

**Blackstone**

# No Clarity until 2022

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### **View of the Recovery: It Will Take Longer Than You Think**

We maintain the view that the US, along with much of the developed world, will remain below 2019 levels of economic activity until at least 2022. The recovery has been supported thus far by generous fiscal stimulus, especially in the US. However, the recovery is not yet self-sustaining and risks to the downside remain. As a result of the weak growth we expect, monetary policy will remain expansive and interest rates will remain “lower for longer.” Policy rates in the US will remain at zero for the foreseeable future, while rates will stay at or below zero in many other developed countries.

Among emerging economies, the outlook is mixed. China leads the global recovery as the only economy to have already exceeded pre-COVID levels of economic activity, and is the only country whose economy is expected to expand in 2020. Other emerging markets are seeing downward revisions to growth forecasts as they continue to grapple with containing COVID outbreaks and subsequent economic fallouts.

Based on current information, we are optimistic that a breakthrough in vaccine development will come sooner rather than later. With a combination of therapeutic treatments and improved preventative measures, we are also optimistic that we can avoid future widespread lockdowns. Even so, it’s important to be clear-eyed that COVID isn’t going to disappear all at once, and concerns about the virus are likely to remain a reality in our lives until at least 2022.

### **Identifying the Secular Post-COVID Trends**

By now it is broadly understood that COVID has accelerated secular trends. Identifying them and investing in related tailwinds will potentially be a significant source of alpha.

We anticipate secular changes in many key areas, which include:

- The nature of retailing
- “Onshoring” and “reshoring” of supply chains
- Delivery of educational services
- Business and personal travel
- Length of the work week and teleworking
- Transportation and the future of public transit
- State / local government funding and essential services

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Note: As detailed in the “Disclaimers” section, the above and all subsequent commentary in this presentation reflects the personal views of Joseph Zidle, Managing Director and Byron Wien, Vice Chairman in the Private Wealth Solutions Group, and does not necessarily reflect the view of Blackstone itself.

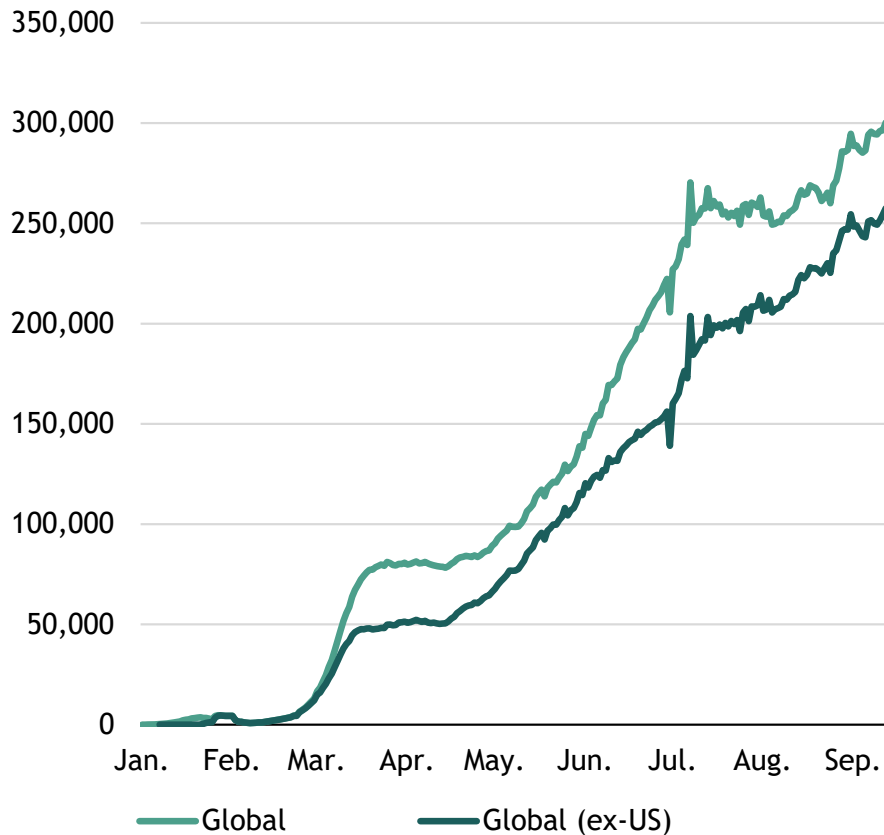
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# **I. State of the Global Recovery**

