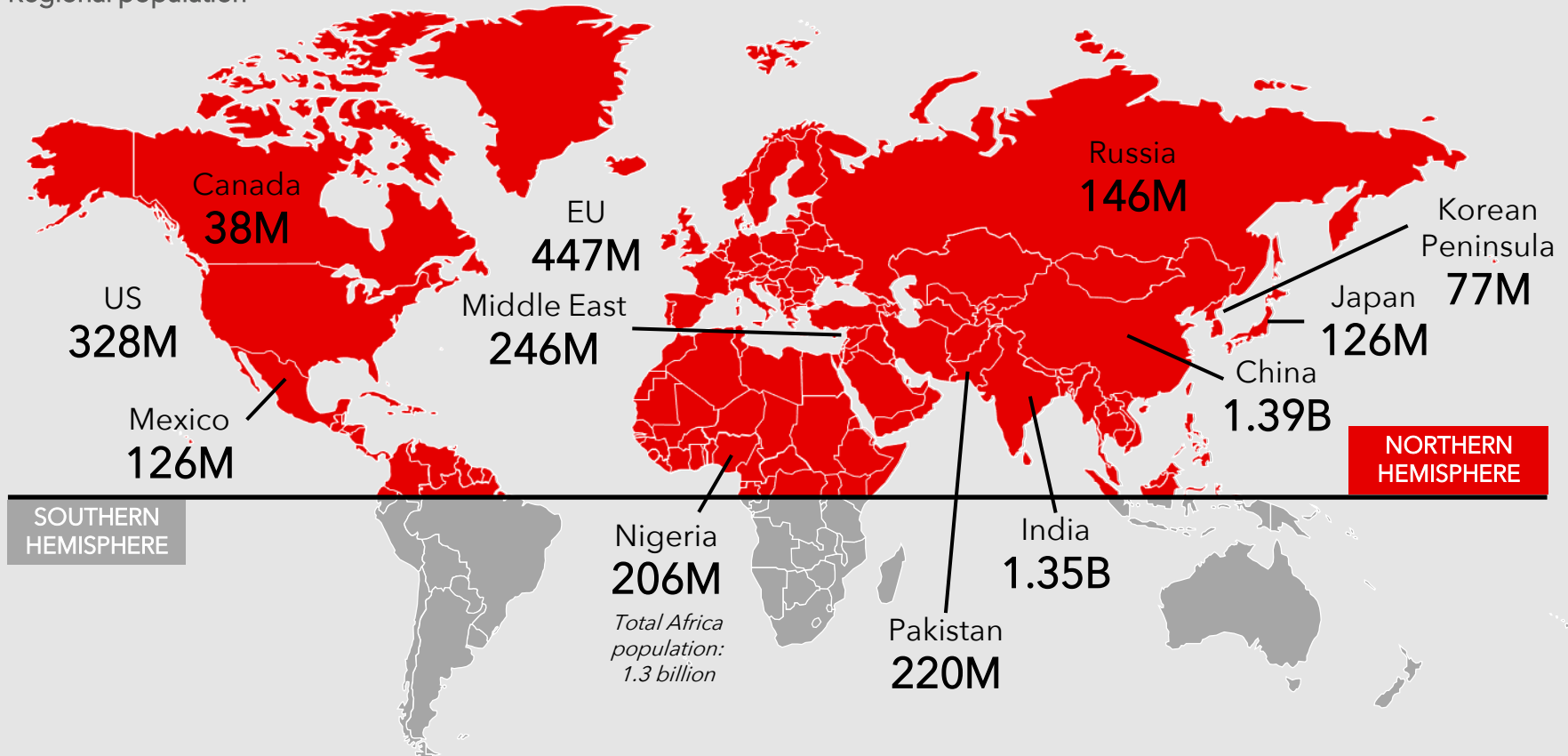
Frameworks for assessing COVID-19, the US election and markets

NOV 2020

Northern Hemisphere Enters Indoor Winter Season

Approximately 90% of the world's population (close to 7 billion or nearly 7.8 billion people globally) live in the Northern Hemisphere, and have just entered the beginning of a long winter and indoor season. Given the transmission attributes of COVID-19 (which occur largely through the air), the 4-5 months ahead will likely be the largest and most difficult virus transmission period to date for the global economy and public health. The remarkable vaccine progress of recent months is unlikely to scale sufficiently to mitigate the transmission challenge of this near term period.

Regional population



Note: The hemispheres appear to be unequal due to Antarctica not being shown.

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The COVID-19 Virus

"The virus is about to explode...the country [United States] is in for the most difficult phase of the pandemic."

Dr. Scott Gottlieb, former Commissioner of the FDA (2017-2019)

1

Market's Tug of War

In the difficult weeks ahead, global markets will engage in a tug of war between vaccine progress optimism and COVID-19 resurgence concerns. Should vaccine efficacy and rollout continue to surprise to the upside, a sustained risk rally in markets could be formidable.

The Market's Tug of War

In the difficult weeks ahead, global markets will engage in a tug of war between vaccine optimism and COVID-19 resurgence concerns. While we expect risk assets and safe havens to ebb and flow with the headlines each day, the stronger undercurrent may prove to be a sustained risk rally as vaccine efficacy and rollout continue to surprise to the upside.

Good News: Vaccine Progress

Steepening (higher yields)

Weaker

Higher

Broad-based tightening

Cyclical & discretionary
(i.e., financials, leisure)

Rates Curve

US Dollar

Oil & Commodity Prices

Credit Spreads

Outperforming Sectors

Bad News: Virus Resurgence

Flattening (lower yields)

Stronger

Lower

Widening & differentiation

Defensives & virus resilient
sectors (i.e., staples, tech)



Source:

Key Drivers of Global Markets

Drivers of Global Market Rally



US election resolution



Vaccine progress



US fiscal stimulus optimism



Extraordinary Central Bank easing



Washington gridlock (divided gov't)



US corporate tax reform intact



US progressive policy initiatives contained



US trade policy stability & "rules-based" approach



China & EM recovery cycle momentum



US Dollar weakness



Robust corporate pre-funding and liquidity



Technical global demand for yield

Key Risks



COVID-19 third wave



Double-dip recession



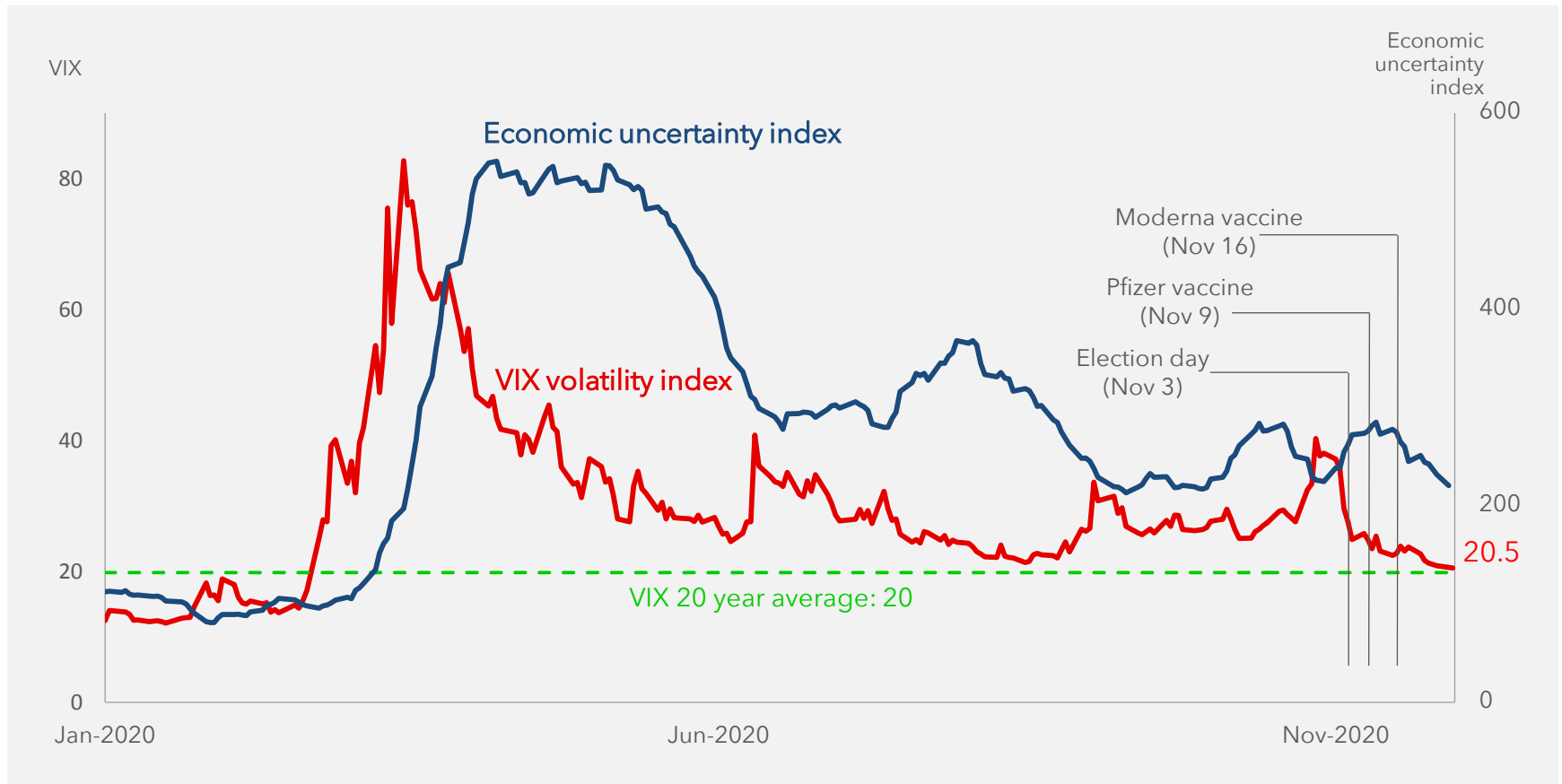
Fiscal stimulus gridlock



Brexit negotiations

Markets More Prepared for Uncertainty This Time

By comparison to the contested Bush-Gore election of 2000, and the rapid COVID-19 transmission of March 2020, markets have been more prepared for the US election and virus uncertainty of November 2020. While the VIX volatility index rose significantly in September and October, it is now moving closer to its historical average following election outcome certainty and positive vaccine developments.



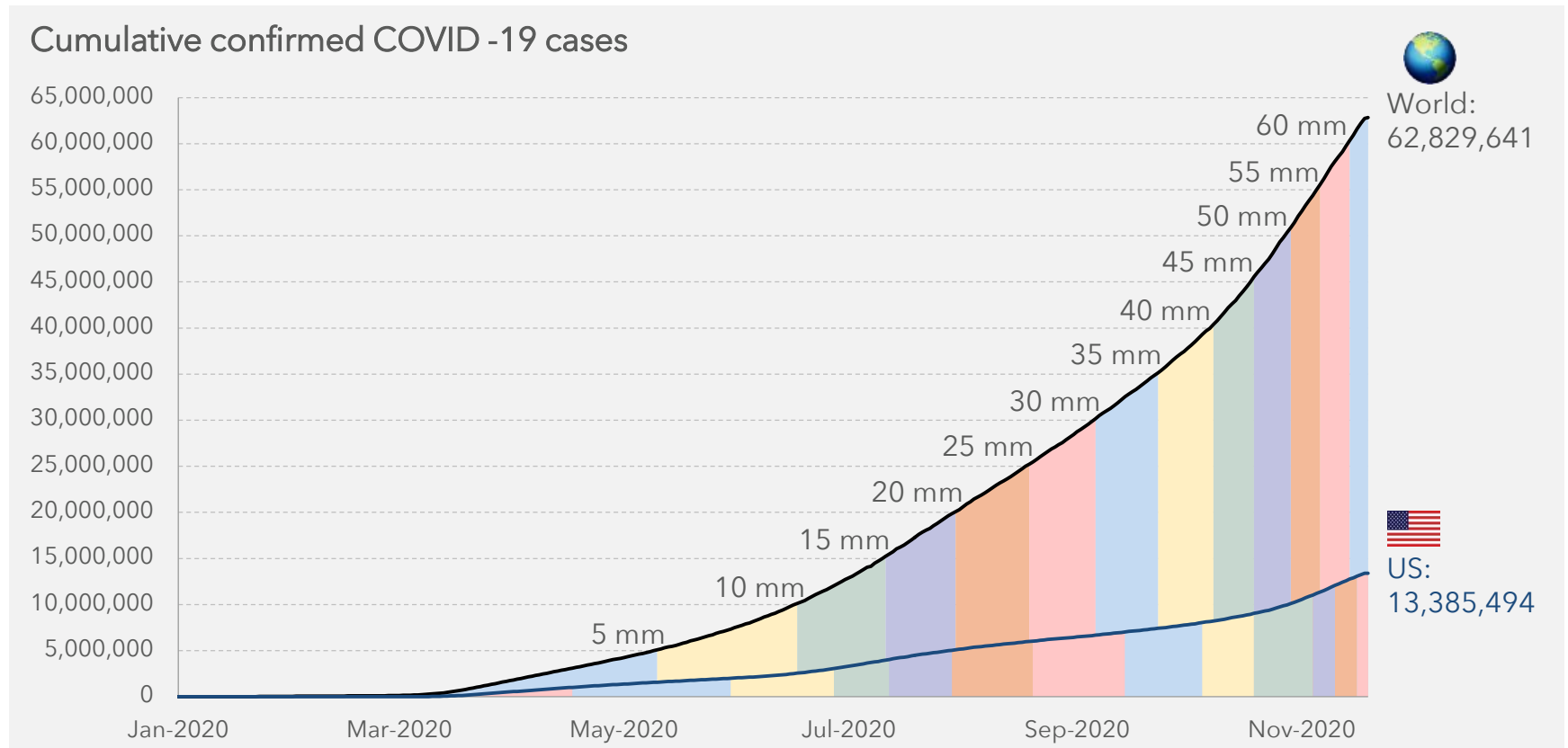
Source: (1) Bloomberg. Data as of December 1, 2020. Economic uncertainty index is The Baker, Bloom and Davis daily news-based index, 14 day moving average.

2 Once in a Century Transmission

With most of the global and US population living in densely populated urban-suburban settings, rising hospitalizations and mortality pose significant challenges for society, as well as for health systems that are not built for surge capacity.

Once in a Century Transmission

Globally, more than 60 million people have contracted COVID-19, nearly 1.5 million have died, and many hospitals around the world are operating at “surge capacity”. IMF analysis has shown that the higher a country’s virus incidence, the weaker its economic performance has been. In the challenging months ahead, virus policy will be the most important driver for markets and the economy.



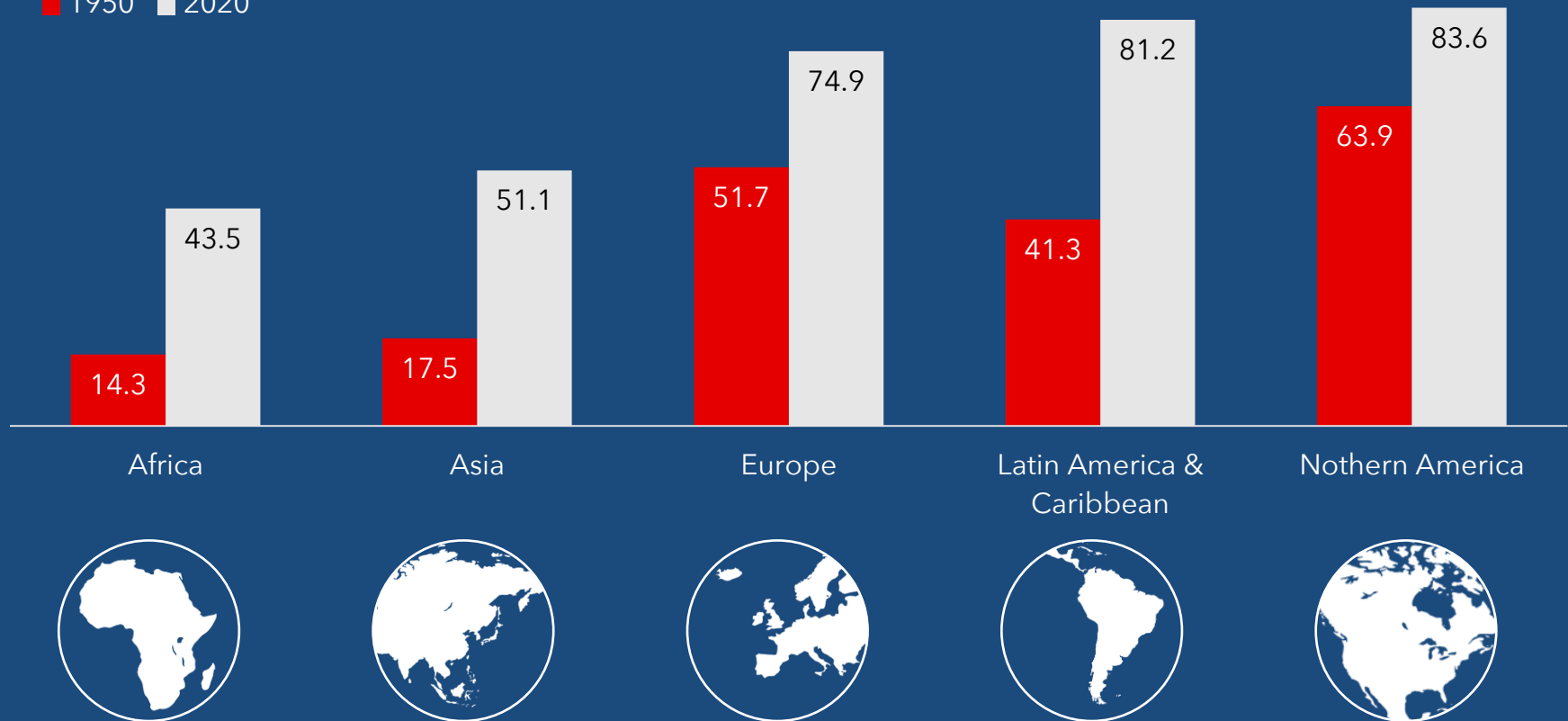
Source: (1) Bloomberg. Data as of November 30, 2020.

Viruses Becoming More Prevalent

With the vast majority of the world's rapidly rising 8 billion population now living in densely populated urban-suburban centers, the proliferation of viruses evident over the last 20 years is likely to continue

Share of urban population by continent

■ 1950 ■ 2020



Source: Statista. UN Population Division.

3 Third Wave Rising

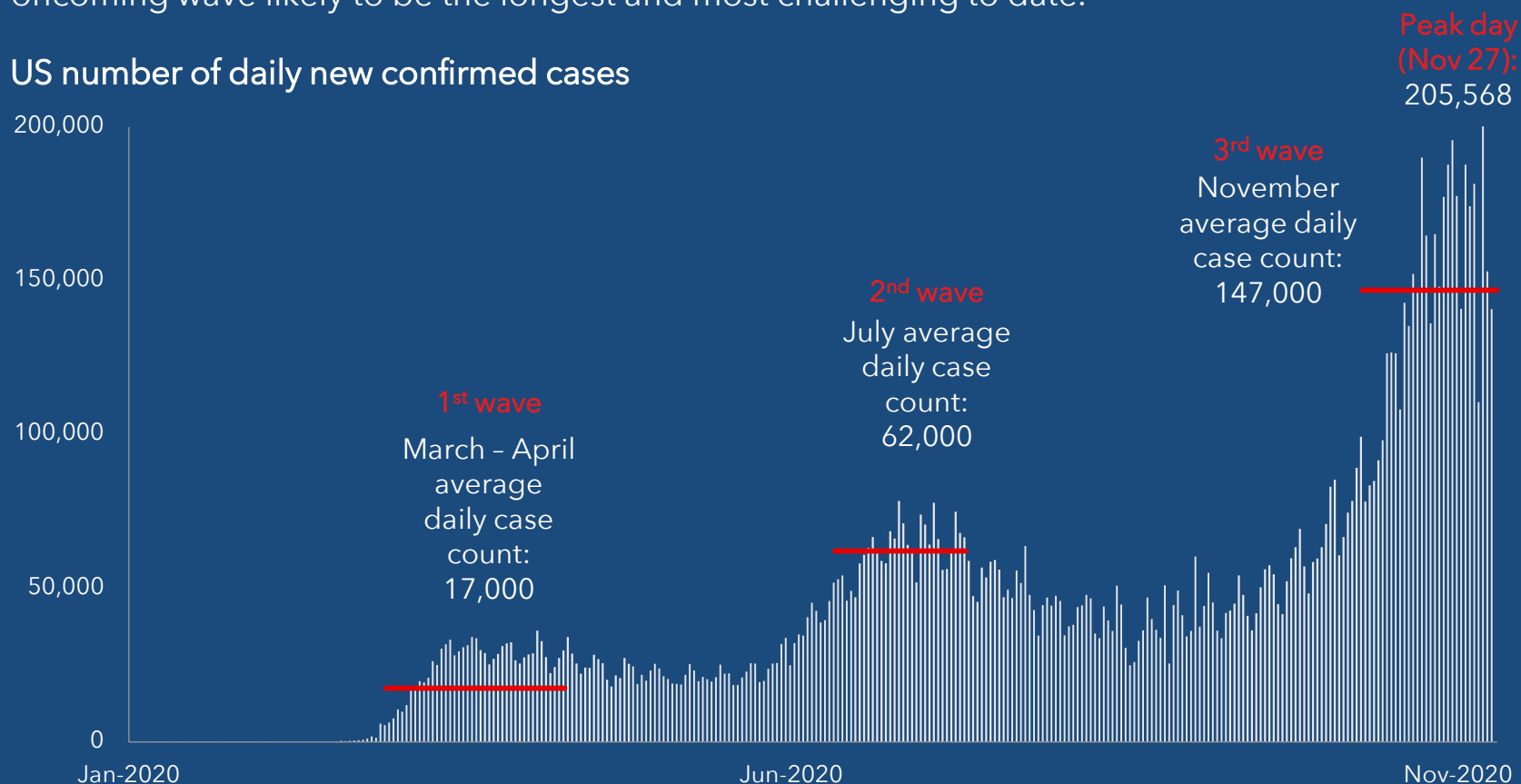
With 90% of the world's population living in the Northern Hemisphere, and now entering a long indoor season, this 3rd virus wave will likely be the longest and most challenging to date.



Third Wave Rising

Case counts in the US have surpassed 13 million and are rising at the fastest pace since the onset of the virus. With 90% of the world's population living in the Northern Hemisphere, and now entering a long indoor winter season, countries around the world are experiencing virus resurgence with the oncoming wave likely to be the longest and most challenging to date.