# Globally, new confirmed COVID-19 cases continue to rise; the US has yet to reach a durable trough in cases

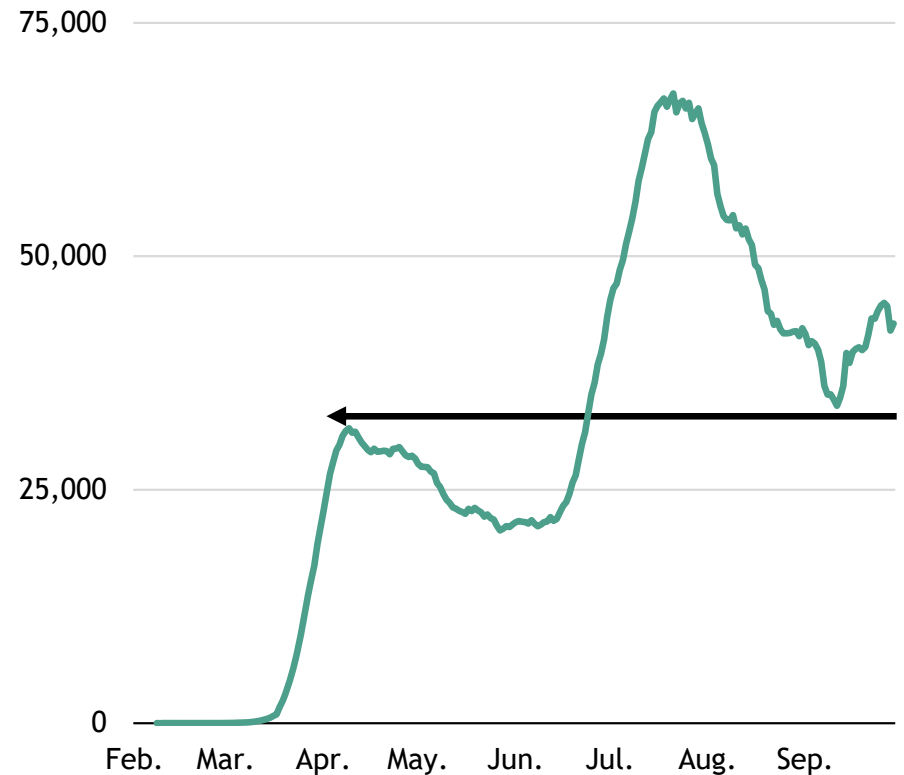
## Global New Confirmed COVID-19 Cases

(7-day moving average)



## US New Confirmed COVID-19 Cases

(7-day moving average)

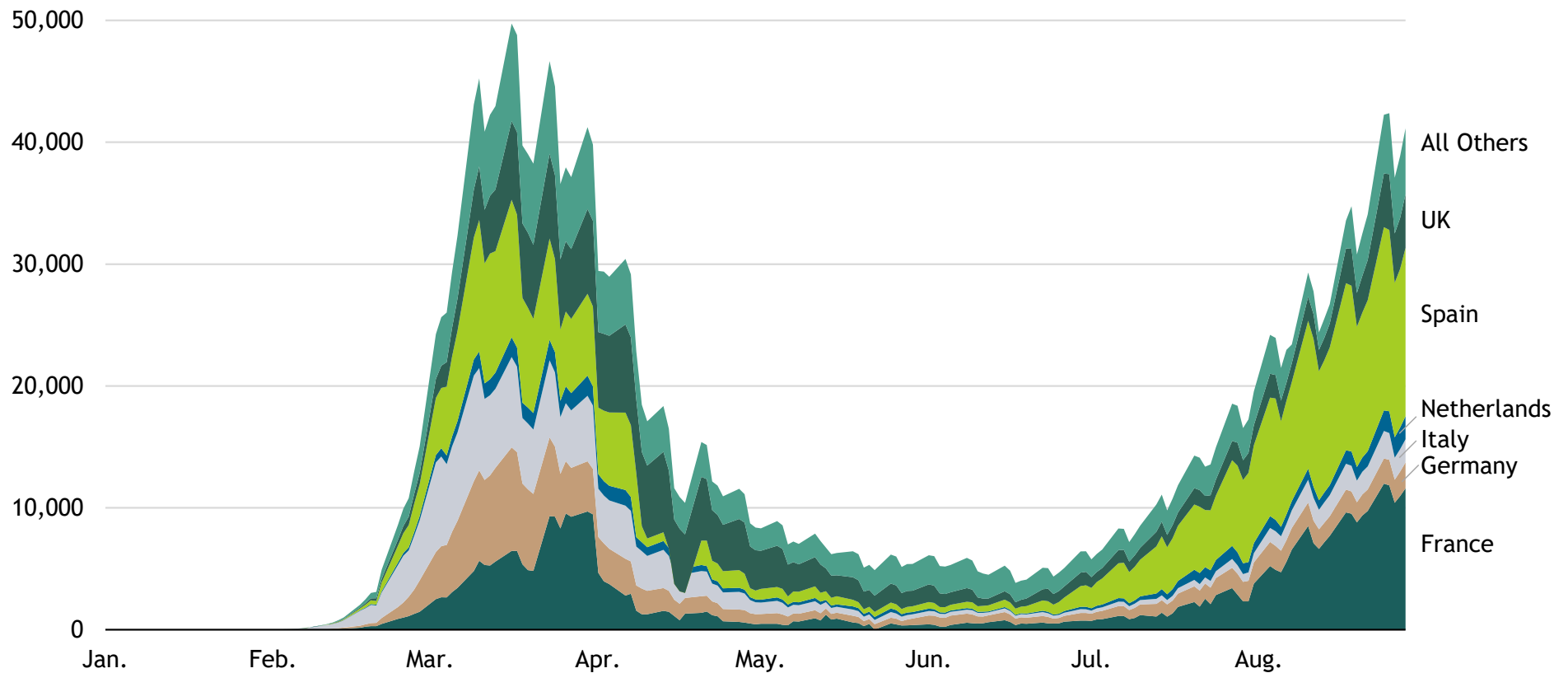


Source: Bloomberg, as of 9/30/20.

# Western Europe experiencing significant resurgence of new COVID-19 cases, nearly approaching prior highs

## Western Europe New Confirmed COVID-19 Cases

(7-day moving average)