US number of daily new confirmed cases



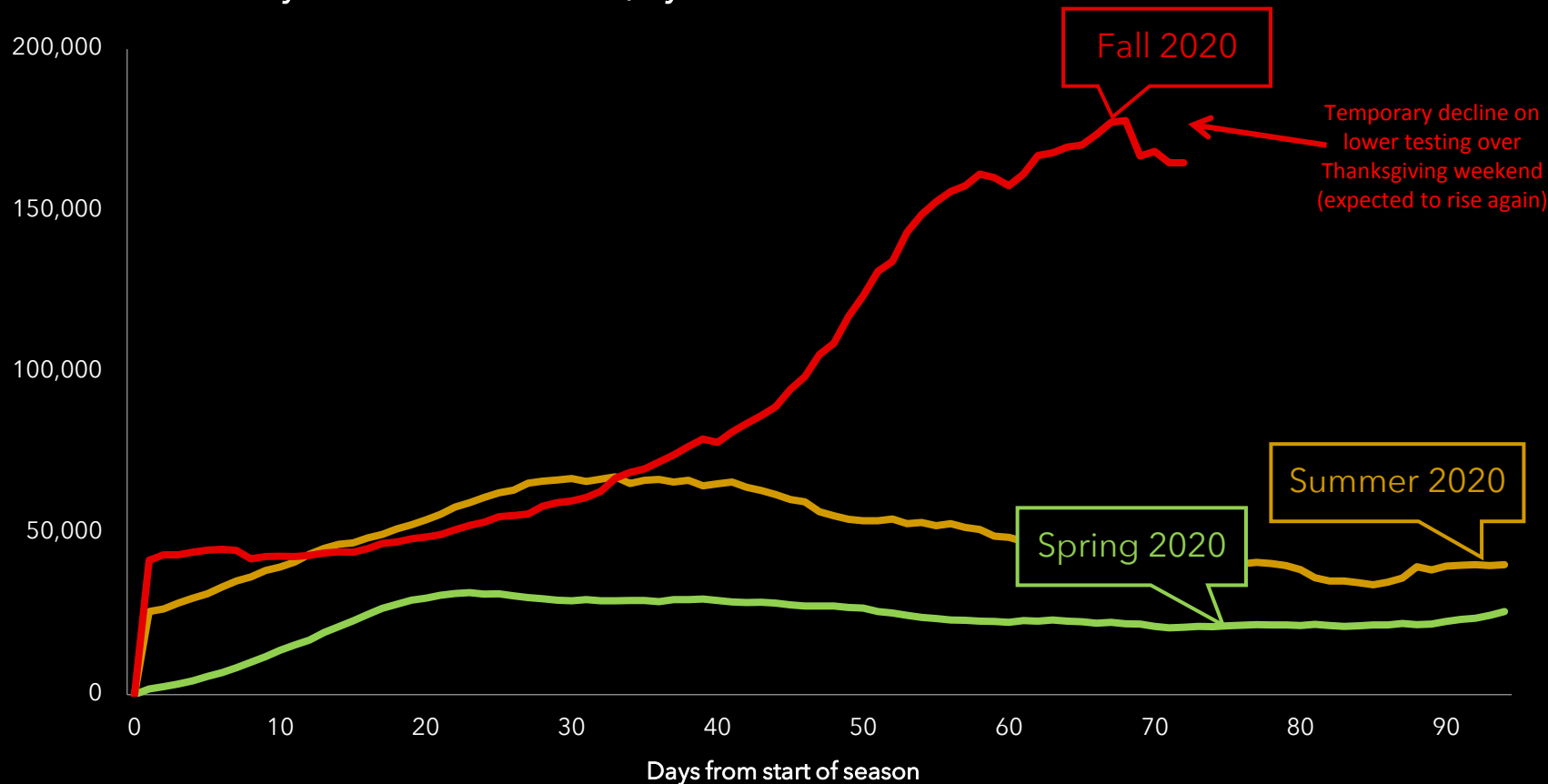
Source: (1) Bloomberg. Data as of November 30, 2020.



Steeper 3rd Wave Transmission Curve

This 3rd COVID-19 wave in the United States is rising in a way quite unlike the prior two: steeper and faster

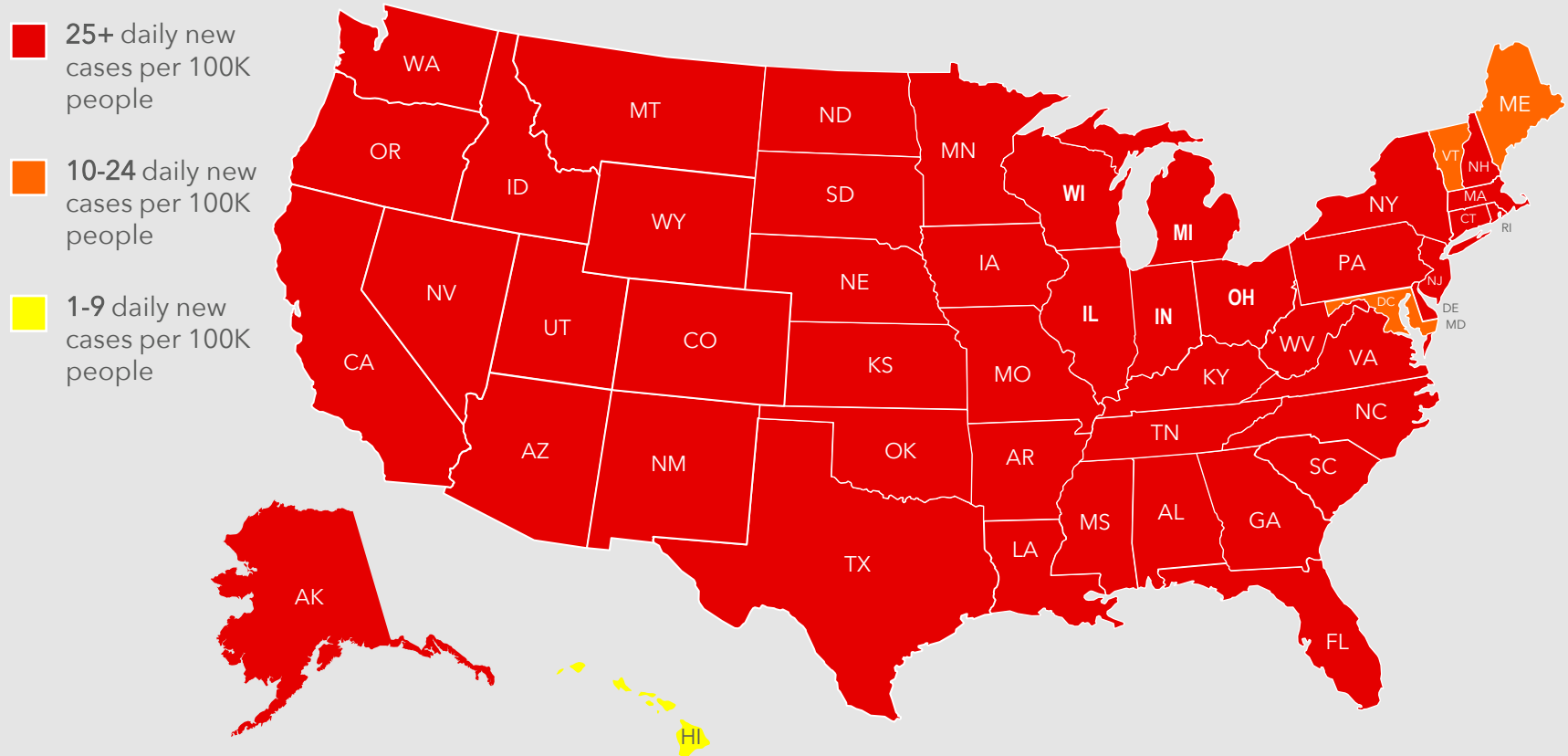
US number of daily new confirmed cases, by season



Source: (1) Bloomberg. Data as of November 30, 2020. Spring 2020 is March 19, 2020 - June 20, 2020. Summer is June 20, 2020 - September 22, 2020. Fall starts September 22, 2020. Longview Economics. John Authers.

COVID Cases Rising in All 50 States

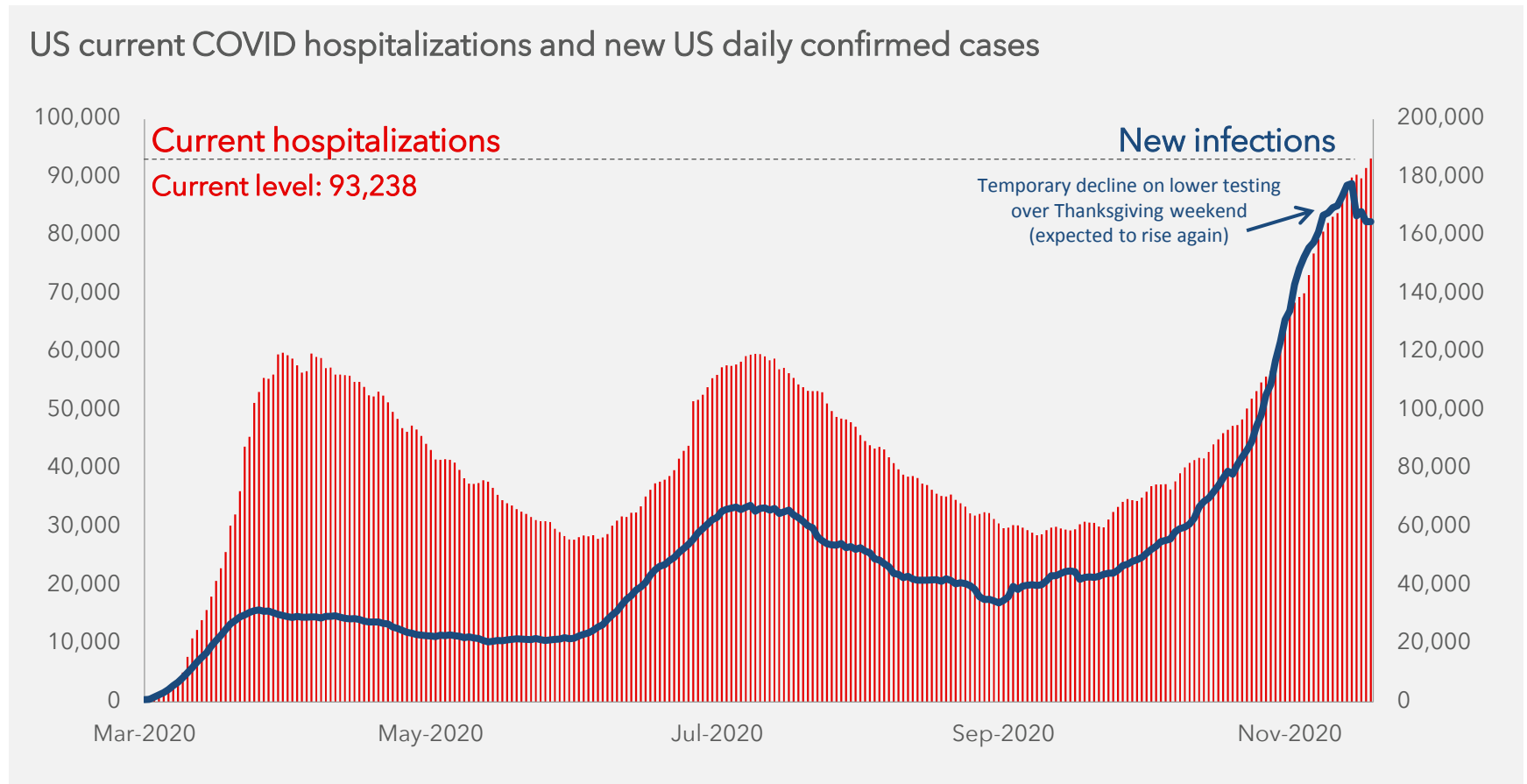
The first two COVID-19 waves in the US were largely regionally focused, first in New York and the Northeast, then in the FACT (Florida, Arizona, California, Texas) states; however, at the onset of the 3rd wave, case counts are rapidly rising in nearly every single state (almost 100% of US GDP).



Source: (1) NPR Coronavirus by the numbers "Coronavirus is surging: how severe is your state's outbreak?" Data as of November 30, 2020.

Hospitals Nearing Capacity

Hospitalizations and deaths are both lagging indicators of the severity of the current COVID-19 wave. Nonetheless, the number of hospitalizations in the US has reached record highs, surpassing the prior peaks seen in April and July.

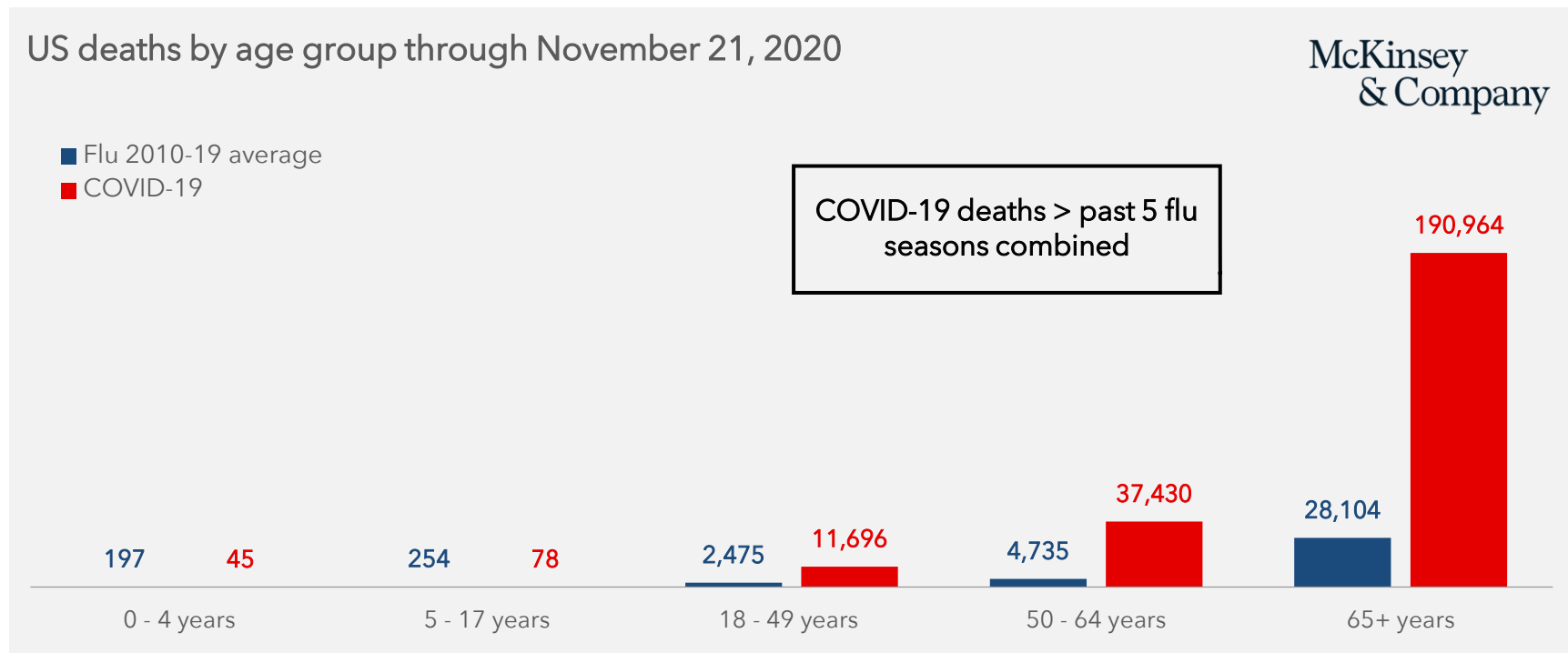


Source: (1) The COVID Tracking Project. Data as of November 30, 2020. Bloomberg. Data as of November 30, 2020. New infections are 7 day moving average.



Mortality & Age Distribution

According to a recent study by McKinsey, COVID-19 has been responsible for more US deaths than the past five flu seasons combined. 80% of US COVID-19 deaths are people age 65+, similar to past influenza seasons. Approximately 25% of US COVID-19-related deaths have happened in nursing homes and long-term care facilities.



Dr. Scott Gottlieb, former commissioner of the FDA, estimates COVID-19's infection mortality rate is in the range of 1.0 - 1.25%, significantly higher than the typical <0.1% mortality rate of the seasonal flu

Source: (1) McKinsey & Company "COVID-19: Briefing materials - Global health and crisis response" Updated through the week November 21, 2020. Data accessed November 30, 2020. CDC.

4 Virus Policy Matters Most

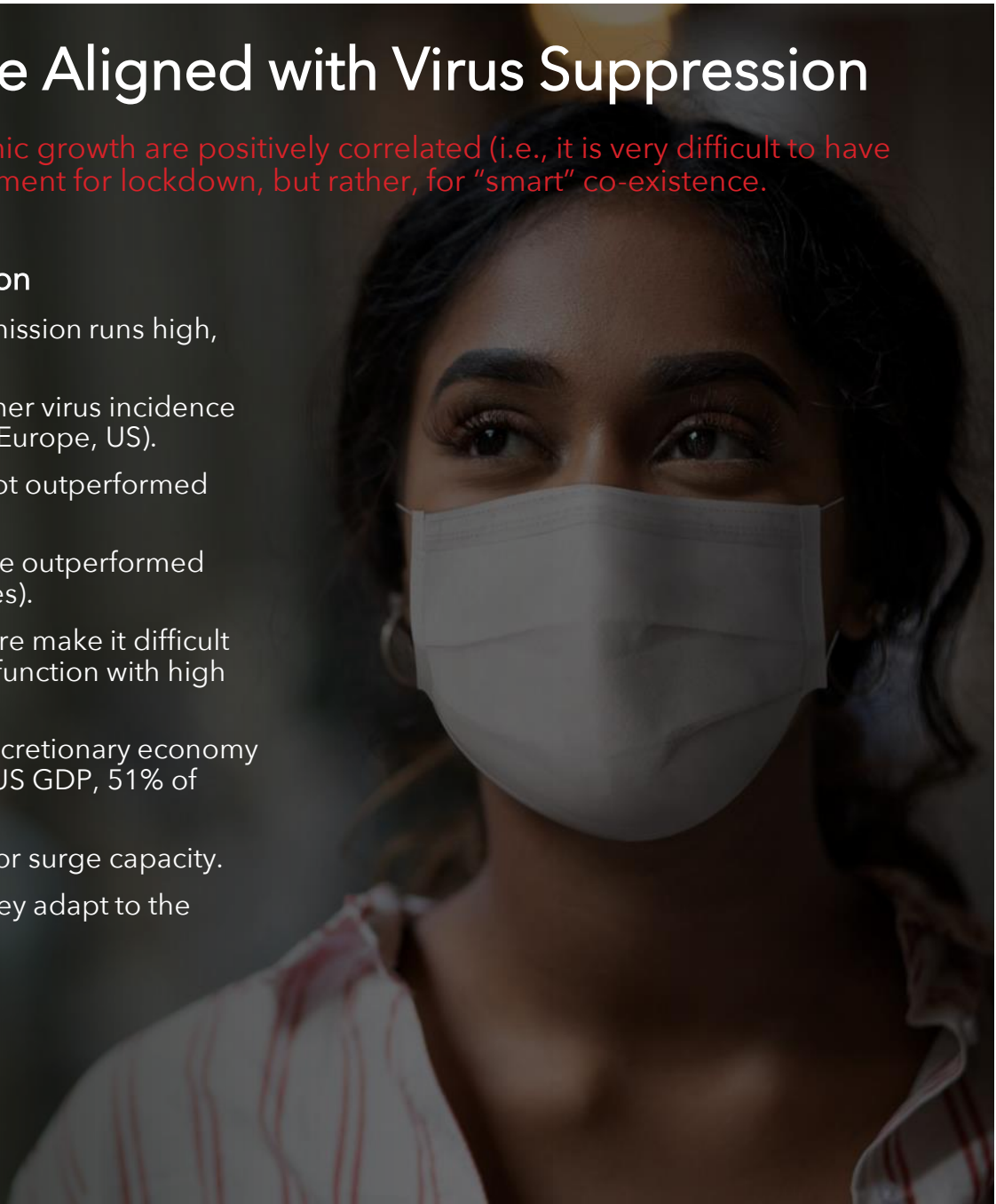
Monetary and fiscal policy have been critically important in 2020; however, virus policy ultimately matters most for markets and the economy.

Economic Performance Aligned with Virus Suppression

In our view, virus suppression and economic growth are positively correlated (i.e., it is very difficult to have one without the other). This is not an argument for lockdown, but rather, for “smart” co-existence.

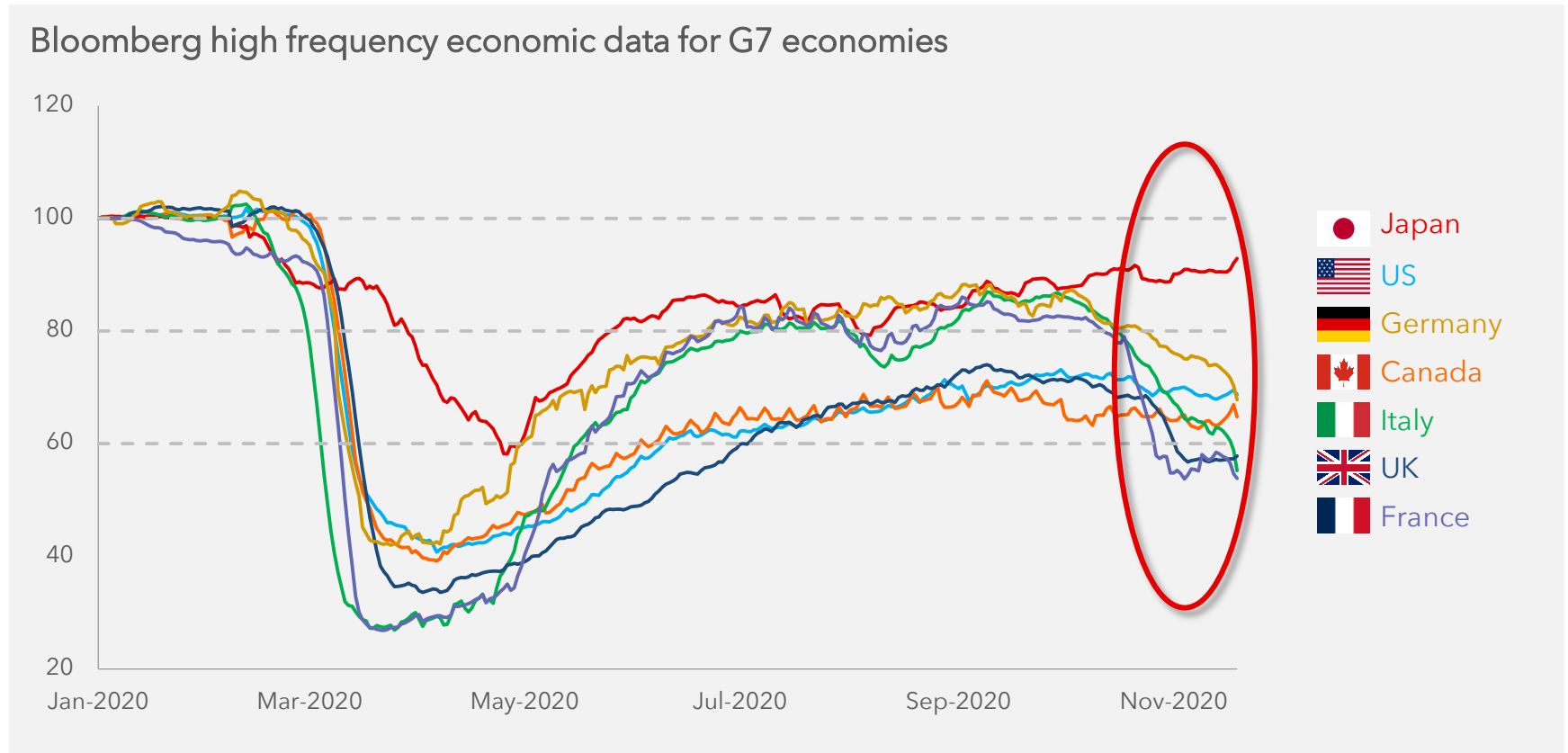
Economic Rationale for Virus Suppression

1. The economy underperforms when transmission runs high, even if mortality is low.
2. IMF analysis shows that countries with higher virus incidence have weaker economic performance (i.e., Europe, US).
3. Countries pursuing herd immunity have not outperformed economically (i.e., Sweden).
4. Countries achieving virus suppression have outperformed economically (i.e., Asia-Pacific rim countries).
5. Legal, regulatory and insurance architecture make it difficult for large public and private institutions to function with high transmission (EEOC, OSHA, HIPPA, etc.).
6. The consumer will not fully engage the discretionary economy unless they feel safe (consumer is 70% of US GDP, 51% of which is discretionary).
7. Health and hospital systems are not built for surge capacity.
8. Viruses are not stagnant, but mutate, as they adapt to the human condition (i.e., 1918 experience).



High Frequency Economic Data Beginning to Turn

High virus transmission translates to sub-optimal economic performance. As the COVID-19 fall-winter wave rises, and a range of tighter socio-economic restrictions on mobility and activity are implemented, the high frequency economic data in many large Western economies has begun a multiple standard deviation decline.



Source: (1) Bloomberg. Data through November 26, 2020. Data accessed November 30, 2020. Bloomberg Economics,. The activity indexes are estimated using a dynamic factor model with 9 different inputs. January 8, 2020 = 100.

5 Remarkable Vaccine Progress

By historic standards, the COVID-19 vaccine progress has been remarkable. While the economic and public health benefits of a vaccine will take months, the market benefits will be almost immediate.

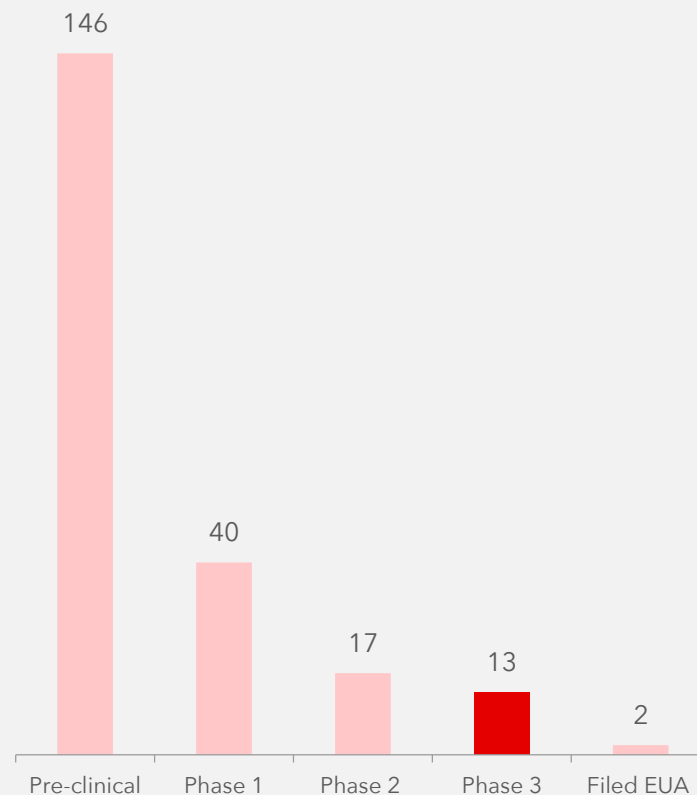
Tracking Vaccine Progress

Historically, it has taken 10-15 years to develop vaccines for new viruses. While the market had been expecting remarkable vaccine progress this year, news of the stunning 95% efficacy in early stage testing for both Pfizer and Moderna far exceeded expectations. With numerous vaccines in advanced Phase 3 trials, and some already seeking "Emergency Use Authorization" (EUA), it is likely that multiple vaccines will be available for concurrent rollout by year-end 2020 with more broad-based distribution in early 2021.

13 vaccines in Phase 3 trials

	Country	Company	Trial Phase
1.		Moderna / NIH	Phase 3
2.		Pfizer / BioNTech	Phase 3
3.		Johnson & Johnson / Beth Israel Medical Center	Phase 3
4.		Novavax	Phase 3
5.		AstraZeneca / Oxford	Combined Phase 2 & 3
6.		Medicago / GSK	Combined Phase 2 & 3
7.		CanSino Biologics	Phase 3, limited use in China
8.		Wuhan Institute of Biological Products / Sinopharm	Phase 3, limited use in U.A.E.
9.		Beijing Institute of Biological Products / Sinopharm	Phase 3, limited use in U.A.E.
10.		Sinovac	Phase 3, limited use in China
11.		ZFSW / Chinese Academy of Medical Sciences	Phase 3
12.		Indian Council of Medical Research / Bharat	Phase 3
13.		Gamaleya Research Institute	Phase 3, limited use in Russia

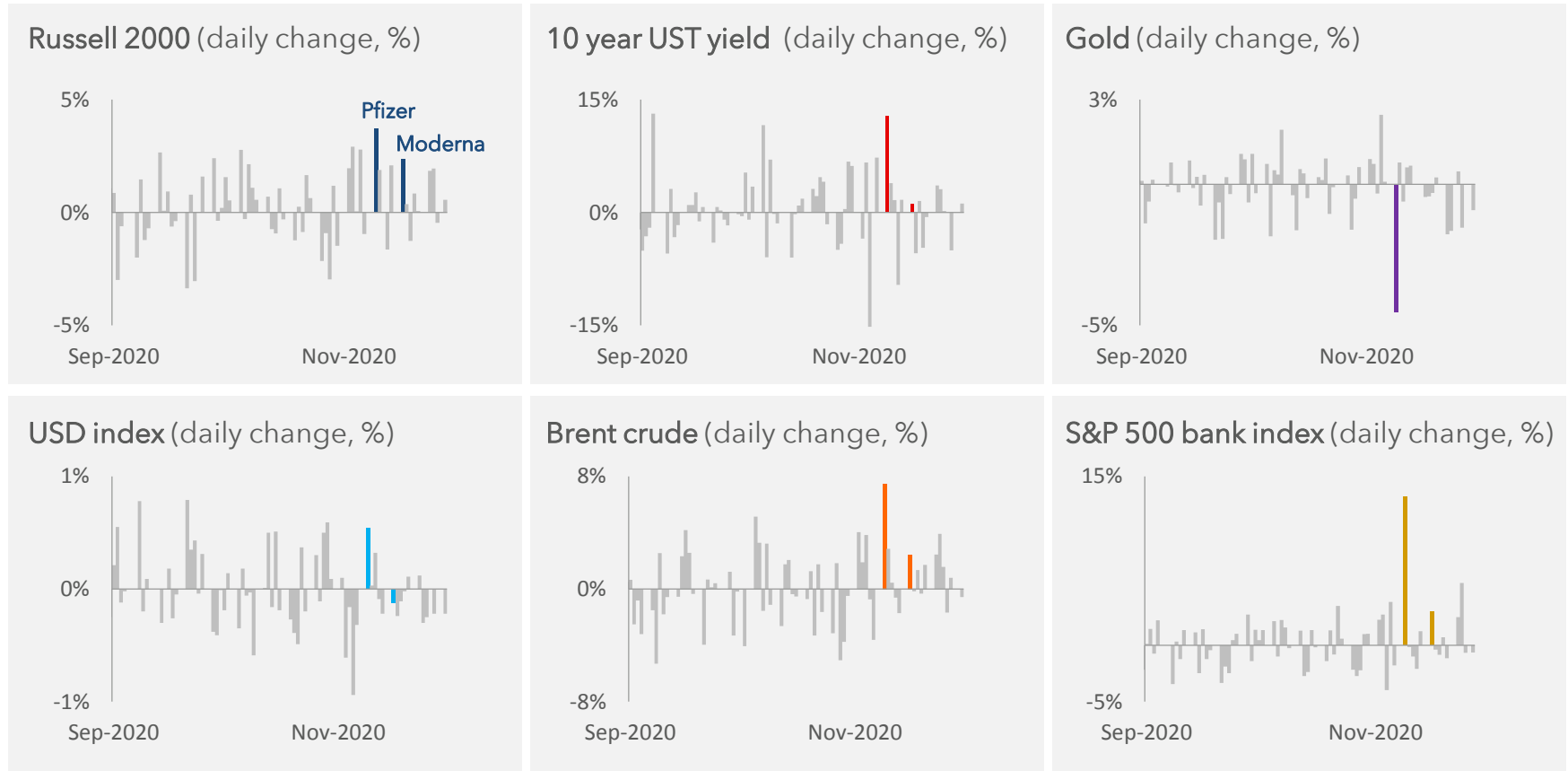
COVID-19 vaccine trials globally



Source: The New York Times "Coronavirus Vaccine Tracker" (Nov 30, 2020). Bloomberg "Vaccine Trials Restart, Providing Hope as Virus Spreads" (Oct 24, 2020). BIO COVID-19 Therapeutic Development Tracker. Data as of November 23, 2020.

Repricing for Vaccine Progress

The weeks ahead will be a balancing act for markets trying to assess the optimism of vaccine progress against the near term economic damage of surging case counts. As evident after the Pfizer and Moderna announcements on Nov 9th & Nov 16th, larger than expected virus progress signals will drive risk assets higher and weaken demand for defensives and safe havens.



Source: (1-6) Bloomberg. Data as of November 30, 2020.



The US Election

"There are no facts, only interpretations."

Friedrich Nietzsche, German philosopher (1844-1900)



6 The Polls are Always Wrong

While the polls were *more* wrong in 2020 than 2016, aggregate average polls the day before the 2020 election actually predicted 9 of the 11 key battleground states correctly.

Battleground State Polling in 2020

Generally speaking, the 2020 polls correctly concluded that Biden would flip several key battleground states, win the popular vote, and win the electoral college. The aggregate average polls the day before the 2020 election also correctly picked 9 of the 11 battleground states, and only Florida was incorrect outside the margin of error. Additionally, due to the tens of millions of mail-in ballots counted after November 3rd, the size of polling errors in 2020 were not nearly as large as they initially appeared on election night.

Aggregate Real Clear Politics polling and actual election results

  vs.	# of electoral votes	Real Clear Politics average on Nov 2, 2020 (day before election)	2020 election actual results	Polling conclusion correct	Polling conclusion incorrect	
					Inside 3-4% margin of error	Outside 3-4% margin of error
National polling average		Biden +7.8	Biden +3.9	✓		
Texas	38	Trump +1.3	Trump +5.6	✓		
Florida	29	Biden +0.9	Trump +3.3			✓
Pennsylvania	20	Biden +1.2	Biden +1.2	✓		
Ohio	18	Trump +1.0	Trump +8.0	✓		
Georgia	16	Trump +1.0	Biden +0.2		✓	
Michigan	16	Biden +4.2	Biden +2.8	✓		
North Carolina	15	Trump +0.2	Trump +1.4	✓		
Arizona	11	Biden +0.9	Biden +0.3	✓		
Wisconsin	10	Biden +6.7	Biden +0.7	✓		
Iowa	6	Trump +2.0	Trump +8.2	✓		
Nevada	6	Biden +2.4	Biden +2.4	✓		

Source: (1) Real Clear Politics. Based on RCP Average when available. Actual election results from Associated Press. Data as of November 30, 2020. Based on most up to date data available, re-counts ongoing in some states.

Observations on US Election Polling

Analyzed properly, polling can provide very useful indications on US election outcomes, even when wrong. For example, a focus on “aggregate poll averages” on the day before the US election provided a very useful indication of the ultimate US Presidential election outcome.



1. The polls are always wrong. The margin of error on election polling is typically 3-4% (and sometimes higher).
2. The national polling error in 2020 was actually similar in size to the prior 12 presidential elections, though the reasons for error may vary over time.
3. Due to the tens of millions of mail-in ballots counted after Nov 3rd, the size of polling errors in 2020 were not nearly as large as they initially appeared on election night.
4. Aggregate average polls are much more accurate than individual polls (and were a useful indicator in this election).
5. The stability and momentum of polling data matters. Analyzing how polls evolve closer to Election Day is therefore important.
6. Generally speaking, the 2020 polls correctly concluded that Biden would flip several key battleground states, win the popular vote, and win the electoral college.
7. National polls tend to be more accurate than state and local level polls.

Source: Pew Research. Politico. The Hill. Bloomberg Government. WSJ. Washington Post.

Observations on US Election Polling

Analyzed properly, polling can provide very useful indications on US election outcomes, even when wrong. For example, a focus on “aggregate poll averages” on the day before the US election provided a very useful indication of the ultimate US Presidential election outcome.



8. Polling conclusions in 2020 were more accurate in the Presidential election than in the US Senate and US House.
9. Aggregate average polls the day before the 2020 election correctly picked 9 of the 11 battleground states, and only Florida was incorrect outside the margin of error.
10. The election was much closer than polls suggested in some states (Wisconsin), and more decisive for Trump in others (Ohio).
11. Polling errors occurred in the same direction – frequently over-estimating the Democratic candidate.
12. In 2016, polls made significant errors in underestimating Trump support by how they weighted turnout expectations (especially for non-college educated white men).
13. In 2020, polls made significant errors in underestimating Trump support in how they factored in those who chose to “not respond” to polling inquiries.
14. Since polls also under-estimated many other conservative (and less controversial) Republican candidates (by even larger margins in many cases), the polling error issues appear more systemic and nuanced than the “shy Trump” voter hypothesis.

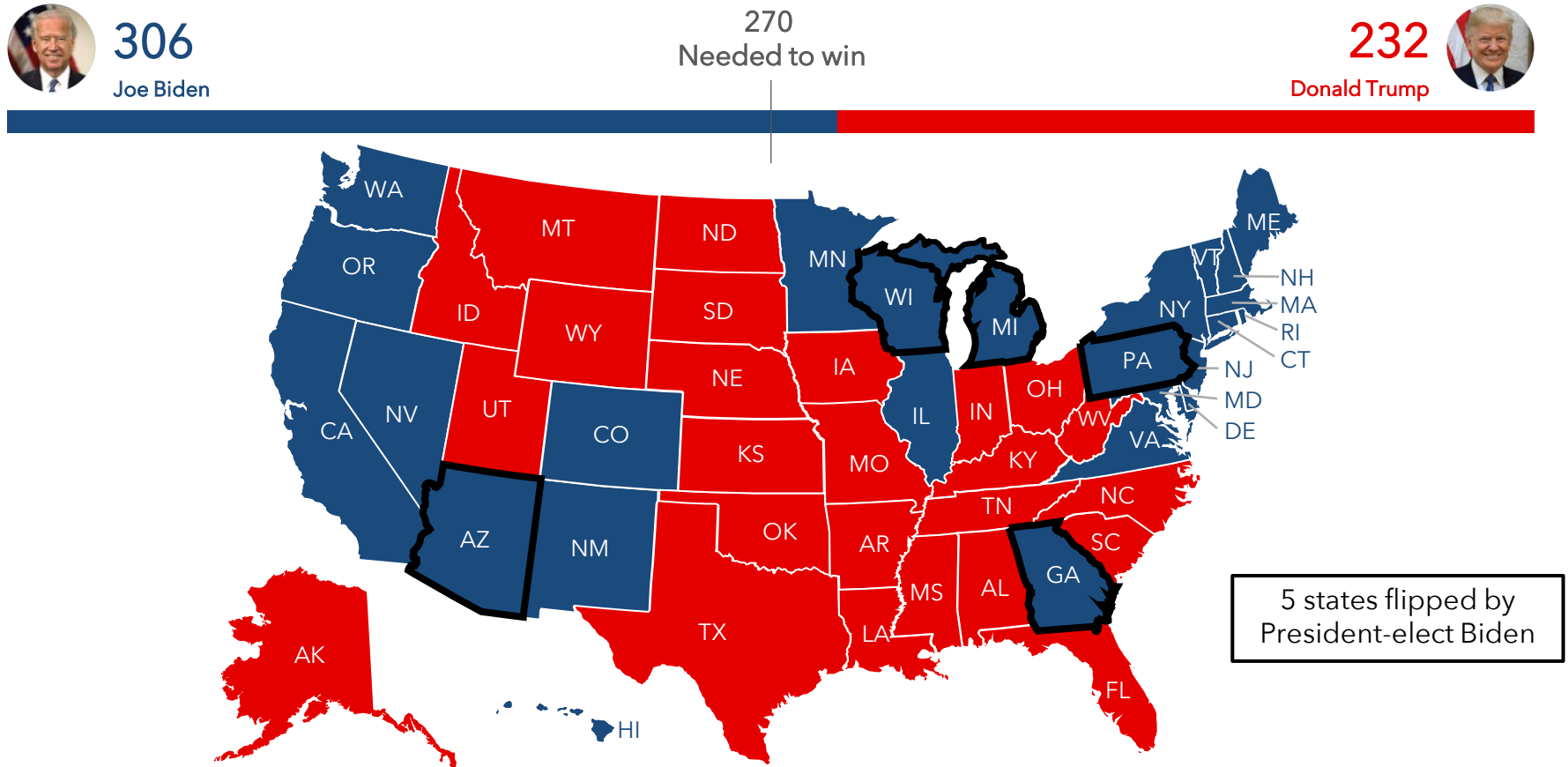
Source: Pew Research. Politico. The Hill. Bloomberg Government. WSJ. Washington Post.

7 Close Elections Have Consequences

Following an exceptionally close US election, and a weak mandate to govern, President-elect Biden is likely to pivot toward a less transformative and progressive policy agenda than he would have in “blue wave” scenarios.

Narrow Electoral College Victory

By flipping 5 states that President Trump won in the 2016 election (WI, MI, PA, AZ, GA), President-elect Biden won the 2020 election by the exact same electoral college majority that President Trump won in 2016



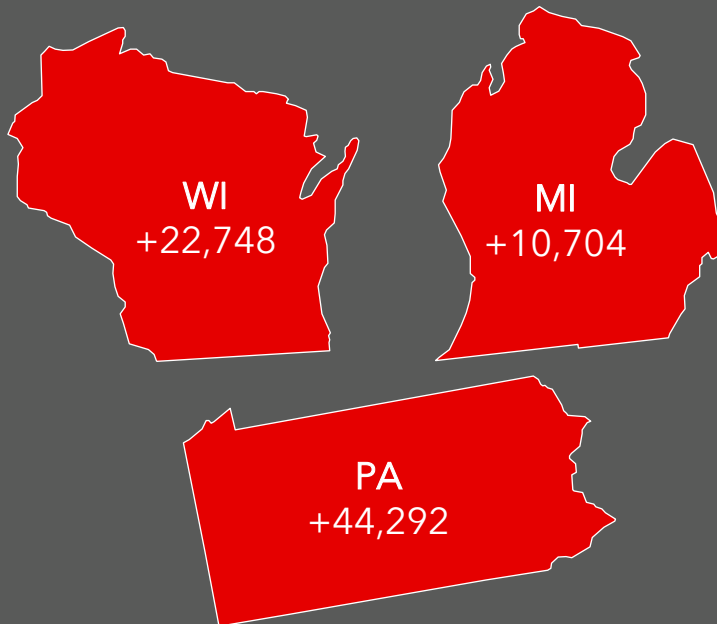
Source: (1) Associate Press. Data as of November 19, 2020.

How Close Were the 2020 and 2016 Elections?

With 137 million people voting in 2016, President Trump won the electoral college by 77,744 votes or 0.05%. In 2020, with nearly 155 million people voting, President-elect Biden won the electoral college by 66,376 votes or 0.04%.

2016

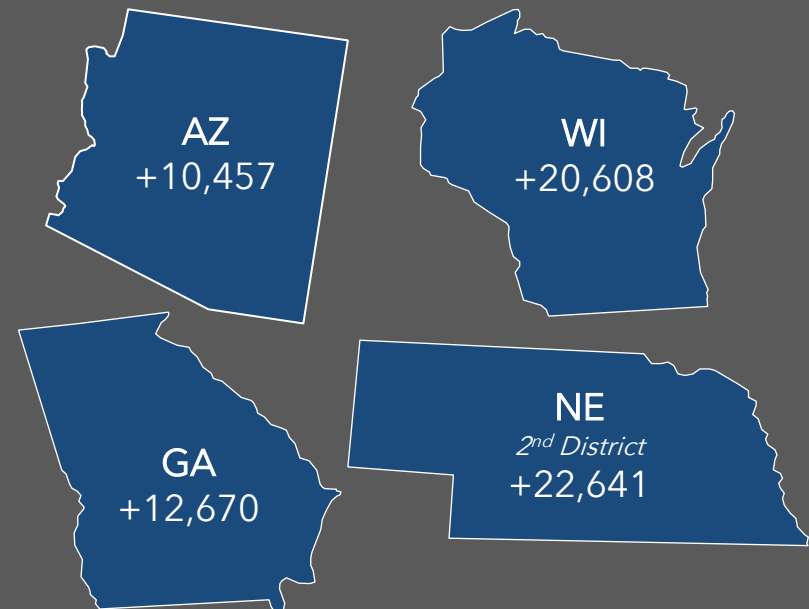
President Trump margin of victory



+77,744 votes

2020

President-elect Biden margin of victory



+66,376 votes

Source: (1) Federal Election Committee. Associated Press. 2020 results as of November 30, 2020 at 9AM EST.

US Elections Getting Closer

Every election in the last 30 years has been close, with no candidate earning more than 380 of the 538 available Electoral College votes. Interestingly, in the last 8 Presidential elections, Democrats have won the popular vote 7 times, but have lost the electoral college 3 times in that same period.