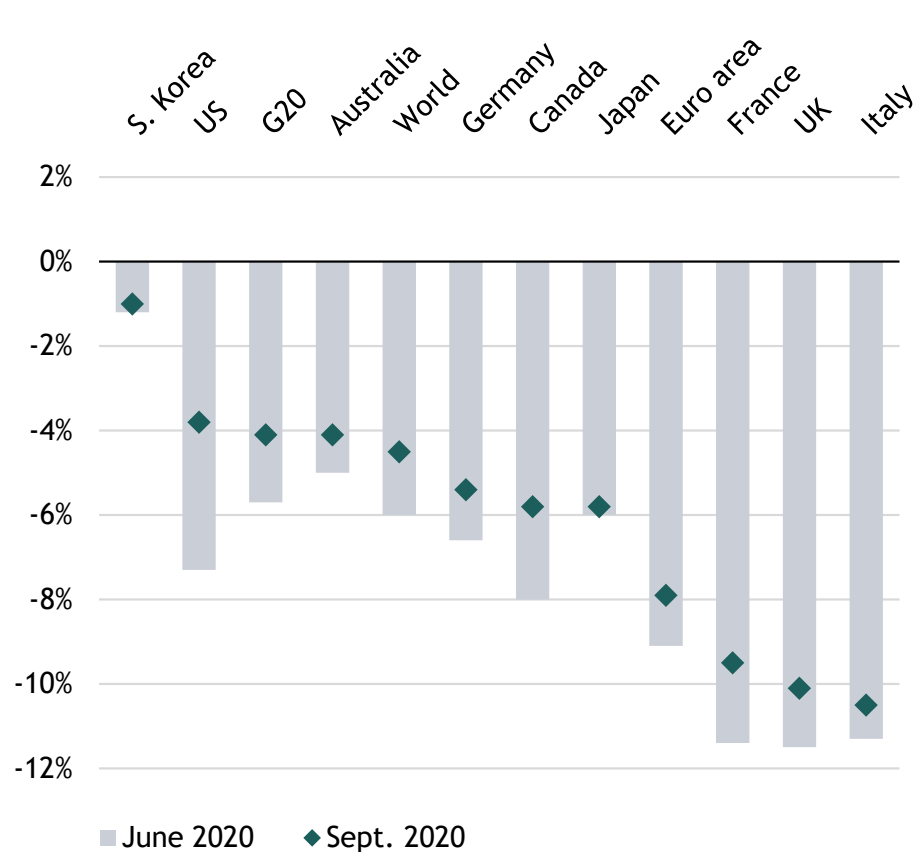


Source: Johns Hopkins University (JHU) and Haver Analytics, as of 9/18/20.

# Global growth estimates revised upward globally, but recovery uneven in less-developed economies

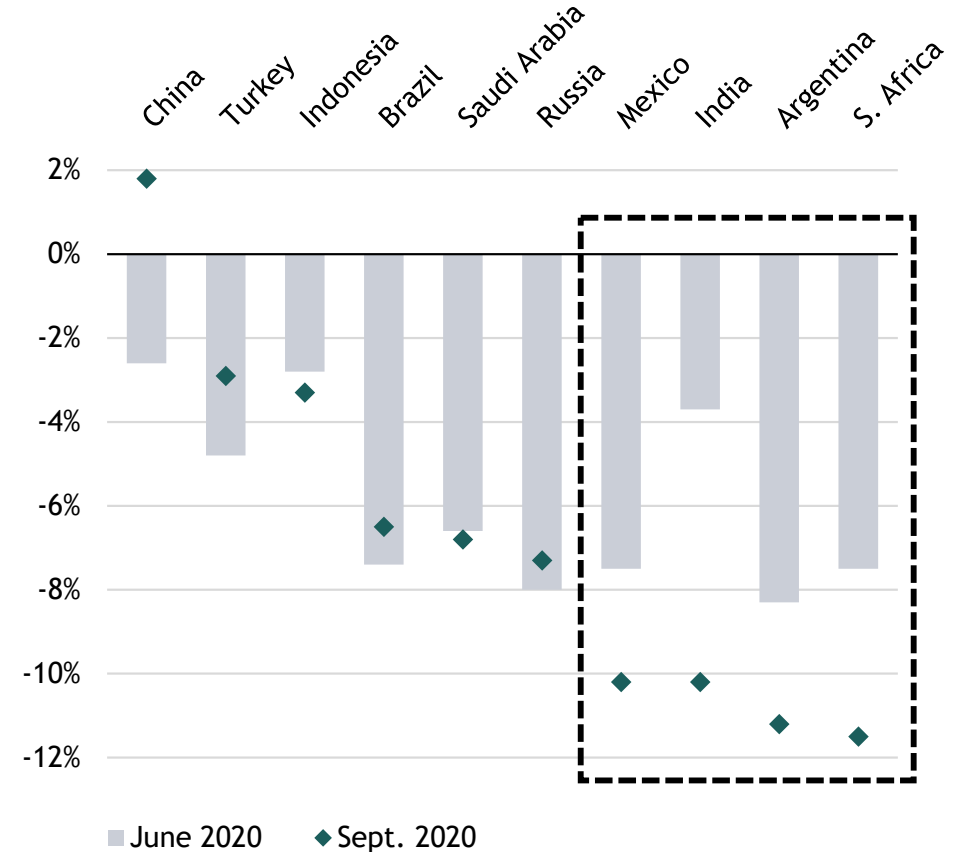
## 2020 Real GDP Growth Estimates

(developed economies)



## 2020 Real GDP Growth Estimates

(less-developed economies)