Electoral college and popular vote results in US Presidential elections

Election year	Republican candidate	Democrat candidate	Popular vote		Electoral college
			Republican	Democrat	
2020	Donald Trump	Joe Biden	47.1% *73,959,452	51.1% *80,230,000	Democrat +74 *306 - 232
2016	Donald Trump	Hillary Clinton	46.1% 62,984,828	48.2% 65,853,514	Republican +74 306 - 232
2012	Mitt Romney	Barack Obama	47.2% 60,933,504	51.1% 65,915,795	Democrat +126 332 - 206
2008	John McCain	Barack Obama	45.7% 59,948,323	52.9% 69,498,516	Democrat +192 365 - 173
2004	George W. Bush	John Kerry	50.7% 62,040,610	48.3% 59,028,444	Republican +35 286 - 251
2000	George W. Bush	Al Gore	47.9% 50,455,156	48.4% 50,992,335	Republican +5 271 - 266
1996	Bob Dole	Bill Clinton	40.7% 39,198,755	49.2% 47,402,357	Democrat +220 379 - 159
1992	George H. W. Bush	Bill Clinton	37.4% 39,104,545	43.0% 44,909,889	Democrat +202 370 - 168

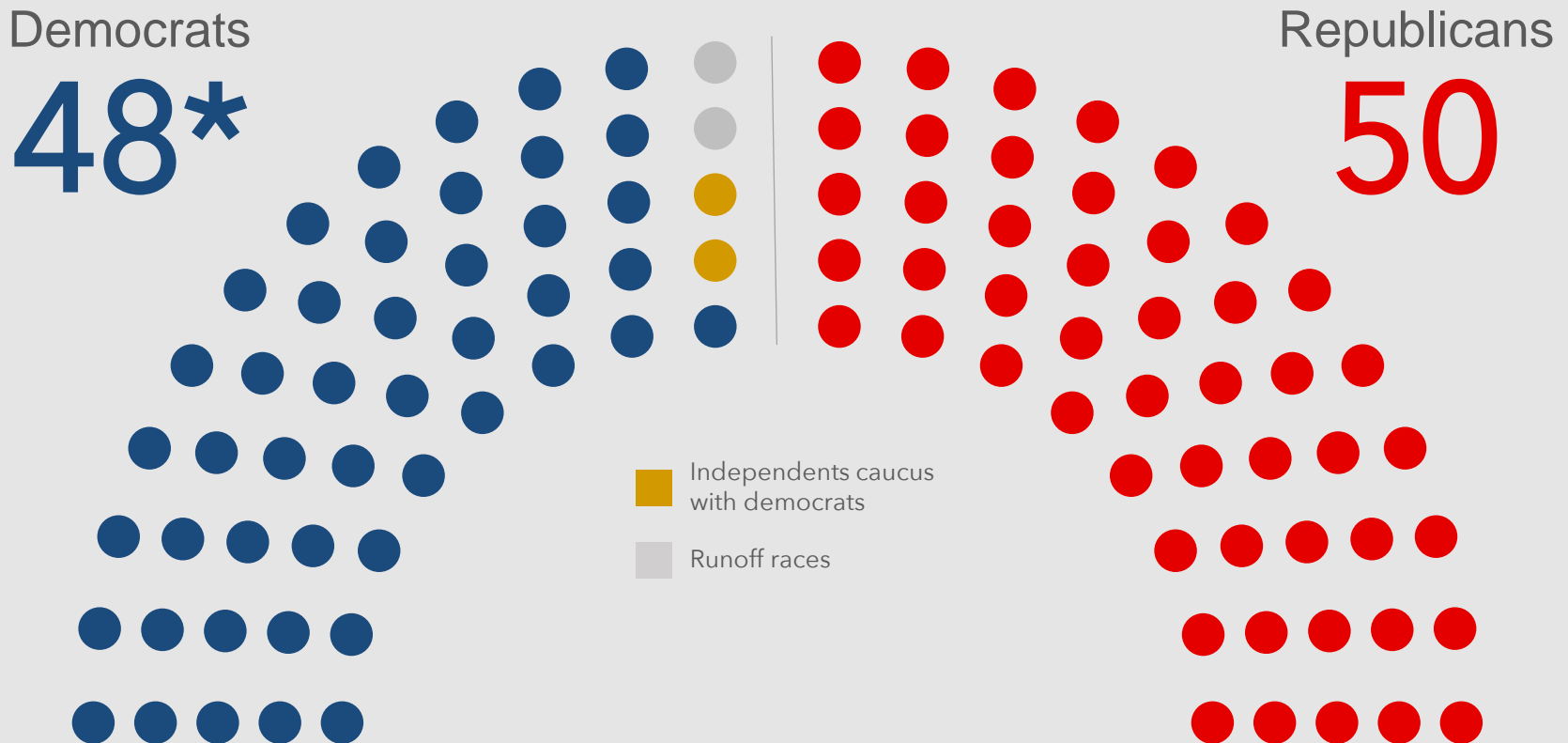
Source: (1) Federal Election Commission. *2020 election results subject to final certification. Election results as of November 30, 2020 at 5PM EST, Associated Press.

8 Divided Government, Narrow Majorities

A divided Congress with very narrow majorities in both Chambers (Senate and the House) is a formula for very limited legislative accomplishments.

US Senate Balance of Power

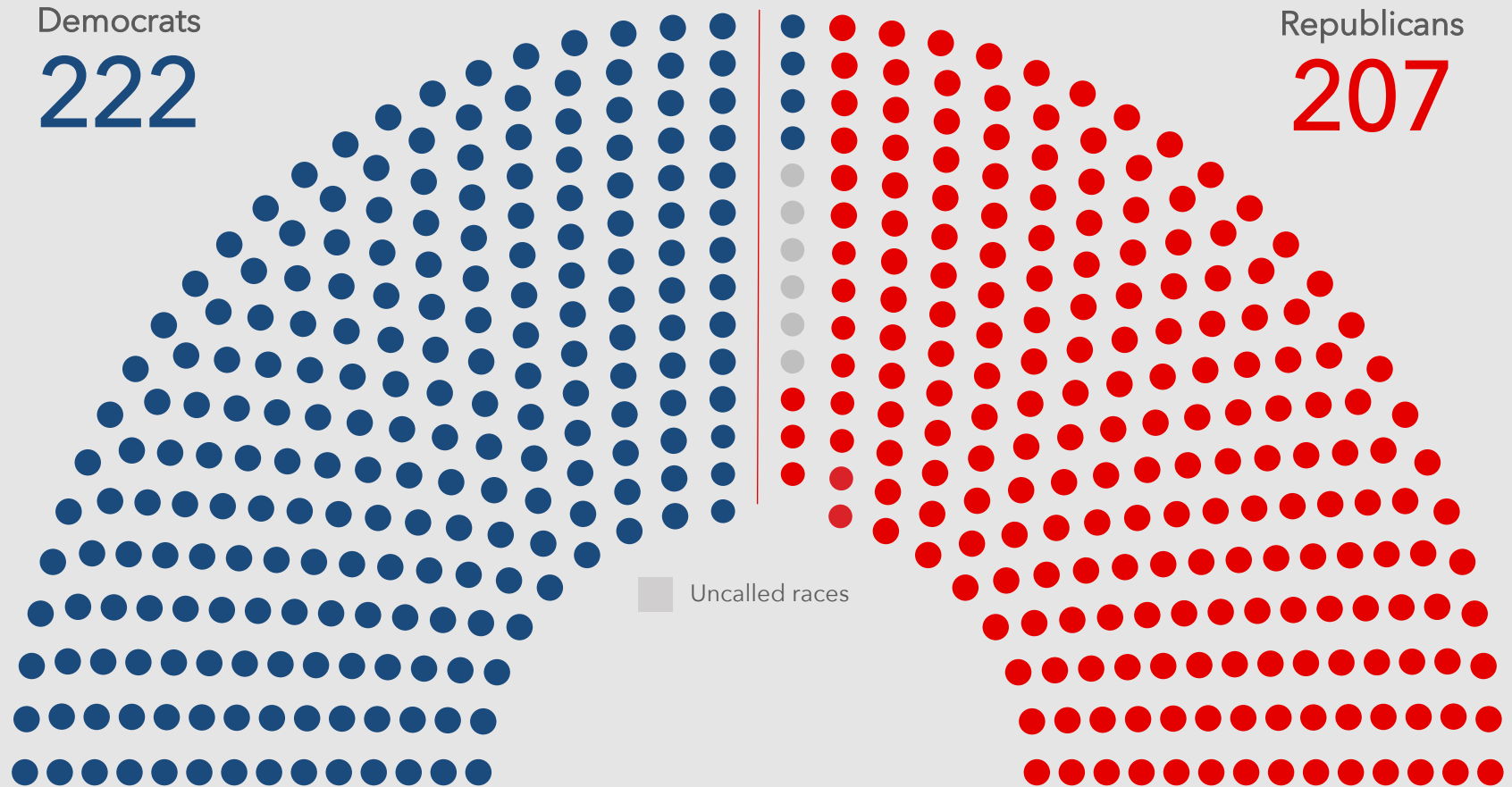
President-elect Biden's legislative agenda will depend heavily on the outcome of two run-off elections taking place in Georgia on January 5, 2021. If Democrats win both seats, a difficult but possible outcome, the Senate will be split 50-50 and Vice President-elect Kamala Harris will cast the deciding vote on numerous pieces of legislation.



Source: (1) Bloomberg Government. AP data as of November 30, 2020. *Includes independents who caucus with democrats.

US House of Representatives Balance of Power

With several elections still too close to call, Republicans have gained at least ten seats in the US House of Representatives in the 2020 election. Democrats' majority, expected to be less than five seats, could become the tightest Democratic majority since World War II.



Source: Wall Street Journal, Natalie Andrews. (1) Bloomberg Government. AP data as of November 30, 2020.

9 Governance by Executive Order

With a limited legislative mandate to govern, President-elect Biden will rely on “executive orders” and “regulatory action” to implement his domestic and foreign policy preferences.

President-Elect Biden's Governance Mandate

With a divided Congress and a weak mandate to govern, President-elect Biden will likely pivot toward a less transformative policy agenda, implemented largely through executive orders, regulatory action and the utilization of "soft power" at home and abroad.

Limitations:

- Close election with a deeply divided country
- Divided government with narrow majorities
- Magnitude of the COVID-19 health and economic crisis
- President Trump as "influencer" from the sidelines

Opportunities:

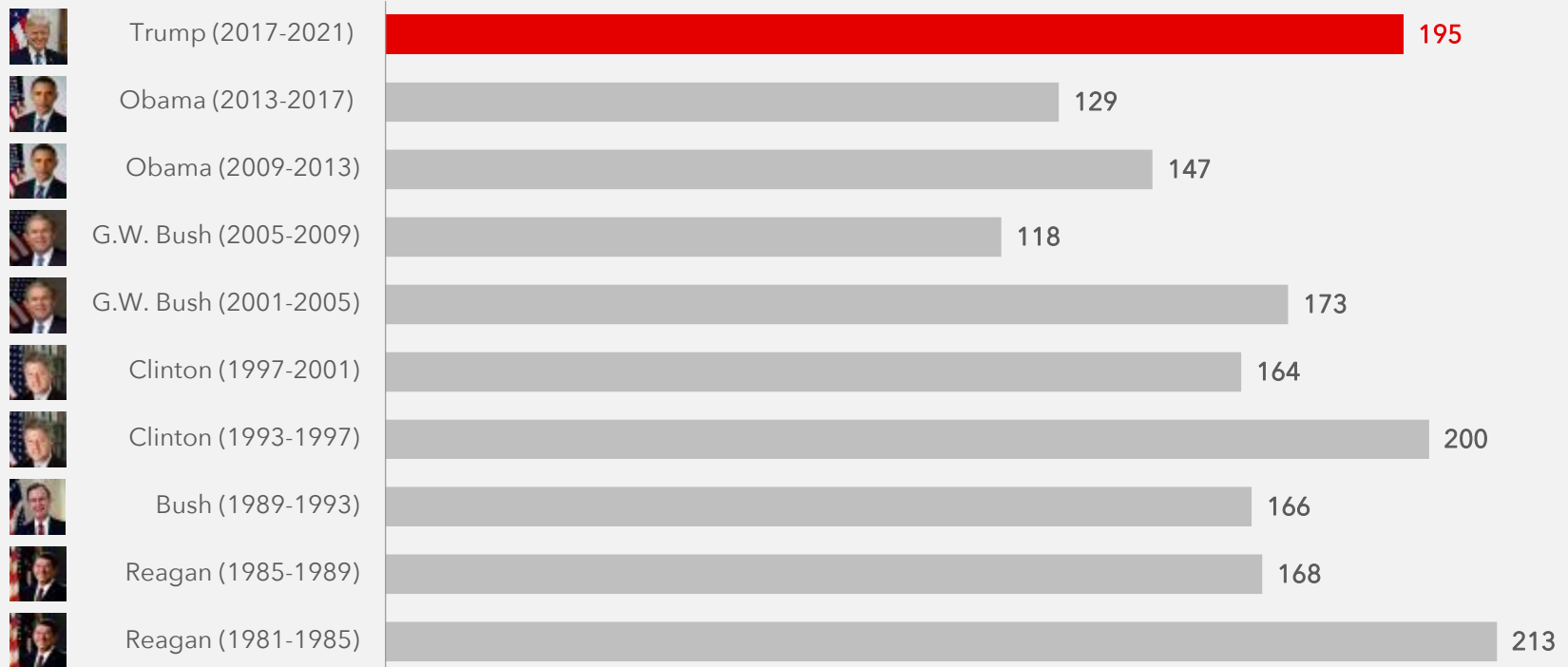
- "Progressive policy" initiatives more contained; pivot to center
- "Executive orders" and "regulatory action" become critical tools for action
- Filling over 1,200 appointments (as with any new Administration)
- Re-engagement with allies and multi-lateral global organizations
- Utilization of "soft power" via influence at home and abroad
- Control of the US Senate by winning both Georgia Senate races on January 5th (difficult, but possible)
- Pursuing bipartisan legislation where incentives overlap (COVID-19, economic recovery, infrastructure)
- Republican Party defending potentially 21 of 34 Senate seats in 2022 midterms (creates some incentives)



Governance by Executive Order

Executive orders have long been an important tool of US Presidential authority, allowing a sitting US President to determine how and to what degree legislation will be enforced. Though they have become more common in modern US history, nearly every President since George Washington has issued executive orders, perhaps the most famous being Abraham Lincoln's Emancipation Proclamation on January 1, 1863.

Executive orders by President, by term

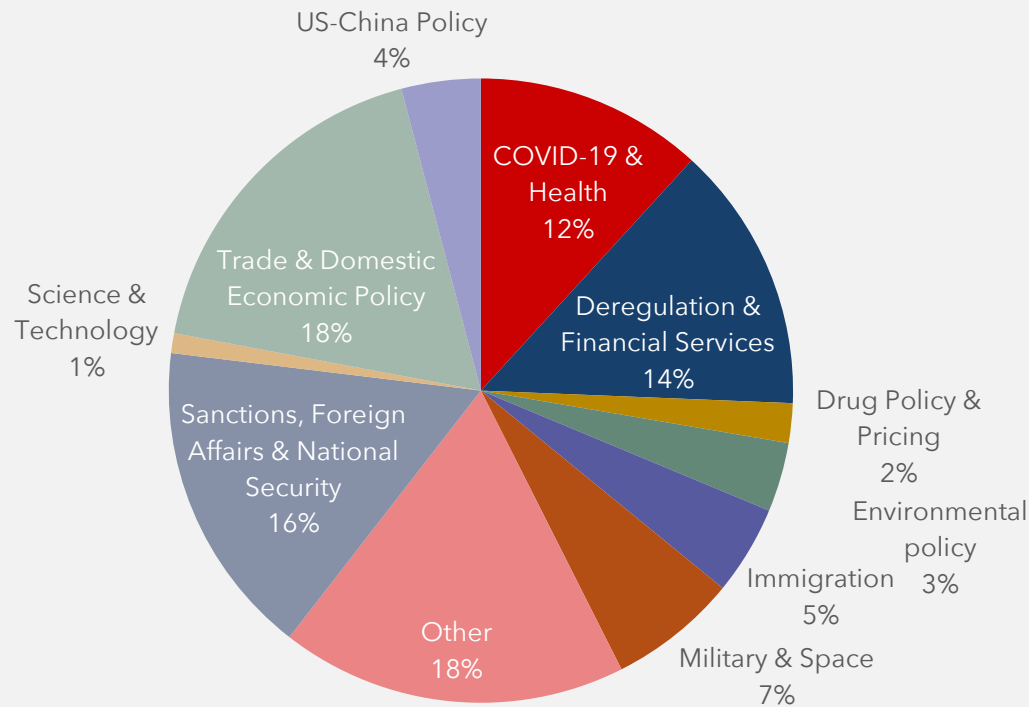


Source: (1) *The American Presidency Project*. Federal Registrar National Archives. President Trump executive orders through November 30, 2020.

Potential Unwind of Trump Era Executive Orders

With divided Government and a narrow mandate to govern, we expect President-elect Biden to make wide use of executive orders to implement his domestic, regulatory and foreign policy agenda. In this regard, the focus of Biden-era executive orders may aim to unwind many of the Trump-era executive orders implemented in the areas of energy policy, the environment, financial regulation and public health (including COVID-19).

Breakdown of 195 President Trump executive orders, by category



Source: (1) Federal Registrar National Archives. President Trump executive orders through November 30, 2020.

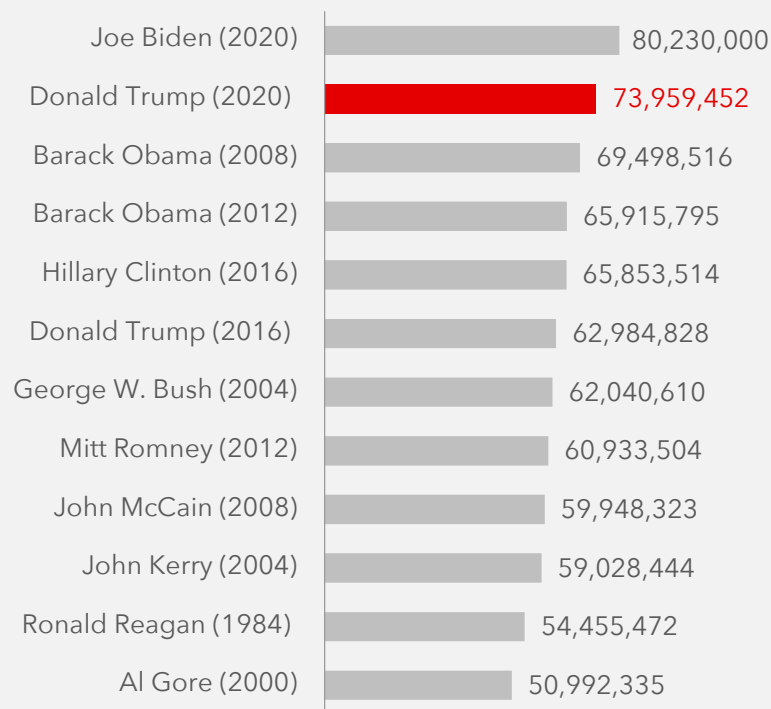
10 Trump & “Trumpism”

President Trump has lost the US election, but the political coalition and agenda that defines “Trumpism” will be an enduring one, with implications for policy and markets.

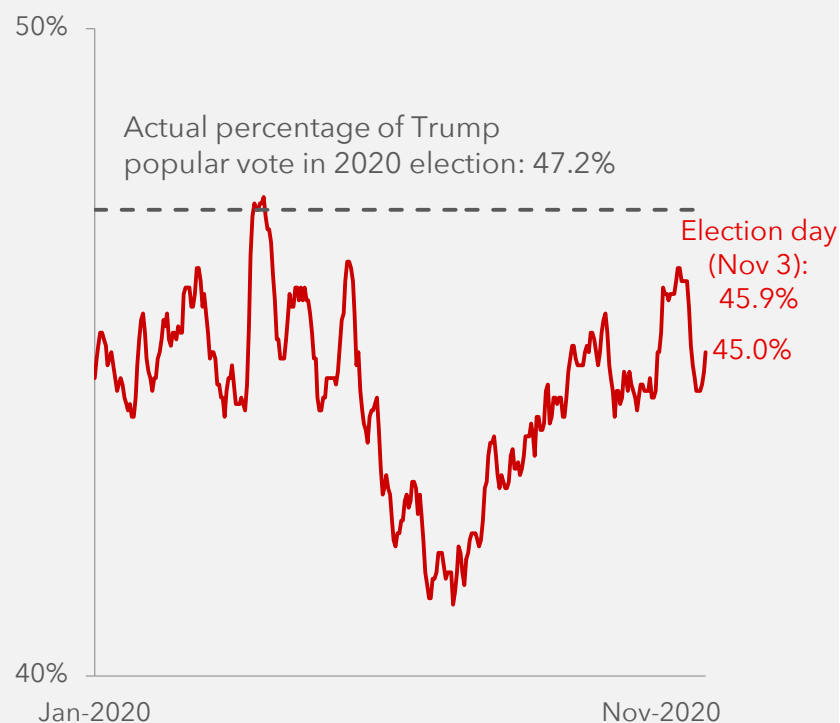
President Trump's Broad & Enduring Political Coalition

While President Trump may have lost the 2020 US election, he nonetheless received the 2nd largest vote total (74 million votes) in US Presidential election history. In doing so, and by well exceeding polling expectations at both a national and down-ballot local level, President Trump has shown that he has built a broad and enduring political coalition that will have implications for public policy and markets.

US presidential election popular votes



President Trump approval rating



Source: (1) Federal Election Commission. (2) Bloomberg. Data as of November 30, 2020.

The Enduring Legacy of “Trumpism”

President Donald Trump lost the 2020 election, and gave up ground among numerous key constituents (rust belt, suburbs in blue and red states, women). Nonetheless, “Trumpism” as an enduring and broad political coalition is far from over, and will have relevance for policy and markets in the months and years ahead.

Broad and enduring political coalition

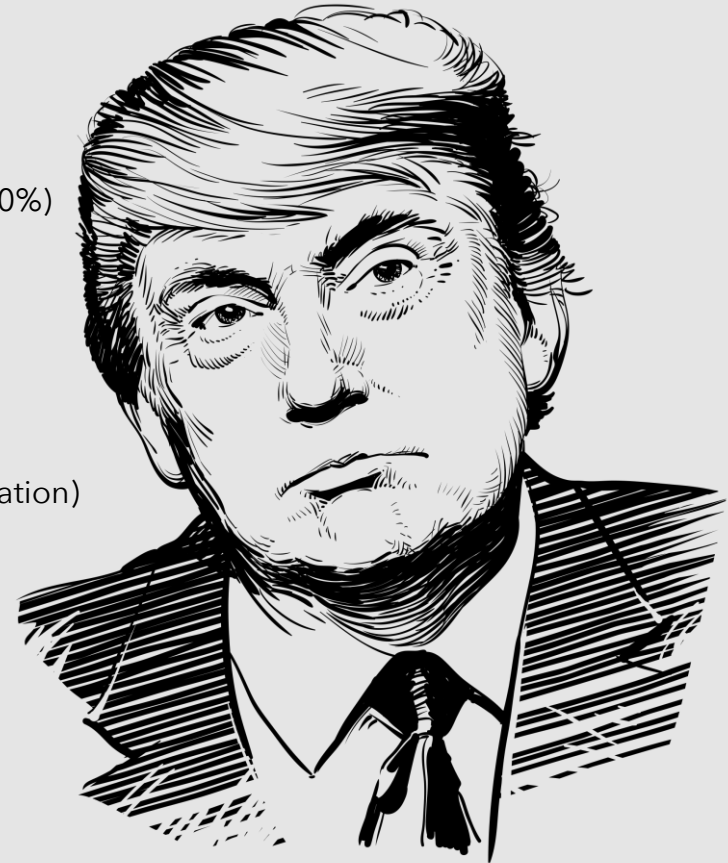
- 74mm votes in 2020 election was the second most in history
- Electoral strength also evident in Senate, House and local races
- Broad geographic reach across dozens of US states
- High Trump approval rating among registered Republicans (close to 90%)

Channels of influence:

- Use of social media to dis-intermediate political establishment
- Popular “influencer” from the sidelines
- Potential launch of a Trump media business
- Impact on GOP “Primary” elections in Senate and House
- Declaring 2024 election candidacy (perhaps right after Jan 20 Inauguration)

Potential policy implications for:

- US-China policy
- Immigration policy
- Healthcare policy
- Environmental and energy policy
- US relationship with global multi-lateral organizations (funding, etc.)
- Supreme Court and judge confirmations





The Economic Recovery

"COVID is the great unequalizer...
the strong get stronger, the weak get weaker."

Mohamed El-Erian, Chief Economic Advisor at Allianz

11

The Uneven Recovery

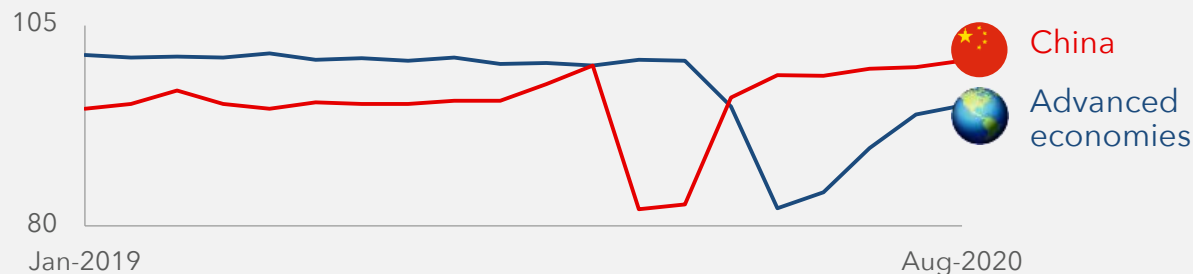
Virus suppression and economic growth are positively correlated (i.e., it is very difficult to have one without the other). The recovery, however, will vary significantly by region, industry sector, business model and demographic group.

Asia Pacific-Rim Recovery Ahead of the West

China Recovery
Ahead of
Advanced
Economy Peers

China is the only major global economy that has already returned to its pre-COVID growth trajectory

CPB world industrial production, Dec 2019=100



Asia-Pacific Rim
Recovery Ahead
of the West

The success of China and other Pacific-Rim countries in suppressing the virus has allowed for a much faster rebound than other advanced economies

JPM Asia Currency Index



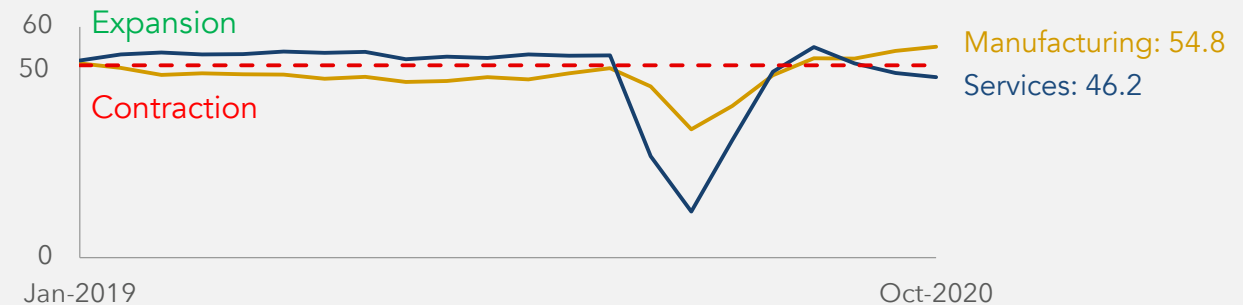
Source: (1) Capital Economics. Global Economics Chart book. Worse to come in Q4 despite vaccine hopes (2) Bloomberg. Data as of November 30, 2020.

Manufacturing Recovery Ahead of Services

Manufacturing Recovery Ahead of Services

Global manufacturing has been more resilient than service sectors

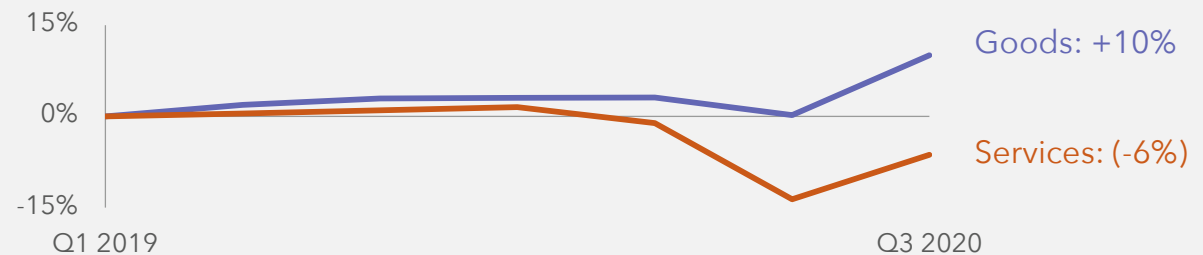
Eurozone services vs. manufacturing PMI



Durable Good Recovery Ahead of Retail Services

Consumer spending on goods has actually increased since the start of the pandemic while services spending has lagged

US Consumer spending on goods vs. services, change since Q1 2019



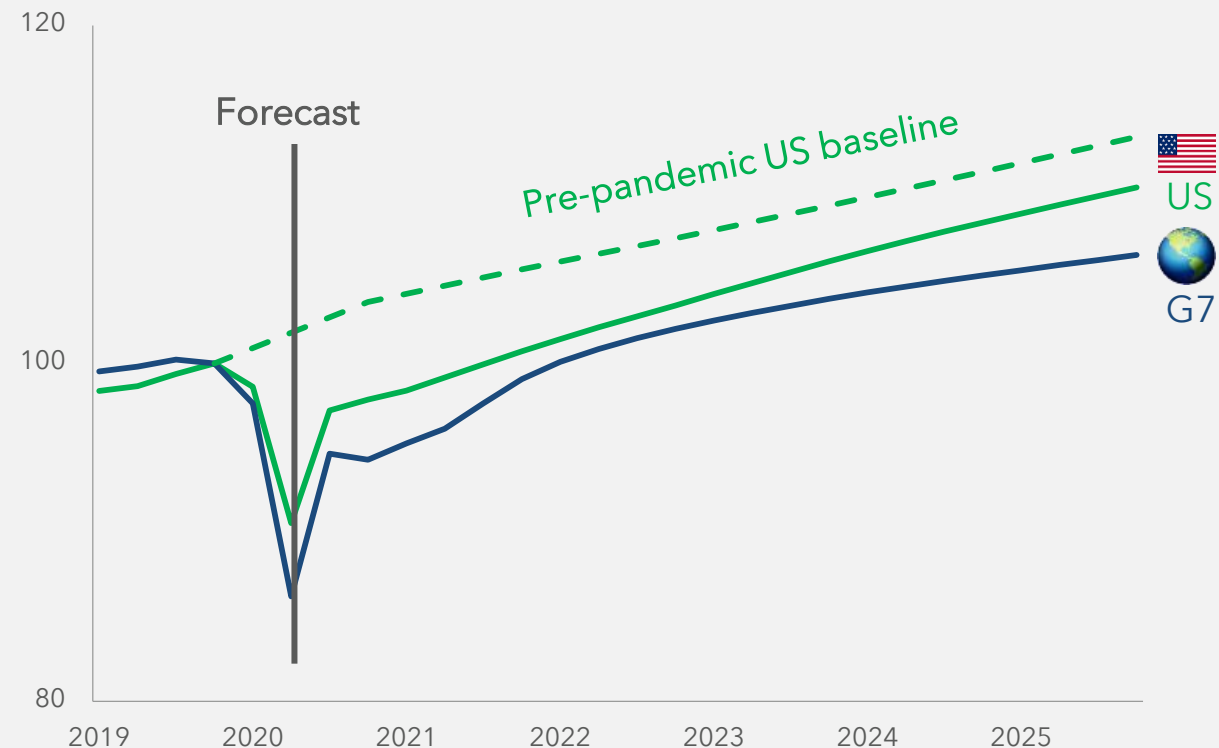
Source: (1) Bloomberg. Data as of November 30, 2020. Markit PMI. (2) BEA. Real PCE SA. Data as of November 30, 2020.

US Services Recovery Ahead of G7

US Services Recovery Ahead of G7

While the US has struggled with virus suppression, the dynamism of its services sector (i.e., lower regulatory burden, less rigid labor markets) will allow it to recover faster than other G7 economies

Services sector value added recovery



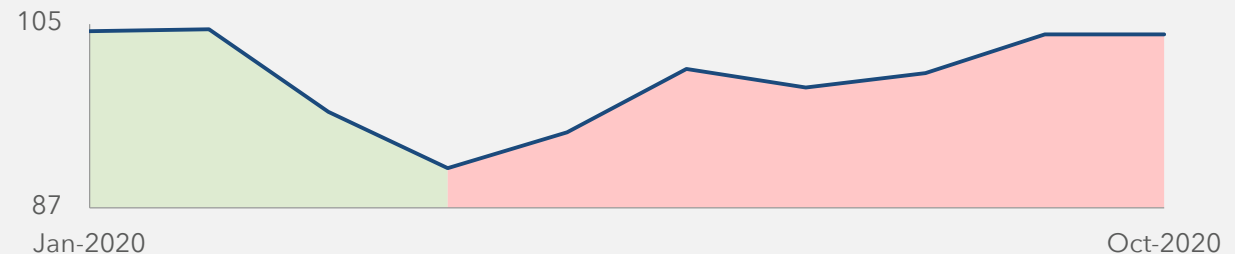
Source: (1) Oxford Economics. Resurgent COVID could stymie services' rebound. November 11, 2020.

Large Cap Recovery Ahead of Small Business

Large Cap
Recovery
Ahead of Small
Business

Large cap corporations have generally been more resilient than their small business peers

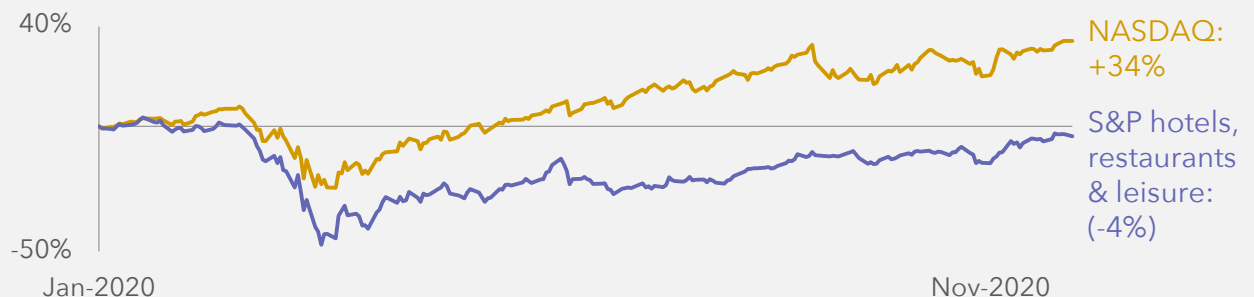
US NFIB small business uncertainty index



Virus Resilient
Business
Models over
Discretionary
Business
Models

COVID resilient business models (i.e., tech) have outperformed industries more closely linked to discretionary and in-person activity

NASDAQ vs. S&P 500 Hotels, Restaurants & Leisure Index since Jan 1, 2020



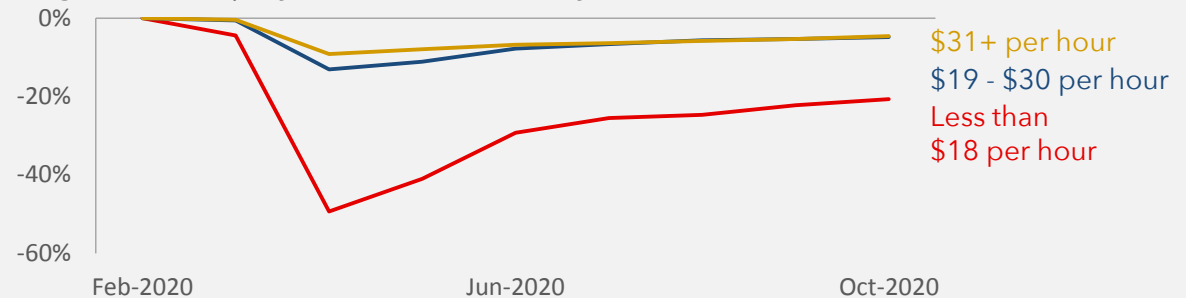
Source: (1-2) Bloomberg. Data as of November 30, 2020.

Higher Income Recovery Ahead of Lower Income

Higher Income
Recovery Ahead
of Lower Income

Lower income sectors of the US economy have suffered far greater employment losses than higher income sectors

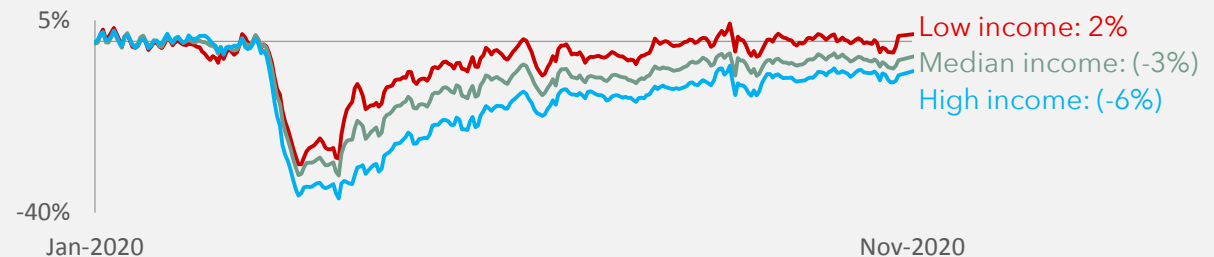
% change in US employment since February 2020



Lower Income
Incurring Debt
at Higher Rate
than Higher
Income

Lower income demographics have accounted for a higher percentage of job losses, furloughs, as well as credit and consumer debt increases during the COVID-19 crisis

US consumer credit and debit card spending, % change from January 2020



Source: (1) Oxford Economics. Data as of November 19, 2020. Source: (2) "The Economic Impacts of COVID-19: Evidence from a New Public Database Built Using Private Sector Data", by Raj Chetty, John Friedman, Nathaniel Hendren, Michael Stepner, and the Opportunity Insights Team. 7-day moving average, seasonally adjusted. Data is through week ending November 15, 2020.

12 Long Road Ahead

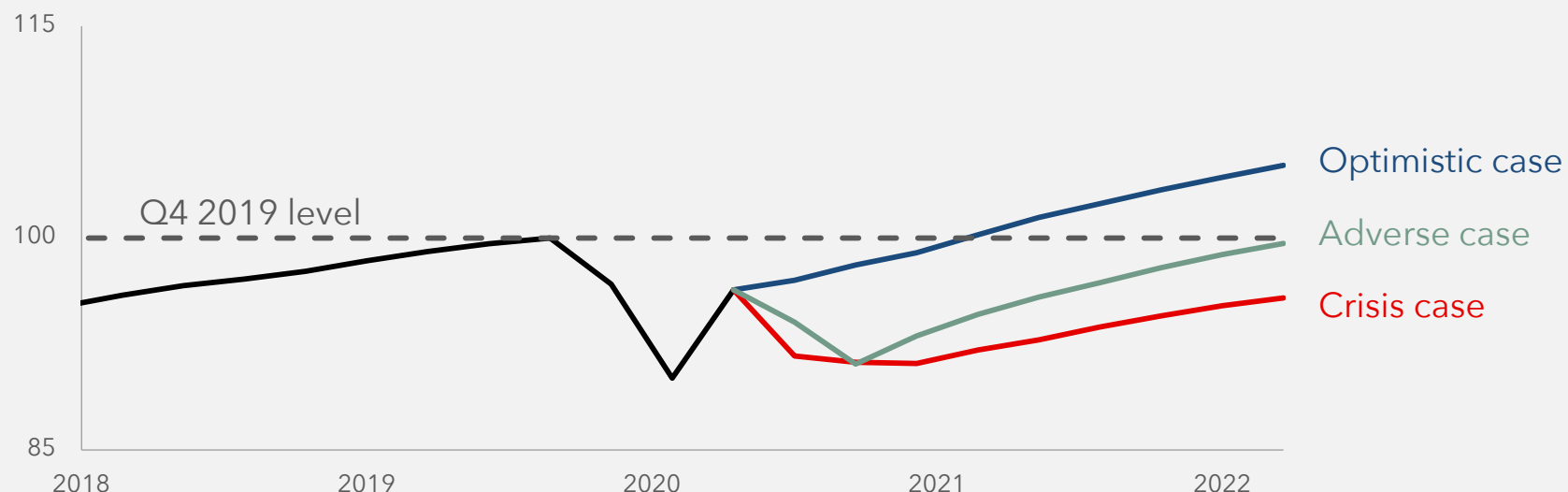
China and other Pacific-Rim economies have already returned to their pre-COVID size. As evident across Europe and the US, however, the road to recovery for those economies that have struggled to keep case counts under control will be measured in years.



Global Recovery Likely in 1-3 Years

Oxford Economics projects global GDP to contract by 4.2% in 2020 with a full recovery expected to take one to three years in most scenarios

World GDP level in Q3 2020 global scenarios, index Q4 2019 = 100



Optimistic case: Strong 2H 2020 and 2021 on stabilization of COVID-19 virus resurgence

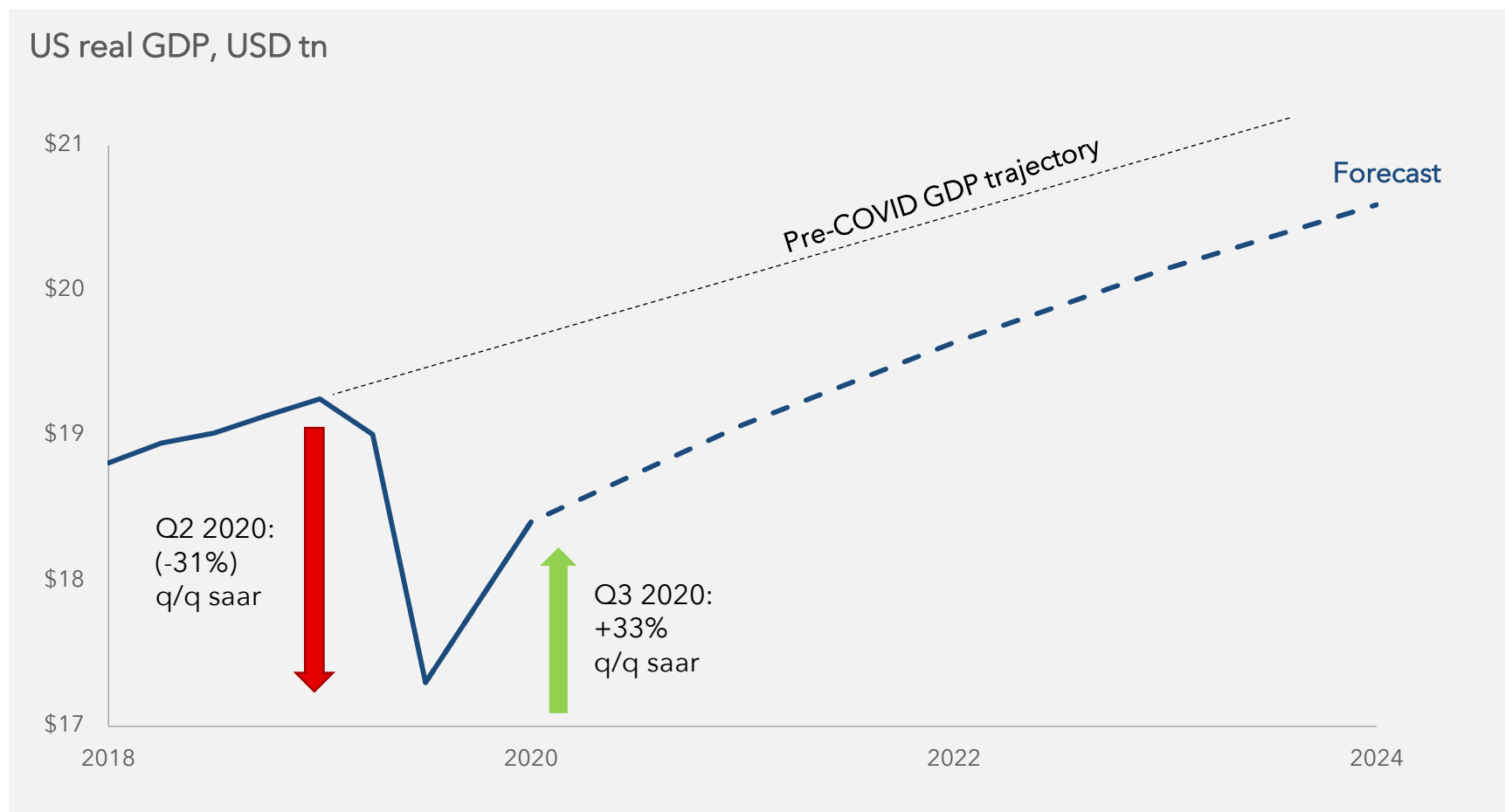
Adverse case: Renewed lockdowns globally following late 2020/early 2021 second wave

Crisis case: Credit crunch following deep downturn, private sector deleveraging and public sector austerity

Source: (1) Oxford Economics. Global Scenarios Service: Q3 2020 The Second Wave.

US Recovery May Take Years

While the US economy may return to its pre-COVID size in less than one to two years, it may take closer to five years to return to its pre-COVID-19 growth trajectory



Source: (1) Oxford Economics "2020 US Election Debrief". Bloomberg. Data as of November 11, 2020.

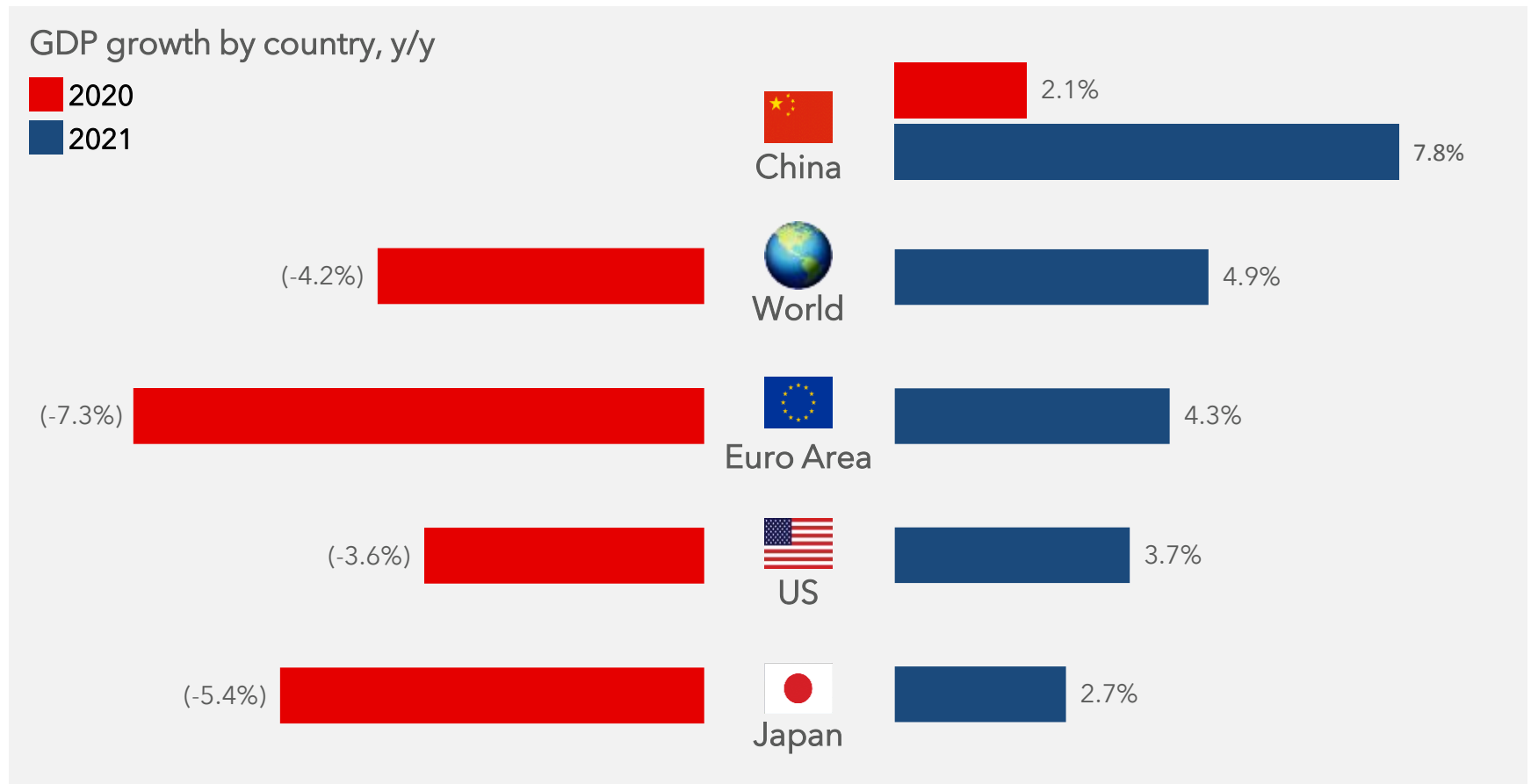
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Double-Dip Recession Risk

While the baseline view is for “above trend” global growth in 2021, a larger than anticipated wave of COVID-19 resurgence could precipitate an unexpected contraction across numerous economies.