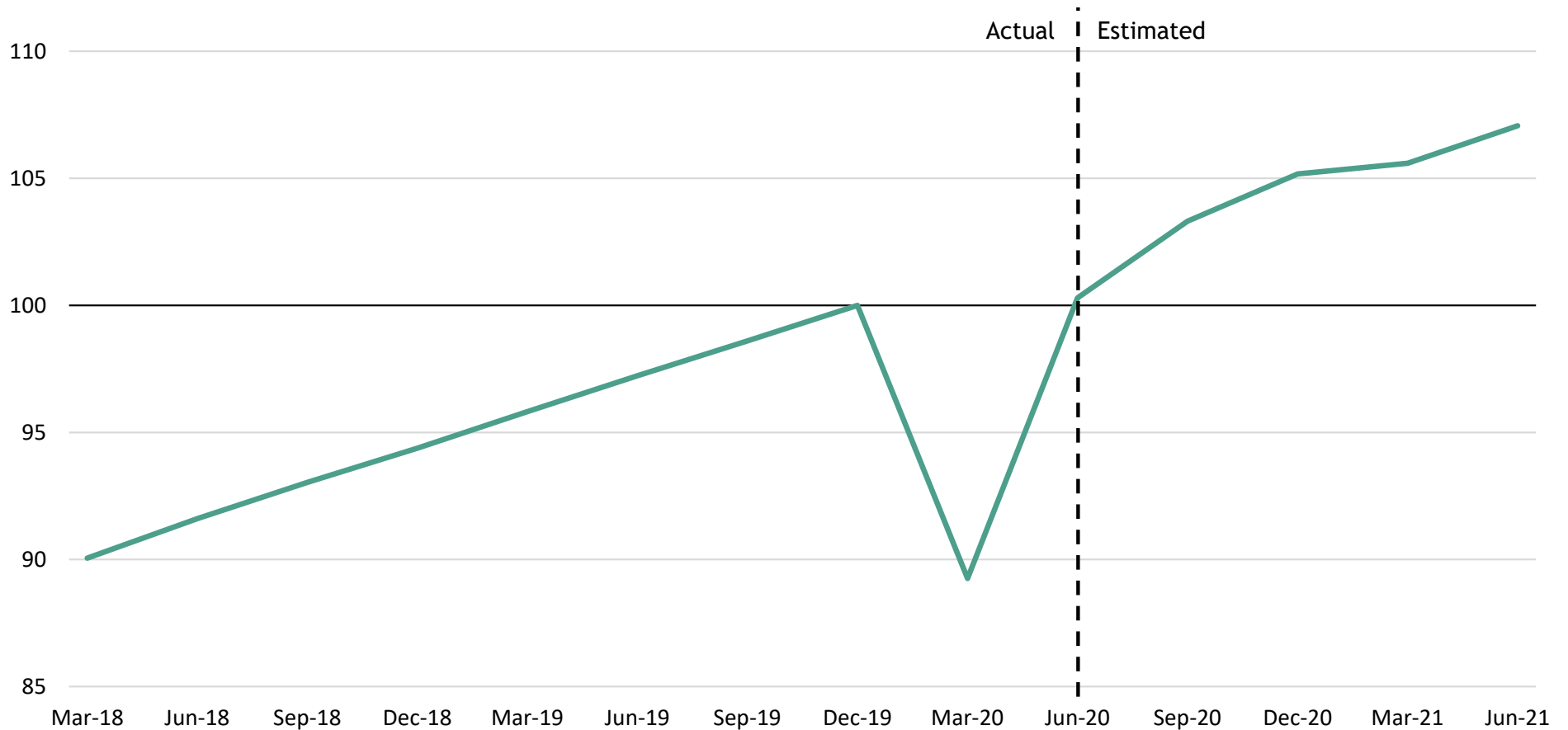


Source: OECD Interim Economic Outlook, as of 9/16/20.

# China is leading the recovery as the first country to have recovered to pre-COVID levels of economic activity

## China Real GDP

(indexed to 100 as of Dec-19)