Baseline Scenario: Above Trend Growth

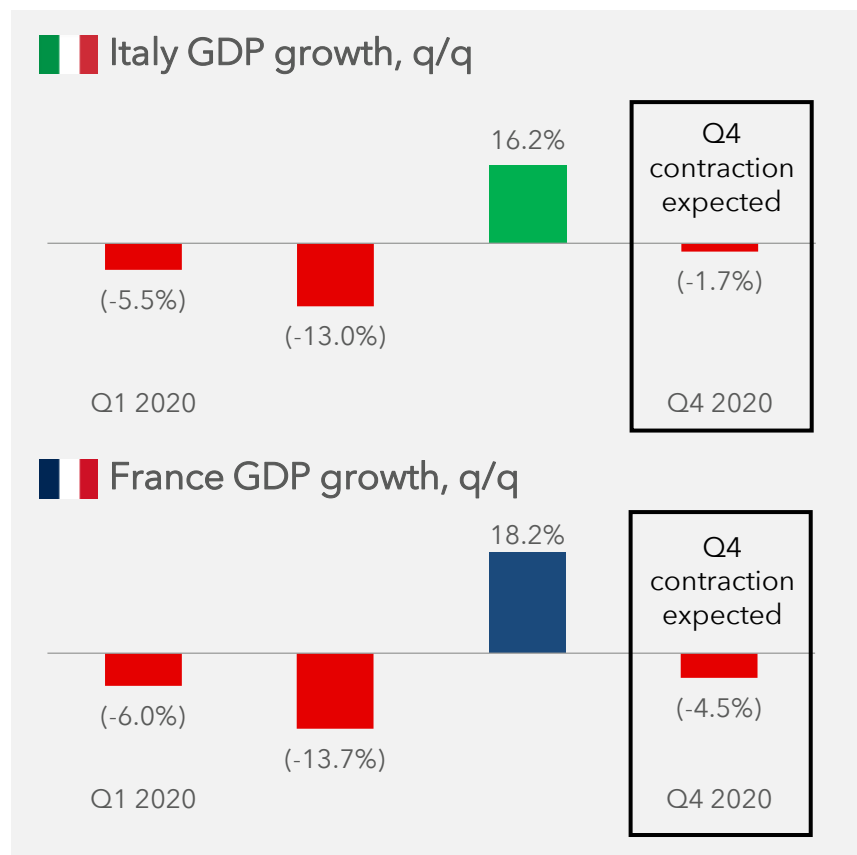
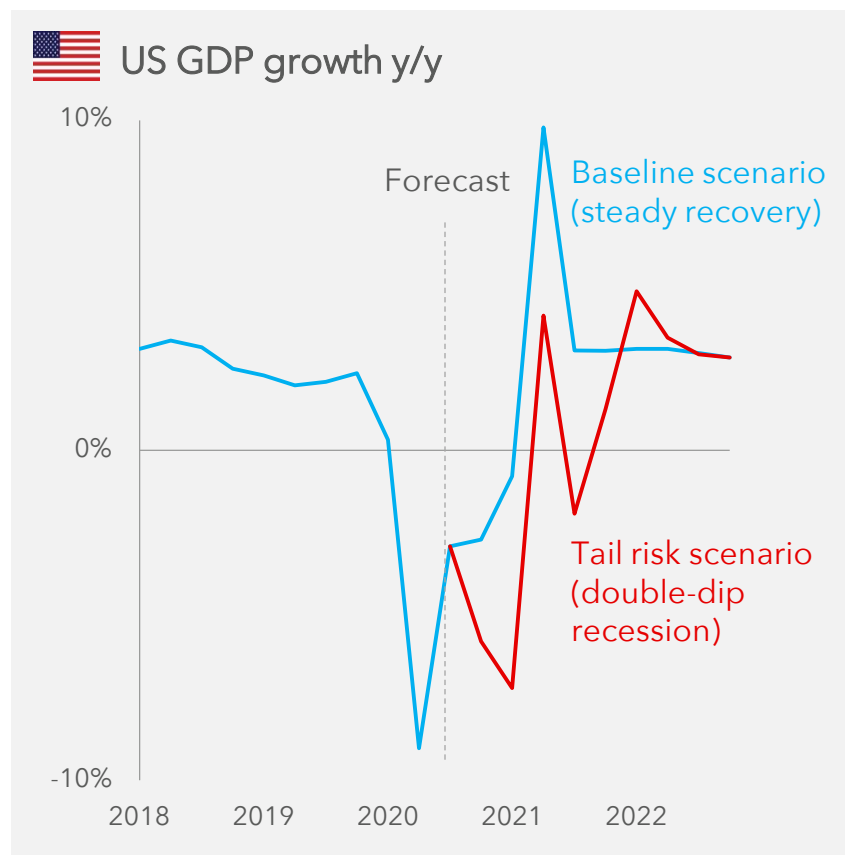
The baseline scenario for 2021 is economic growth well above normal trend growth. However, in Q4 2020, a double-dip into negative growth is now likely in Europe, alongside a sharp slowdown in the US recovery.



Source: (1) Oxford Economics. Data as of November 30, 2020.

Tail Risk Scenario: Double-Dip Recession

While the baseline view is for “above trend” global growth in 2021, a larger than anticipated wave of COVID-19 resurgence is expected to result in a significant slowdown in US data and a GDP contraction across Europe in Q4.



Source: (1) Oxford Economics. Resurgent COVID could stymie services' rebound. November 11, 2020. (2-3) Oxford Economics forecasts. GDP is seasonally adjusted.

14

Public Policy Tailwinds

The speed and size of fiscal and monetary support to date has been extraordinary. With additional US fiscal stimulus expected, markets can trade with a “bridge” to life after COVID.

Extraordinary Monetary Policy Support

Since the virus proliferation in March of 2020, the Fed has taken a series of extraordinary actions to reduce the cost of funding, backstop credit financing markets and offer liquidity in critical US dollar repo markets

The Fed's 2020 crisis playbook



Easing financial conditions



Addressing market dislocations



Restoring Funding Markets

Emergency interest rate cut

Bank repo facilities

Lower bank reserve requirements

Revised discount window terms

Primary Dealer Credit Facility

Paycheck Protection Program Liquidity Facility

Unlimited quantitative easing

Central Bank swap lines

US Dollar repo facility

Money Market Mutual Fund Liquidity Facility

Commercial Paper Funding Facility

Main Street Business Lending Program

Primary Market Corporate Credit Facility

Secondary Market Corporate Credit Facility

Term Asset-Backed Securities Loan Facility

Municipal Liquidity Facility

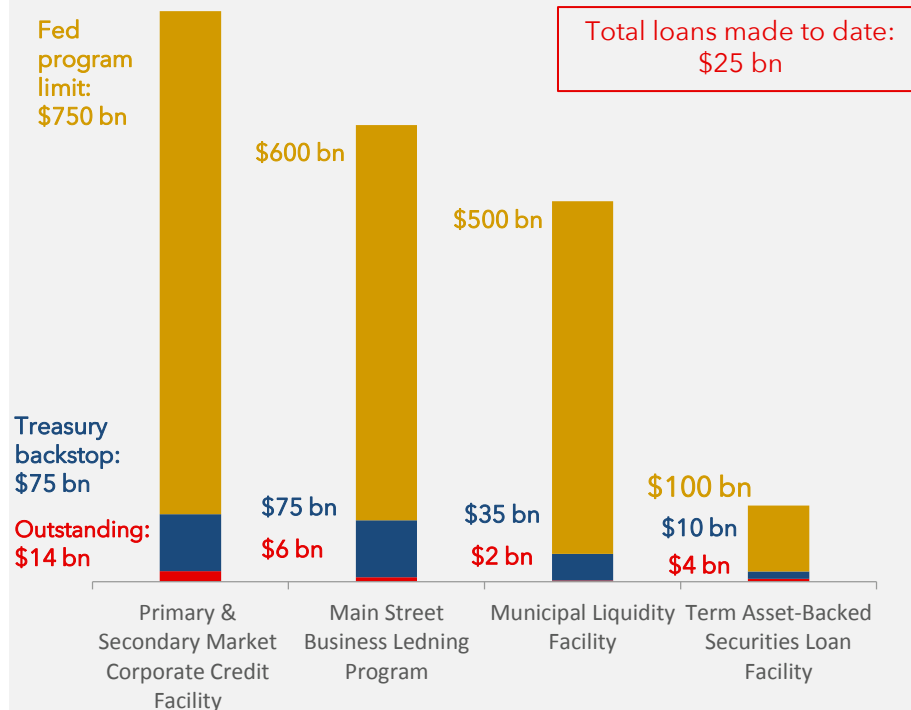
On November 19th, Treasury Secretary Mnuchin announced that he would let five of the Fed's emergency COVID response programs expire at year end and requested the Fed return unused funds from the \$454 bn granted under the CARES Act

Source: (1) Federal Reserve.

Expiration of Fed's Emergency Facilities

On November 19th, Treasury Secretary Steve Mnuchin announced that he would let five of the Fed's emergency COVID response programs expire at year end and requested the Fed return unused funds from the \$454 bn granted under the CARES Act to backstop the programs. While several of the Fed's facilities have been little used so far, they have provided an important psychological backstop to stabilize markets.

5 Fed facilities to expire December 31, 2020



Observations

- Fed publicly pushed back on Mnuchin's request but will ultimately comply
- Mnuchin pushing to reallocate \$580 bn of unused CARES funds (leftover from PPP and Fed's emergency lending facilities backstop) for new stimulus
- Though little used, programs have been key in ensuring credible backstop for numerous markets
- Fed could re-establish facilities via Exchange Stabilization Fund, though at only a fraction of the size

Market Implications

- Risk of rising yields for struggling companies
- Potential limited access to capital for small & medium sized business
- Reduced backstop for municipalities
- Tightening financial conditions
- Fed likely to extend duration of QE to counteract market impact

Source: (1) Federal Reserve Balance Sheet" Total outstanding amount through week ending 25, 2020. "Treasury & Fed play Battleship in Tainted COVID Waters" Nov 20, 2020. Capital Economics. FRED. Data as of November 30, 2020.



Expectations for Additional Fiscal Stimulus

Assuming that Democrats do not win both Georgia Senate seats on January 5th (difficult, but possible), we would expect a more modestly sized fiscal stimulus package after the Jan 20th Presidential inauguration

Size

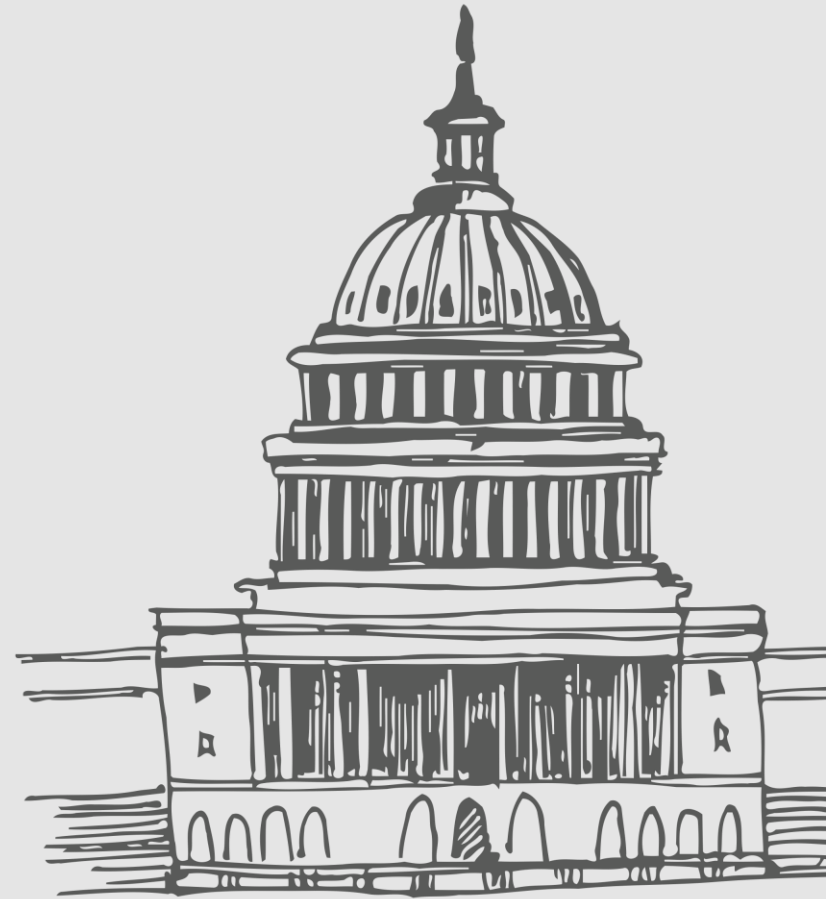
- **Base Case:** < \$1 trillion
- **Alternative Case:** > \$2 trillion
(if Democrats win control of Congress)

Timing

- **Base Case:** After the Jan 20 Presidential Inauguration
- **Alternative Case:** Before inauguration, in the event that COVID-19 virus escalates even more rapidly than anticipated, with sharp economic and market declines analogous to March

Rationale on Size and Timing

- Limited time remaining in 2020 legislative calendar
- Economic recovery numbers still stable (though high frequency indicators beginning to turn)
- Visibility and optimism on a vaccine
- White House negotiating team no longer active in discussions
- Senator McConnell (R-KY) shift to Jan 5 Georgia Senate races

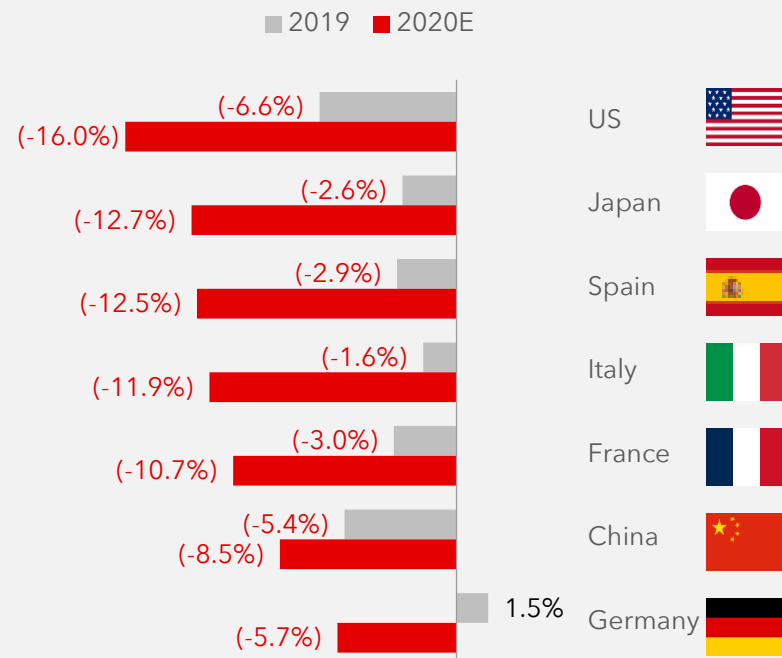


Source: MUFG DC (Jordan Heiber, Jesse Wheeler). Politico, The Hill, Bloomberg Government.

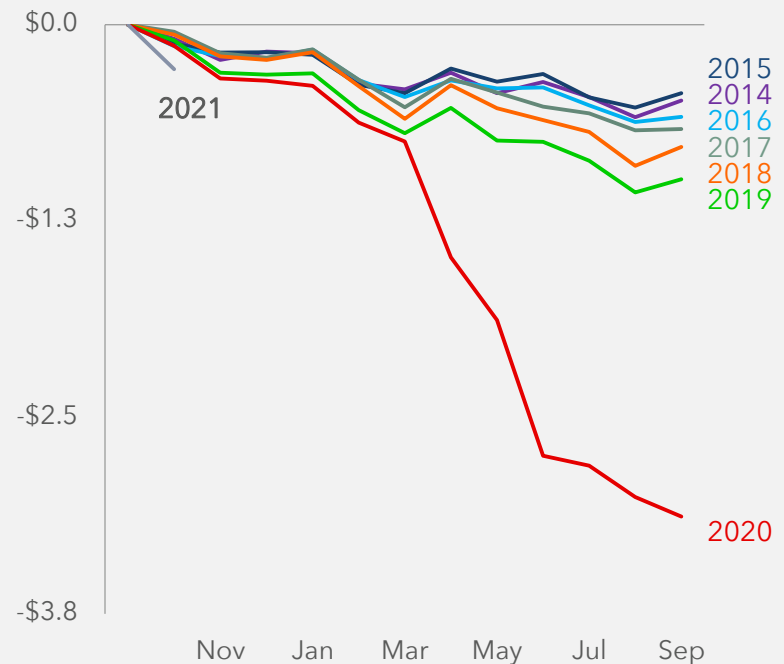
Largest Post WWII Fiscal Stimulus

The United States and numerous other global economies are expected to have a full decade of normal course debt / GDP growth in just 1-2 years. Over \$3 trillion worth of fiscal stimulus was passed in the US in the first half of 2020, including \$2 trillion in the CARES Act. In response to the rising 3rd wave in the US, an additional \$500 bn to \$1 trillion is expected in early 2021.

Fiscal balance, % of GDP



US Treasury federal deficit, cumulative fiscal YTD, USD tn



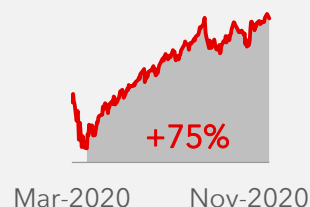
Source: (1) Oxford Economics. Data as of November 30, 2020. (2) Bloomberg. Data as of November 30, 2020.

Extraordinary Stimulus Provides Bridge to Life After COVID

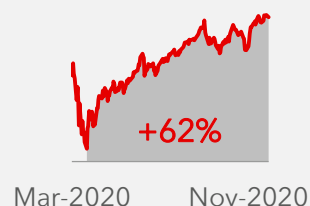
After an initial sharp correction, extraordinary monetary and fiscal stimulus have provided markets with a "bridge" of optimism for the very difficult months ahead

Equities

NASDAQ



S&P 500

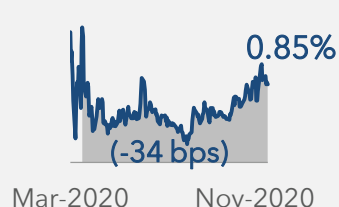


Russell 2000

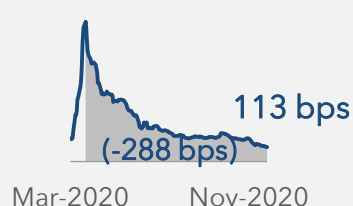


Credit

10 yr UST



USD IG index



USD HY index



Currencies

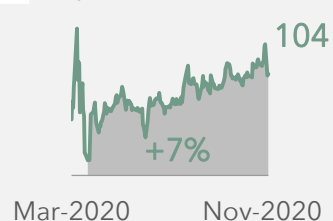
Euro



Sterling



Japanese Yen



Commodities

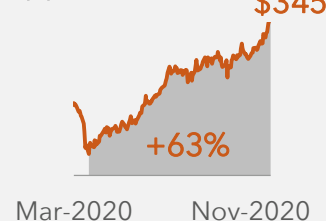
Brent



Gold



Copper



Source: (1-12) Bloomberg. Data as of November 30, 2020. USD IG & HY credit indices are ICE BofA OAS. FRED. All currencies vs. USD. JPY axis inverted to show appreciation. Performance Data is from 2020 low through November 30, 2020.

15 Biden's Trade & China Agenda

While we expect President-elect Joe Biden to pursue a more predictable and “rules-based” US-China and trade policy, we nonetheless expect US-China structural rivalry (trade, tech, capital) to continue, alongside a “protectionism light” and “Made in America” focused trade regime.

President-Elect Biden's Trade Policy Expectations

The US is highly unlikely to return to a WTO-centered global trading system anytime soon. However, we do expect a more predictable and "rules-based" approach to create positive tailwinds for global risk assets and currencies

"Protectionism Light"

- Re-engaging historic allies and multi-lateral organizations
- Continuation of "tough on China"

Maintain most "existing" tariffs

- New tariffs on allies less likely (including EU auto tariffs)
- Possible modest relaxation of China tariffs on US consumer goods only

Made-in-America Initiatives

- Continuity with President Trump executive orders in this regard
- Seeking \$400 bn for US Government purchases

Pivot to Asia

- As VP, Biden was a strong advocate of President Obama's pivot to Asia
- Resurrection of US involvement in TPP unlikely given bi-partisan resistance



President-Elect Biden's China Policy Expectations

While President-elect Biden is likely to continue a "tough on China" approach, we do expect a tactical shift with additional focus on human rights and climate policy

Tactical Pivot

- More measured and rules based approach
- Strategic re-engagement with allies and multi-lateral organizations
- Meaningful improvement in US-China relations unlikely

"Tough on China" continuity

- Continued pressure on trade, technology and capital access
- Huawei and 5G remains a focus
- Strong bipartisan support in US Congress

Largely status quo on existing China tariffs

- Minor concessions possible in exchange for progress on climate, tech and structural issues
- Possible relief on 7.5% tariffs on \$110 bn of US consumer goods

Structural rivalry shifts focus from tariff to non-tariff measures

- Tech and intellectual property
- Market imbalances of state driven growth
- Human rights (Xinjiang)
- Climate policy (potential "carbon adjustment fees")
- Taiwan and national security



Implications for Markets

"When everyone is thinking alike,
somebody is not thinking."

George S. Patton Jr, US WWII Army General (1885-1945)

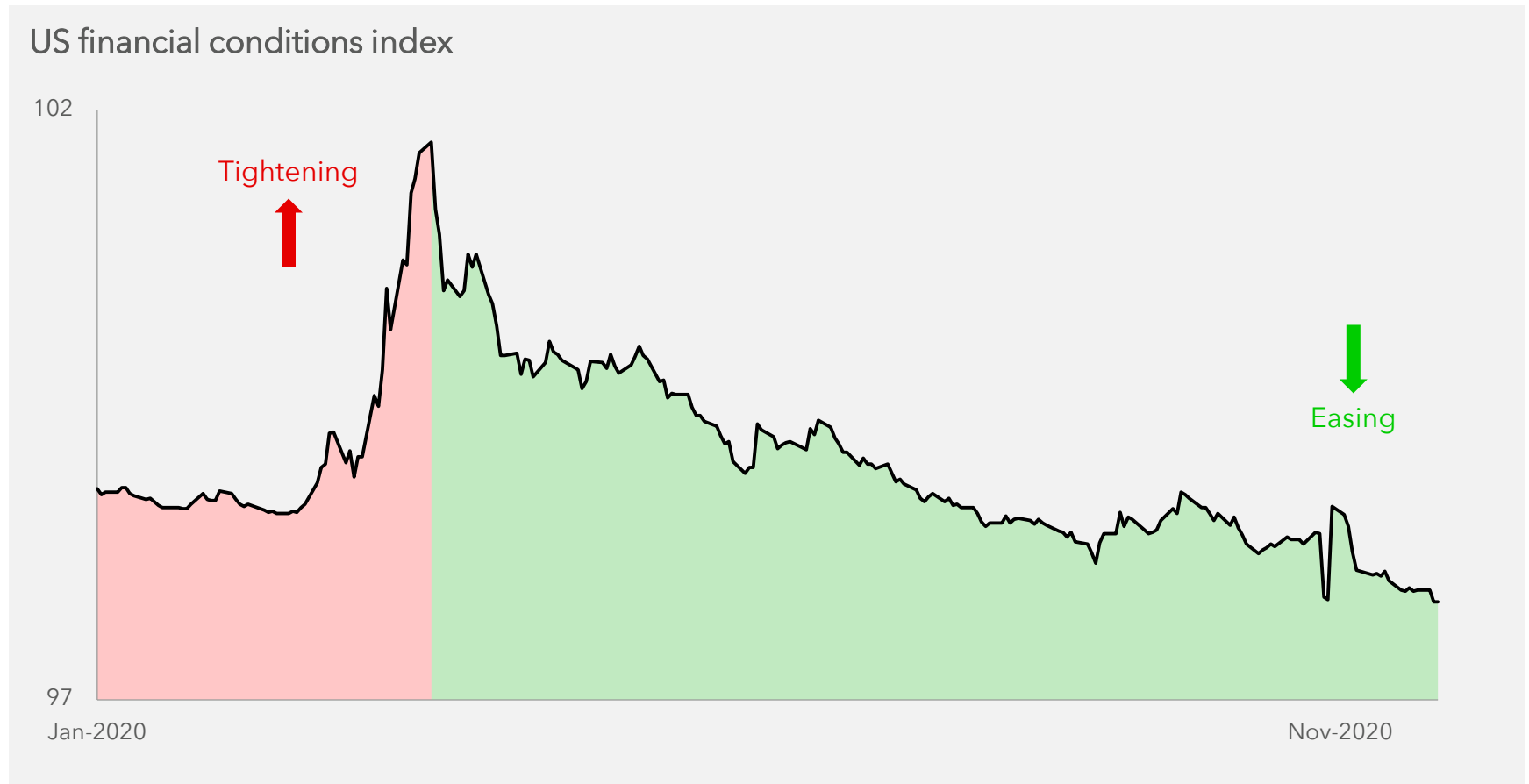
16

Easing Financial Conditions

Robust equities, historically low interest rates, tighter credit spreads and a weaker US Dollar have all contributed to a significant easing in US financial conditions.

Significant Easing in US Financial Conditions

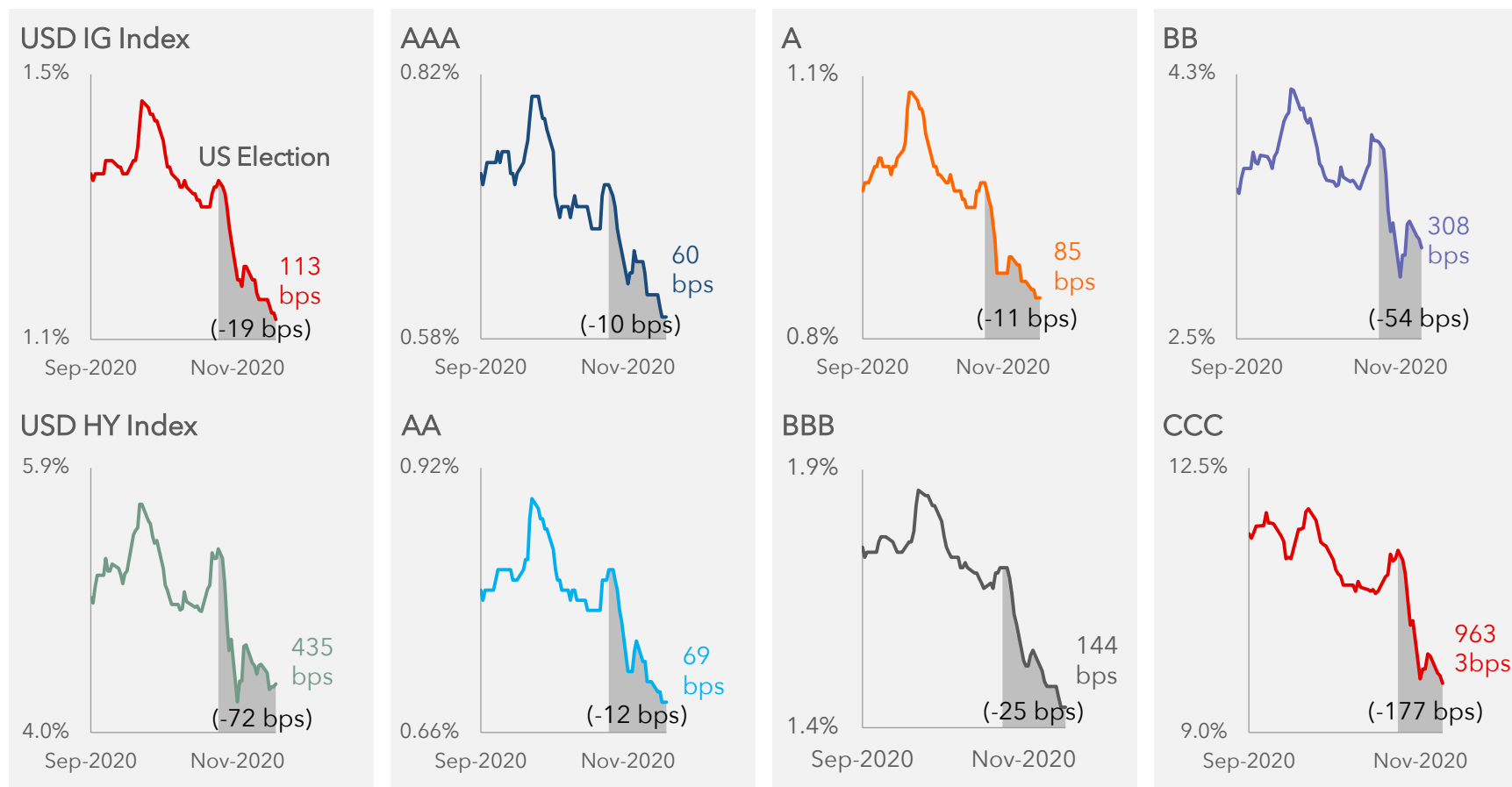
Robust equities, a weaker US dollar, historically low rates and tighter credit spreads have all contributed to a massive easing in US financial conditions since the peak of the initial March 2020 virus lockdown period



Source: (1) Bloomberg. Data as of November 30, 2020. Index is GS Financial Conditions index.

Post Election USD Credit Spread Tightening

Policy easing, election resolution and vaccine optimism have driven an acceleration in the easing of US credit market conditions, especially in lower rated credits (i.e., BB, CCC). While the weeks ahead may be more volatile, we are generally very optimistic on the fundamental and technical demand for corporate credit as the recovery progresses.



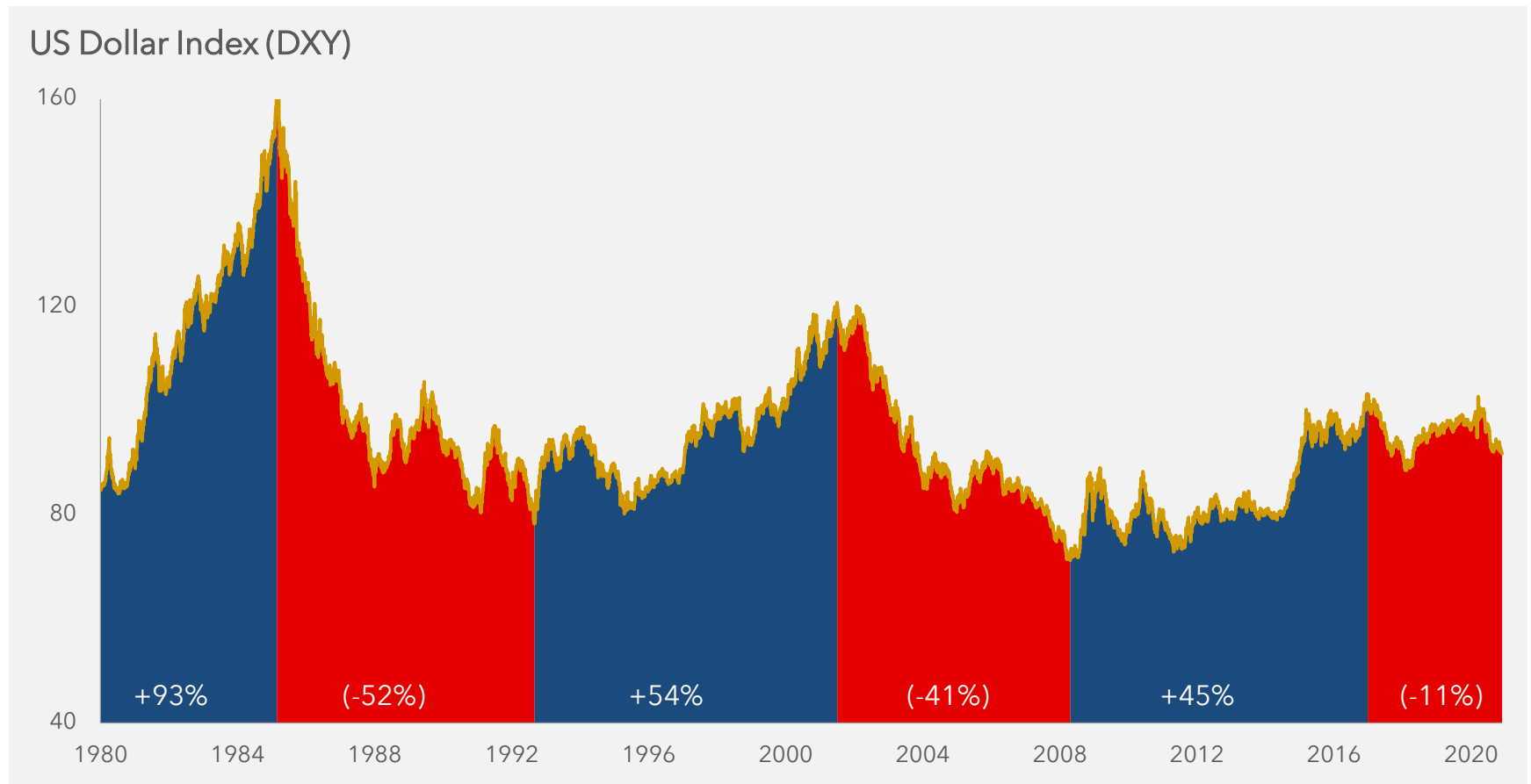
Source: (1-8) FRED. ICE BofA OAS indices. Data as of November 30, 2020.

17 US Dollar Weakness

For both cyclical and structural reasons, the US dollar is poised to continue a multi-year depreciation cycle. Dollar weakness should be reinforced by a more stable US trade policy regime, as well as by a global growth recovery expected to displace US “exceptionalism.”

US Dollar Structurally Weaker

The US dollar has historically traded in 5-7 year strengthening and weakening cycles, albeit with variance by currency pair within cycles. For a combination of structural and cyclical reasons, the US dollar is still in the early stages of a multi-year weakening cycle.



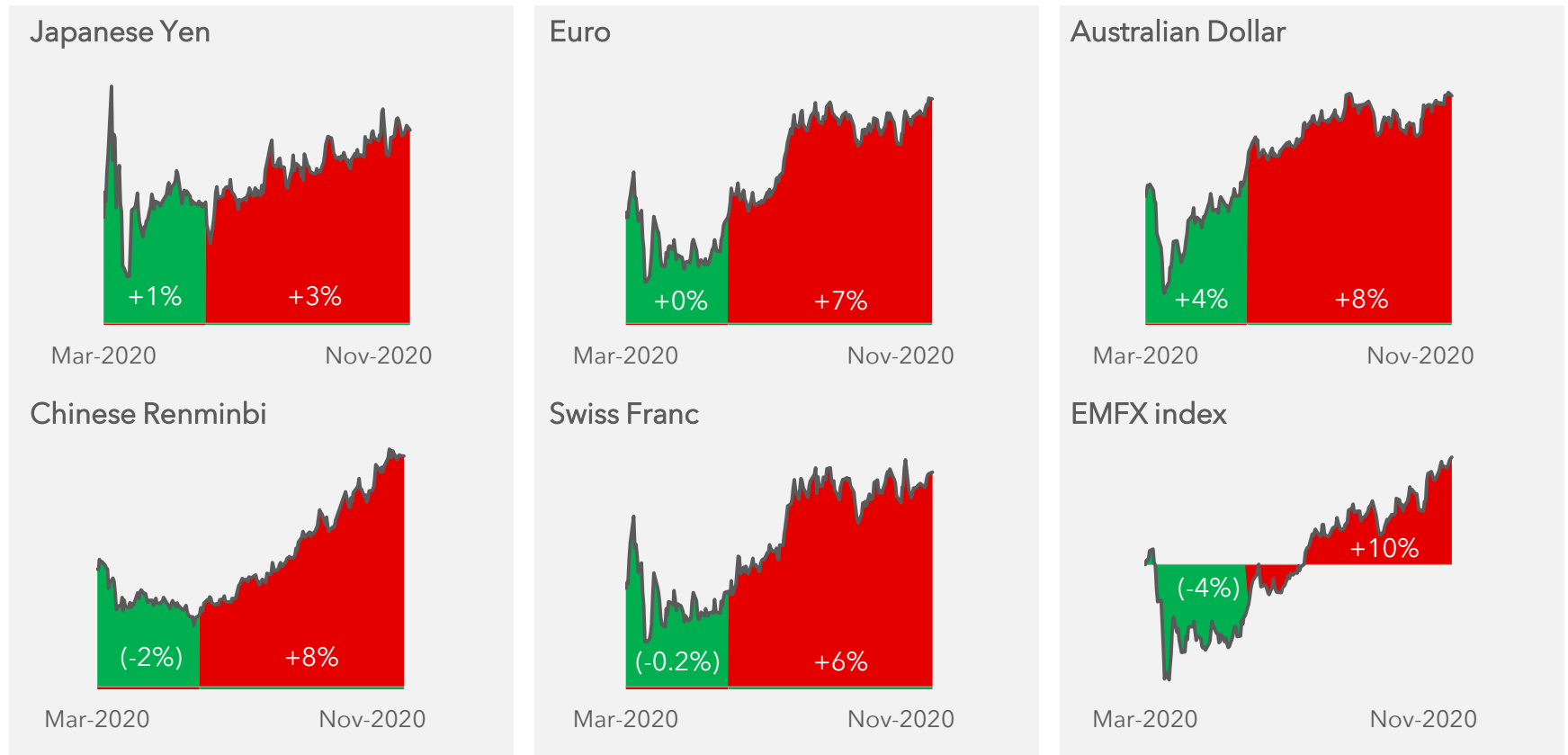
Source: (1) Bloomberg. Data as of November 30, 2020.

USD Underperforms in COVID Recovery

Following the initial flight to quality of COVID-19 Wave #1 in early 2020, the US Dollar has largely underperformed as the global growth recovery story has displaced the "US exceptionalism" narrative post tax reform in recent years

■ March 1 – June 1: COVID wave #1

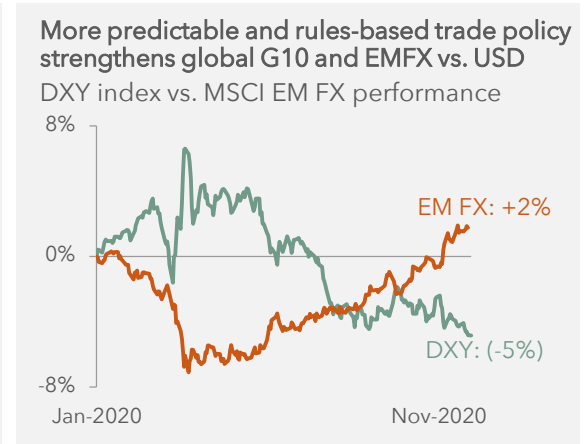
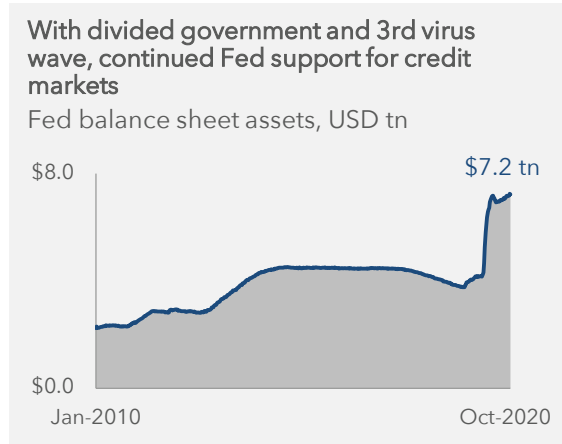
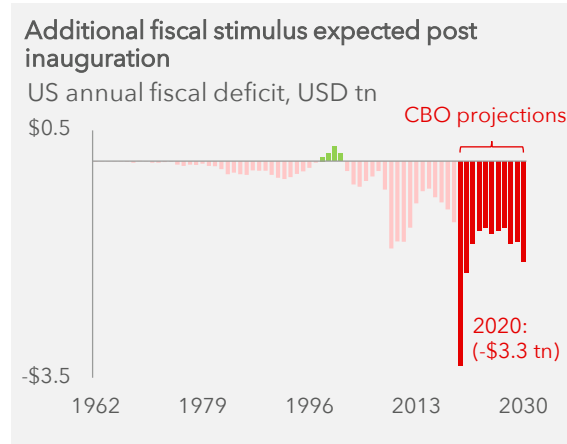
■ June 1 – present: COVID wave #2 & #3



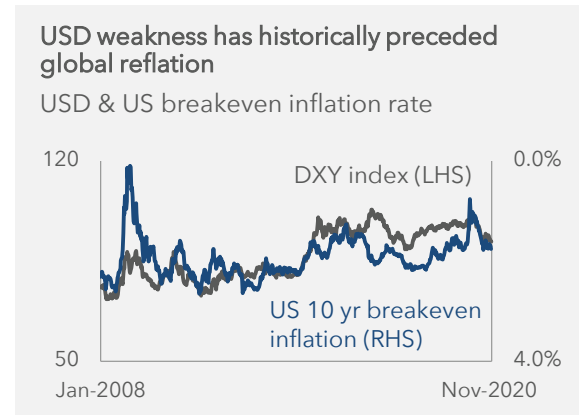
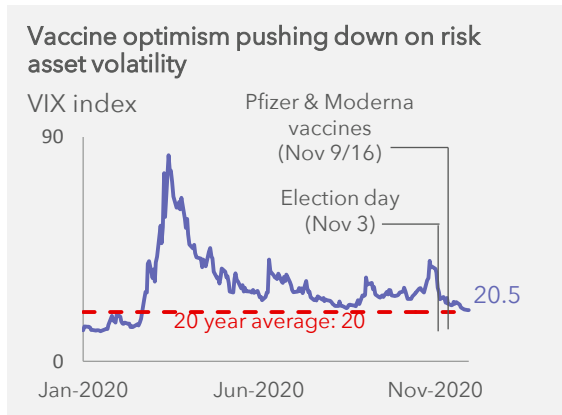
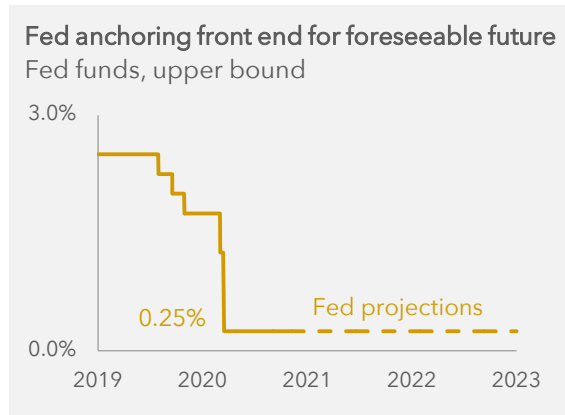
Source: (1-6) Bloomberg. Data as of November 30, 2020. All currencies vs. USD. Axis inverted to show appreciation vs. USD.

Key Drivers of USD Weakness

US election implications for lower USD



Structural forces for lower USD



Source: (1) CBO. Budget Projections. September 2020. (2-5) Bloomberg. Data as of December 1, 2020. (6) Oxford Economics "Global Asset Allocation FX - USD set to grind lower" August 6, 2020.

2020 – 21 Currency Forecast

Derek Halpenny, MUFG's European Head of Global Markets Research, is forecasting US Dollar weakness against most major currency pairs in the year ahead

FX Forecasts

Currency pair	Spot (11/30)	Q4 2020	Q1 2021	Q2 2021	Q3 2021
EUR / USD	1.20	1.22	1.22	1.24	1.25
GBP / USD	1.33	1.38	1.33	1.35	1.35
USD / JPY	104	104	102	101	100
USD / CNY	6.58	6.50	6.40	6.30	6.20
AUD / USD	0.73	0.74	0.75	0.76	0.77
NZD / USD	0.70	0.71	0.72	0.72	0.73
USD / CAD	1.30	1.29	1.28	1.27	1.26
USD / NOK	8.86	8.65	8.57	8.31	8.12
USD / SEK	8.55	8.32	8.24	8.07	7.96
USD / CHF	0.91	0.89	0.89	0.88	0.88
USD / MXN	20.14	21.00	20.50	20.50	20.50
USD / BRL	5.38	5.10	5.40	5.30	5.22

Source: (1) MUFG Foreign Exchange Outlook. December 2020.

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UST Yield Curve Steepening

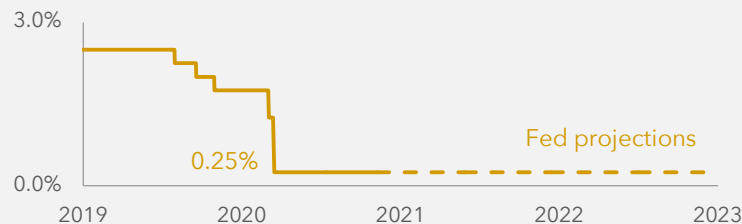
MUFG's rates strategy team has revised its UST yield forecast higher on improved economic data, strong policy commitment, and vaccine progress.

Drivers of Yield Curve Steepening

While a severe spike in COVID-19 cases and any subsequent government lockdowns could cause near-term flattening in the curve, longer term, expectations for a vaccine induced economic recovery, higher US fiscal deficits and Fed Funds anchored at zero are likely to cause curve steepening.