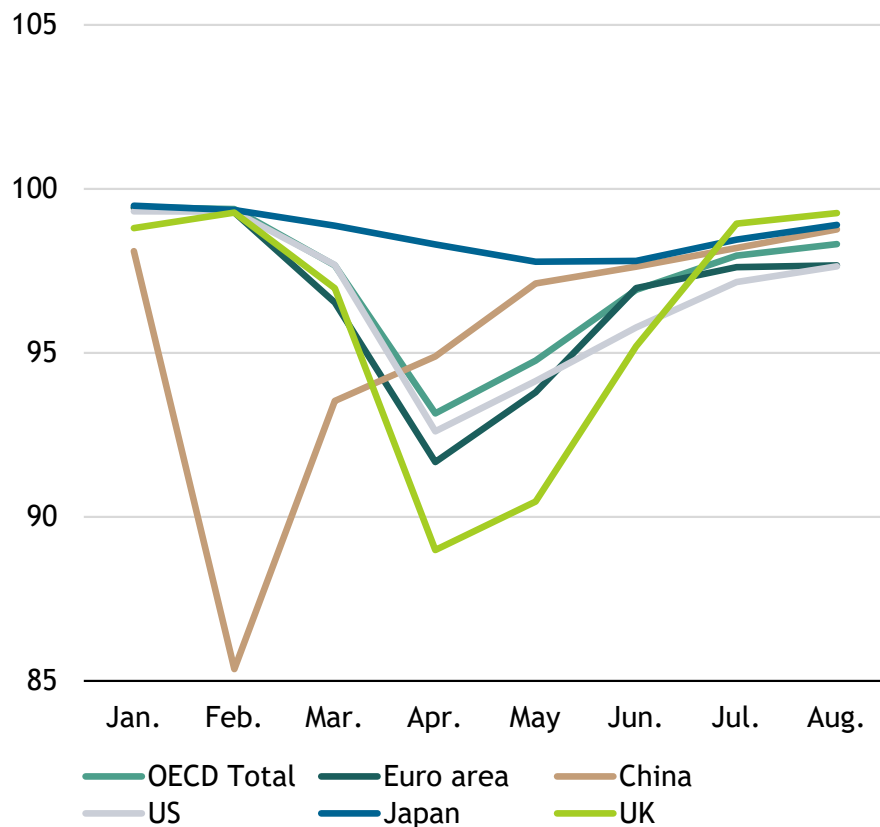
Source: Haver Analytics and Bloomberg, as of 9/30/20.



# Global leading economic indicators continue to improve, but the pace of improvement is slowing

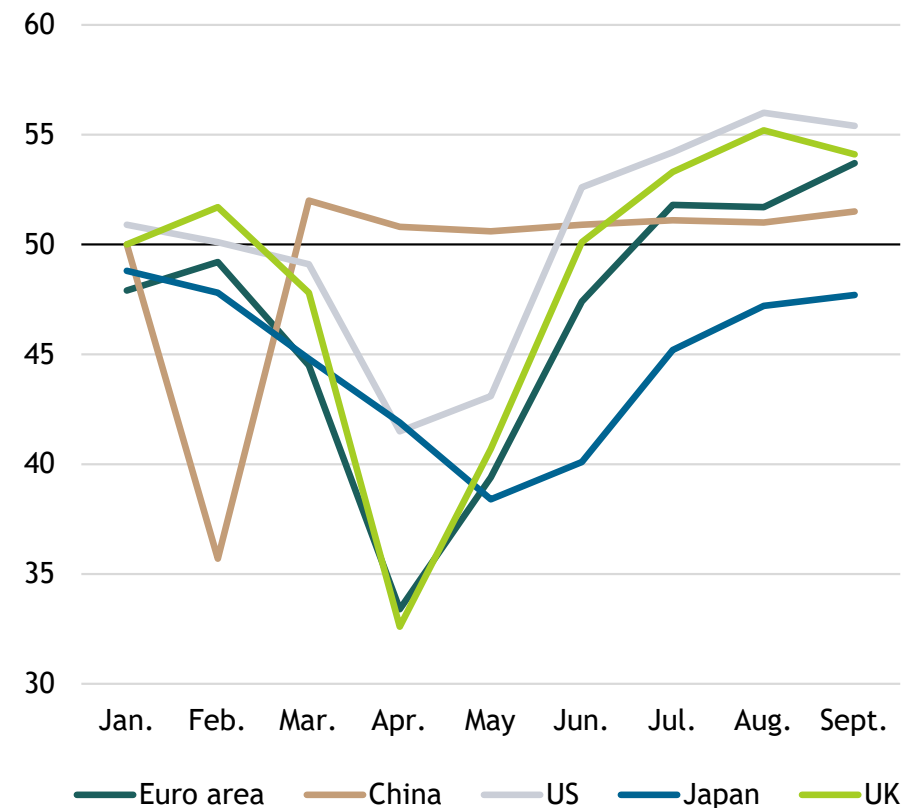
## OECD Leading Economic Indicators<sup>(1)</sup>

(2020 YTD; long-term average = 100)



## Purchasing Managers Indices<sup>(2)</sup>

(2020 YTD; above 50 = expanding)



Source: OECD, Bloomberg, Haver Analytics and Blackstone Investment Strategy.  
 (1) As of 8/31/20. Represents composite leading indicators (amplitude adjusted).  
 (2) As of 9/30/20.