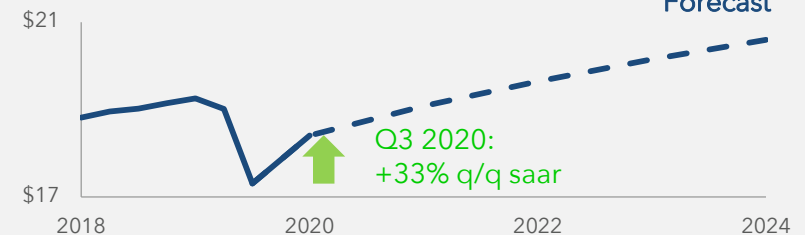
US Federal Reserve is expected to keep rates anchored at the front end

Fed funds, upper bound



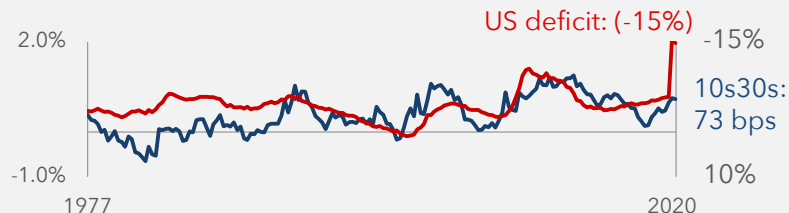
Economic recovery beginning in 2H 2020 will put upward pressure on long end yields

US real GDP, USD tn



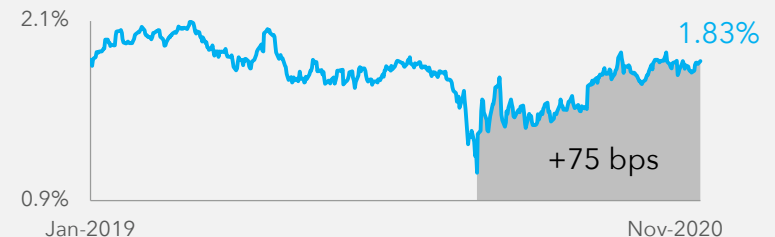
Additional fiscal stimulus under President-elect Biden will increase already rising deficits and steepen the curve further

UST 10yr30yr curve & US budget balance, % of GDP



Longer term, US economic recovery and additional fiscal stimulus will cause inflation expectations to rise

US 5yr5yr breakeven



Source: (1, 4) Bloomberg. Data as of November 30, 2020. (2) Oxford Economics "2020 US Election Debrief". Bloomberg. Data as of November 30, 2020. (3) Oxford Economics. "US steepening no threat to EM value." October 14, 2020. Budget balance is quarterly value.

US Rates Forecast

John Herrmann, MUFG's US rates strategist, recently revised his longer term (10 and 30 year) UST yield forecasts higher on the back of a stronger US economic recovery than previously anticipated

US Rates Forecast

	Spot (11/30)	Q4 2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021
1 year UST	0.11%	0.14%	0.16%	0.18%	0.20%	0.22%
2 year UST	0.15%	0.18%	0.22%	0.24%	0.26%	0.28%
3 year UST	0.19%	0.26%	0.30%	0.33%	0.36%	0.39%
5 year UST	0.36%	0.46%	0.52%	0.59%	0.66%	0.71%
10 year UST	0.85%	0.96%	1.07%	1.15%	1.22%	1.29%
30 year UST	1.58%	1.73%	1.81%	1.89%	1.98%	2.06%

Source: (1) MUFG Rates Strategy (John Herrmann). Data as of November 30, 2020.

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Technical Demand for Yield

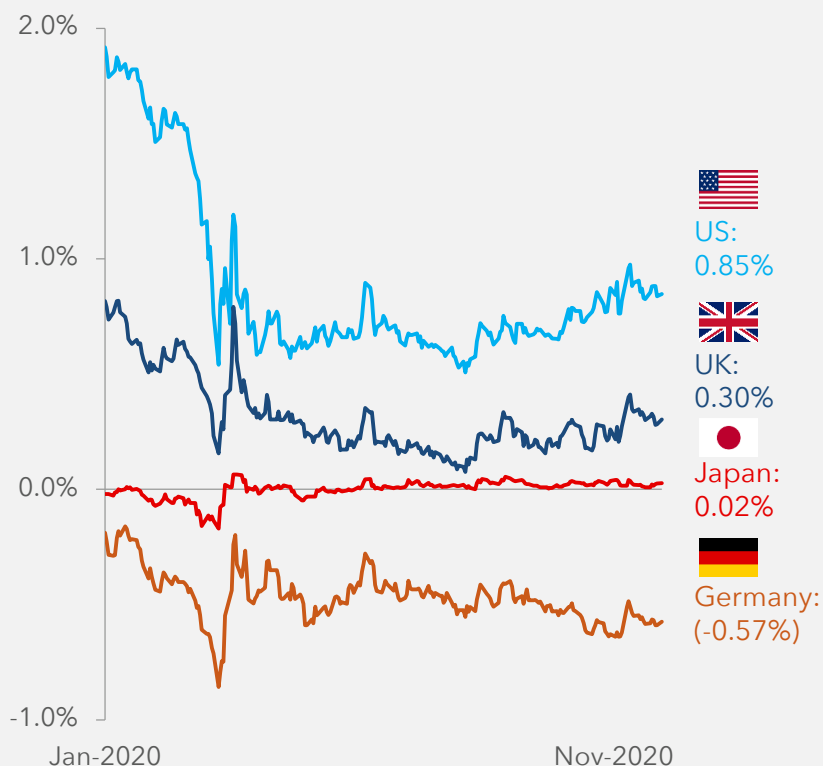
With over \$17 trillion of global negative yielding securities, tens of trillions of global investor demand will continue to seek the strong balance sheets and yield offered by US corporate credit and Treasuries.

Technical Demand for Yield

As global central banks have implemented extraordinary monetary easing, and the amount of global negative yielding securities has risen above \$17 trillion, US government and corporate credit have become an attractive source of yield for global investors, even as spreads tighten



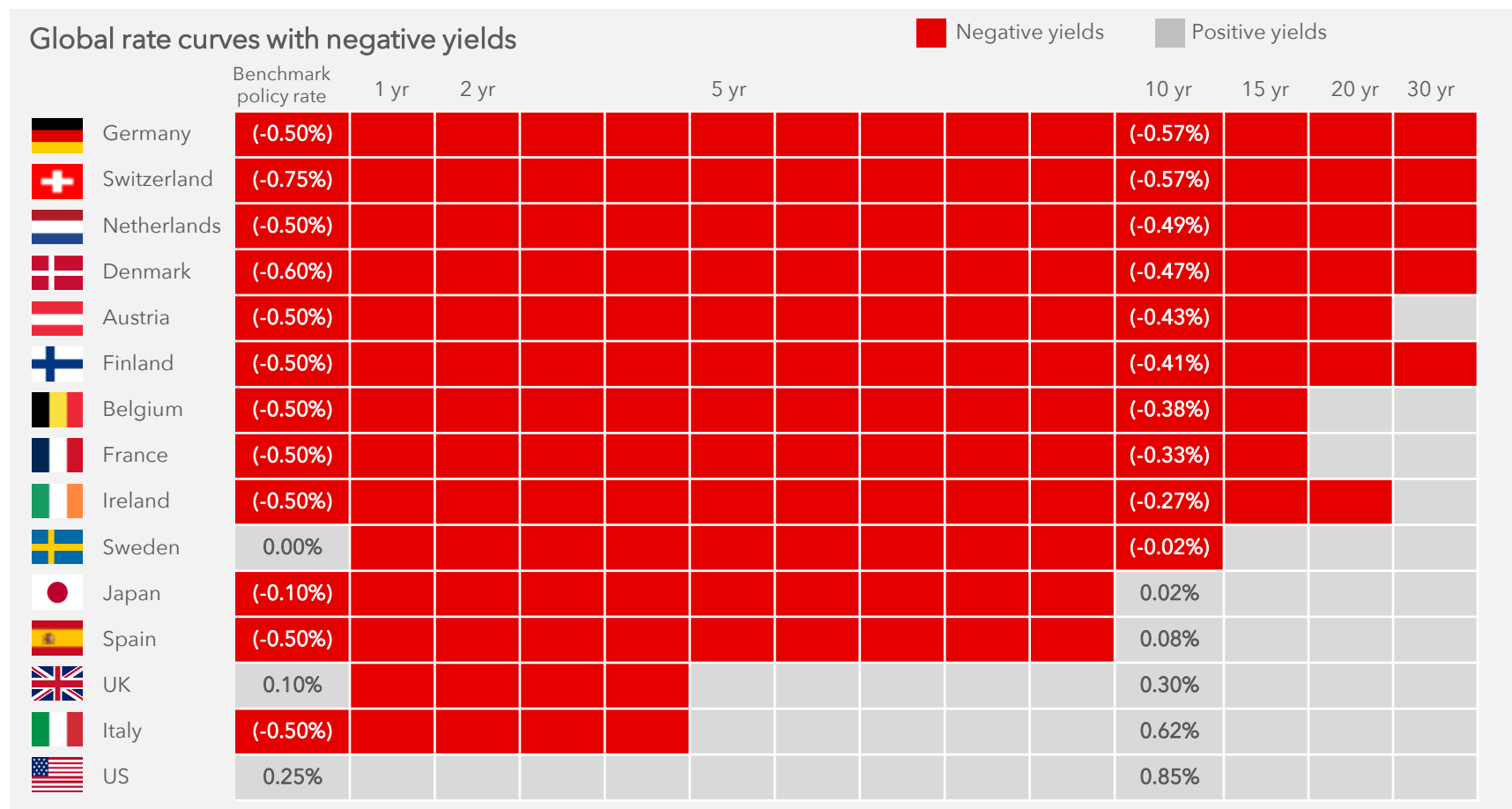
10 year government bond yields



Source: (1-3) Bloomberg. Data as of November 30, 2020. Index is Bloomberg Barclays Global Aggregate Negative Yielding Debt Market Value. Average aggregate corporate yield is yield to worst.

Negative Yields Out the Curve

Global government and corporate negative yielding debt outstanding is now over \$17 trillion, surpassing prior record levels reached in 2019. Government debt is negative out the entire curve in Germany, Switzerland, the Netherlands, Denmark and Finland. With benchmark policy rates expected to remain in negative territory, the global search for yield theme of the last decade has become even more pronounced.



Source: (1) Bloomberg. Data as of November 30, 2020. US benchmark is upper bound. ECB is the deposit facility rate. Switzerland is sight deposit rate. Denmark is certificates of deposit rate.

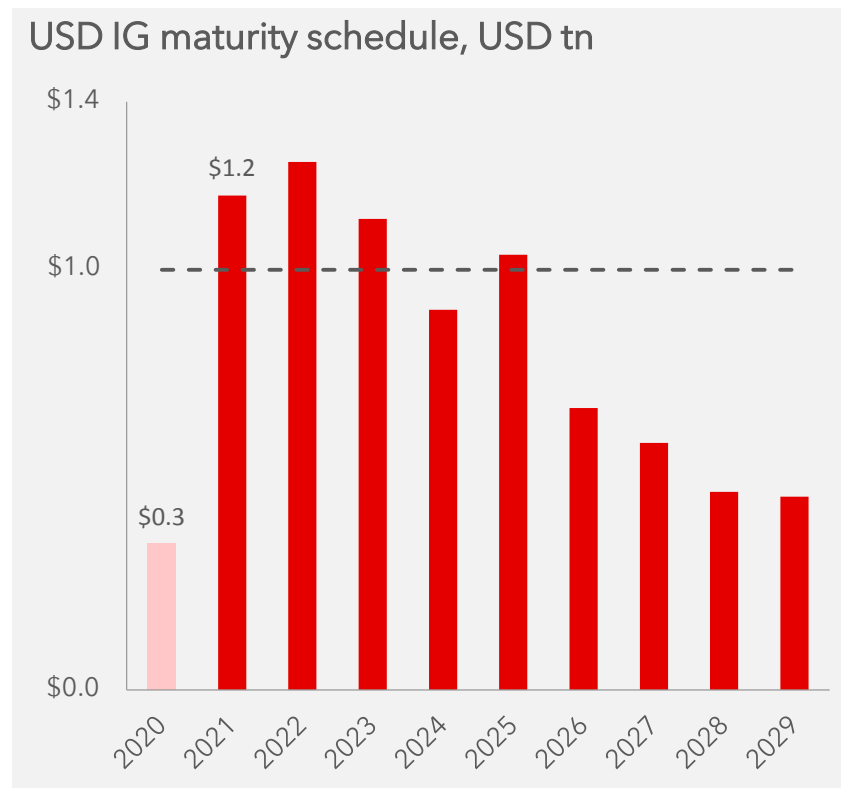
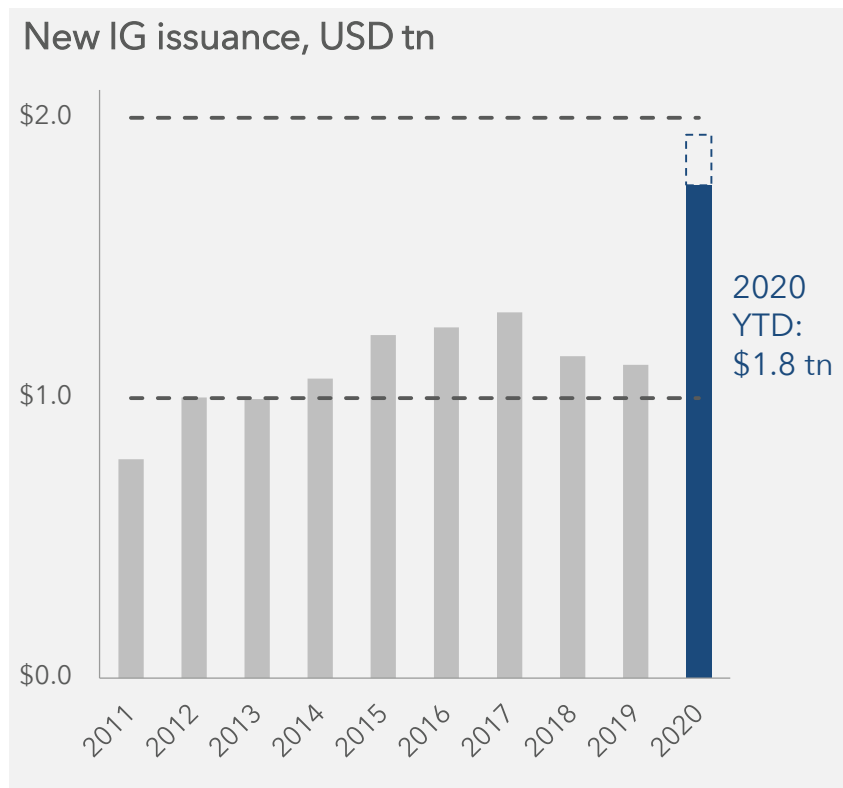
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Resilient USD Credit Markets

While COVID-19 has precipitated an acceleration of the US credit default cycle, the fundamental and technical attributes of US corporate credit remain attractive.

Technicals Support Further Tightening

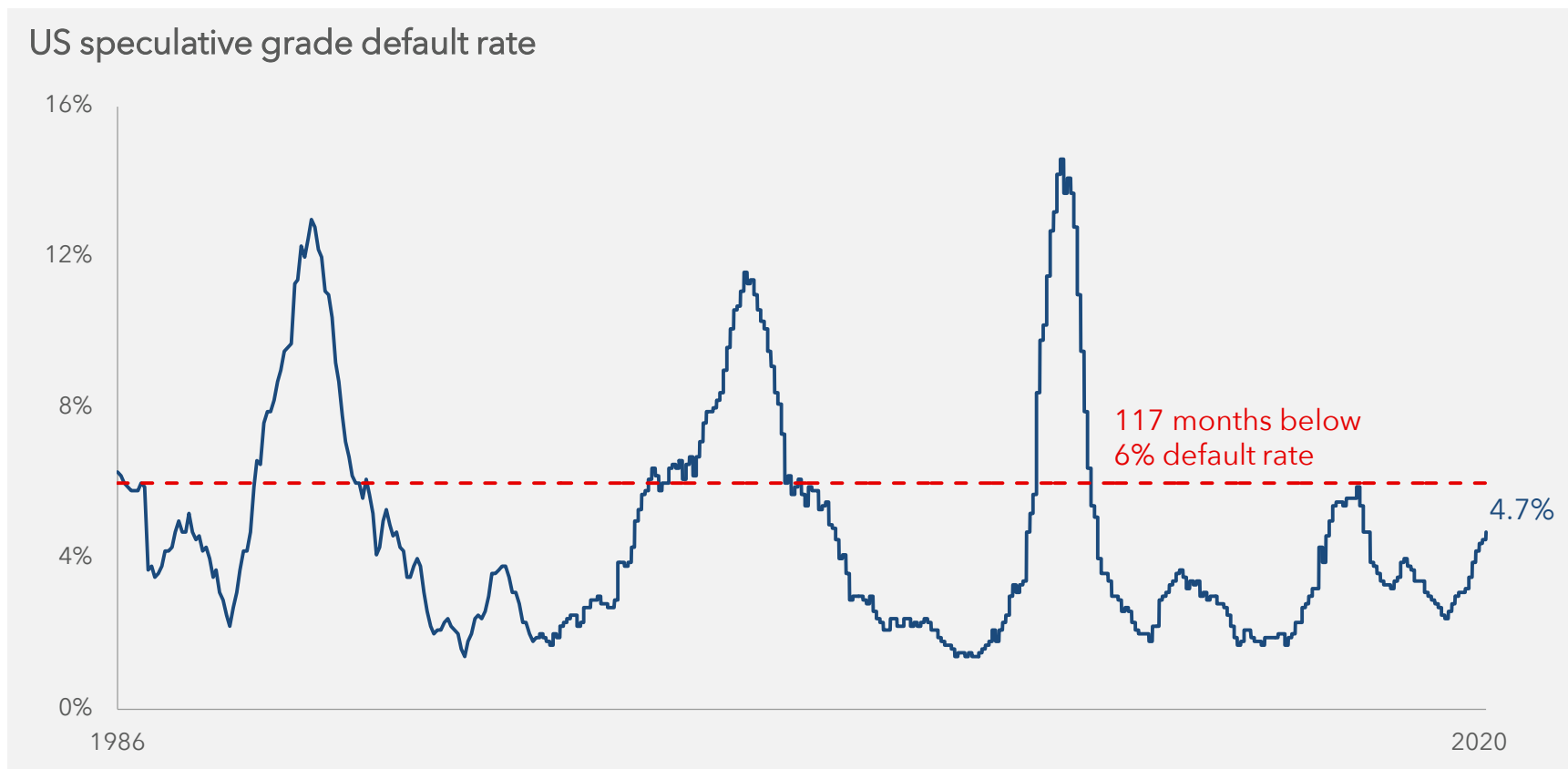
The record, liquidity driven pre-funding in USD corporate credit markets in 2020 has: (i) further termed out US corporate debt maturity obligations; (ii) reduced near term market default risk; and (iii) improved the supply-demand dynamics for issuers going into 2021



Source: (1) MUFG Syndicate. 2020 YTD is through November 27, 2020. (2) CreditSights 2020 reflects remaining to refinanced. Data includes about \$180bn/year of quasi government debt (Reynolds, Lyons).

Default Cycle Stabilizing

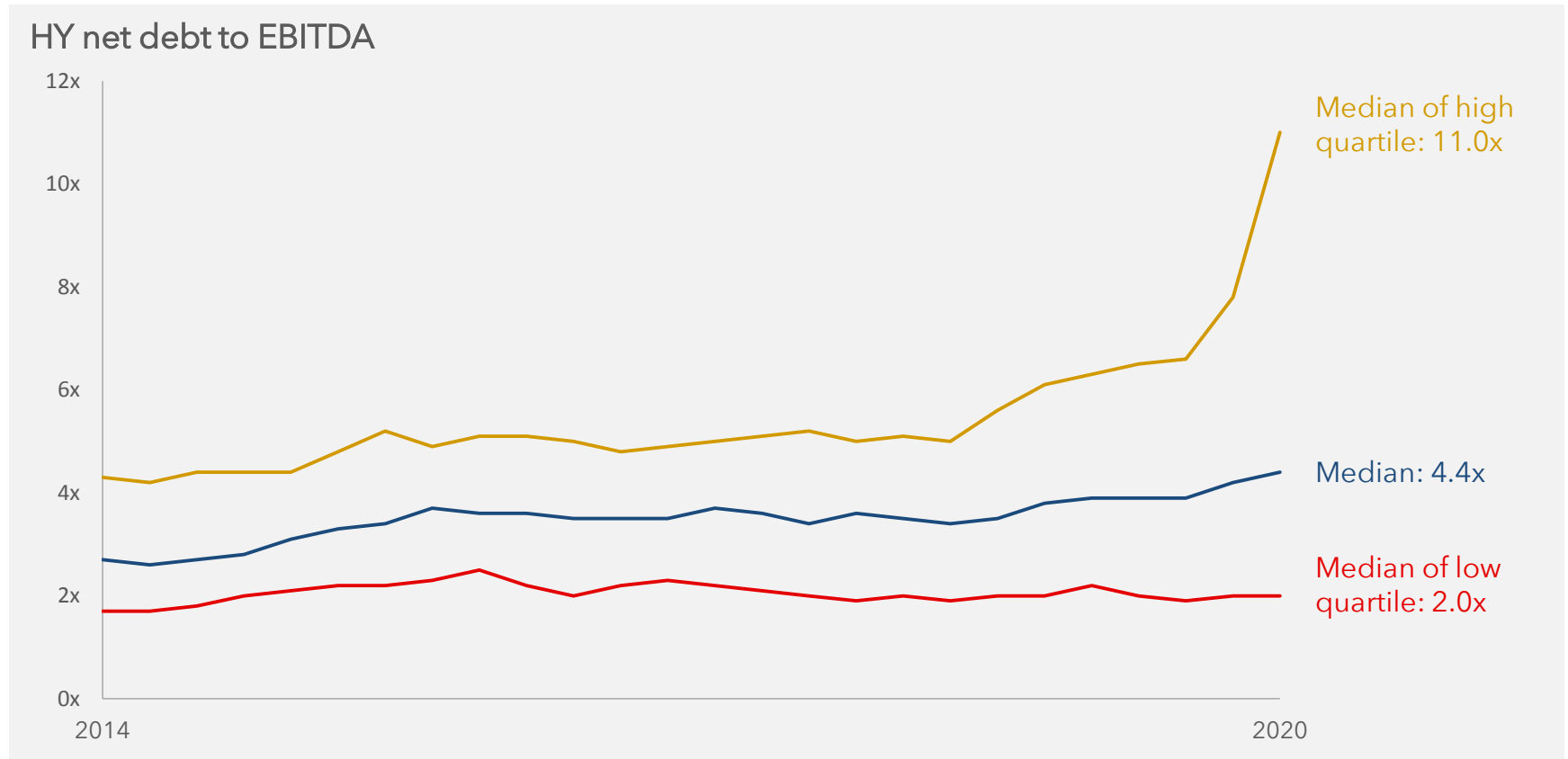
COVID-19 precipitated an acceleration of the US credit default cycle, the pace of which has since stabilized on the back of extraordinary policy support and a better than expected economic recovery. Nonetheless, the lower quartile of weaker credits continues to carry disproportionately large leverage ratios vis-a-vis the rest of the market.



Source: (1) CreditSights (Reynolds). Trailing 12 month default rate.

Leverage Rising in Weakened Sectors

The vast majority of companies have been able to access credit markets and pre-fund at extremely low cost debt levels. However, sectors hit hardest by the COVID-19 pandemic have dramatically increased net debt to EBITDA levels as a result of falling top line revenue. With a 3rd wave likely to last through the winter months ahead, default rates will likely increase, albeit at a more stable pace than earlier this year.



Source: (1) CreditSights (Reynolds).

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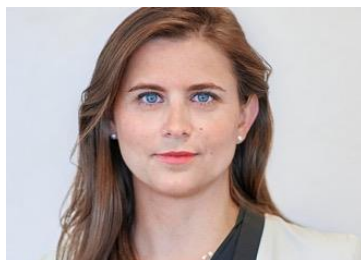
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