## These are the indicators we are watching carefully for continued recovery in the US economy

	US Economic Indicators	YTD Change (Since Feb-20)	M/M Change (Latest)	M/M Trend
Leading	Housing Permits <sup>(1)</sup>	+3%	+18%	▲
	10Y Treasury Spread over Fed Funds rate	+63 bps	+2 bps	▶
	Business Formations (4-week moving average)	+36%	-12%	▼
	Consumer Sentiment	-27%	+2%	▲
	Initial Jobless Claims (4-week moving average)	+363%	-34%	▲
	Mobility & Engagement Index (index level change)	-38	+3	▲
Coincident	Nonfarm Payrolls	-7.5%	+1%	▲
	Real Personal Income, ex-Transfer Payments <sup>(1)</sup>	-5%	+1%	▲
	Industrial Production	-7%	+0.4%	▲
	Real Manufacturing/Trade Sales <sup>(1)</sup>	-1%	+7%	▲
	Global Trade Volumes <sup>(2)</sup>	-9%	+8%	▲
	Rail Traffic – Freight Carloads	-0.3%	+28%	▲

Source: Haver Analytics and Blackstone Investment Strategy, as of 8/31/20, unless otherwise indicated. (1) As of 7/31/20. (2) As of 6/30/20.

## **II. Back to “Normal” in 2022 or Later**

# Payrolls in low-wage industries had steepest decline and recovery, but remain well below pre-COVID levels

## Payroll Trends by Wage Cohorts

(Feb. 2020 = 100)



## Current Payroll Levels by Wage Cohort

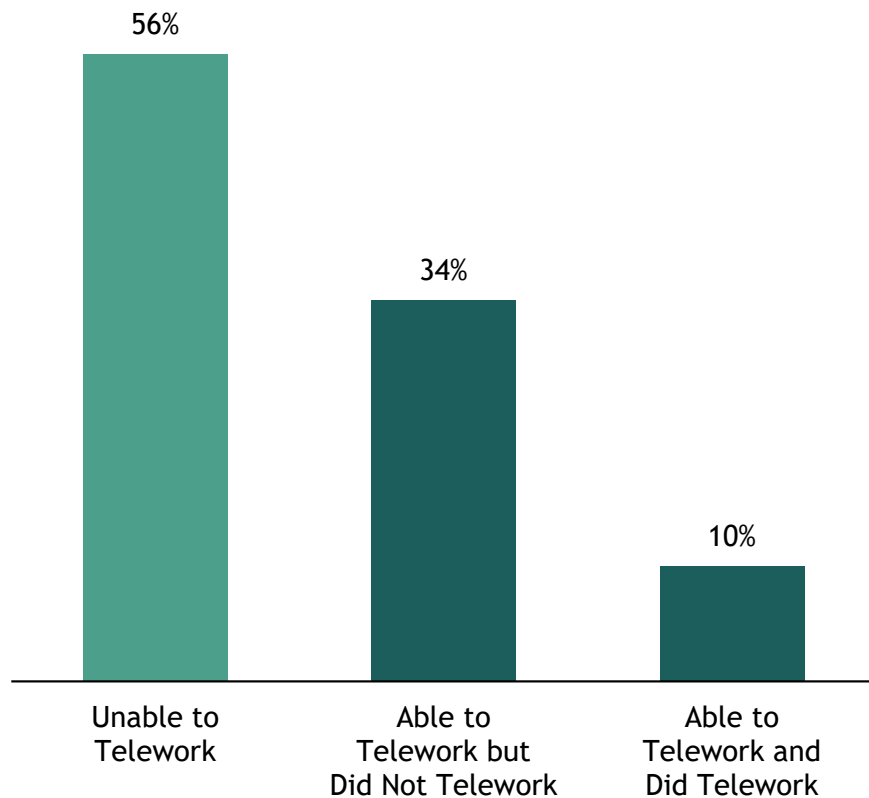
(change from Feb. 2020 to Aug. 2020)



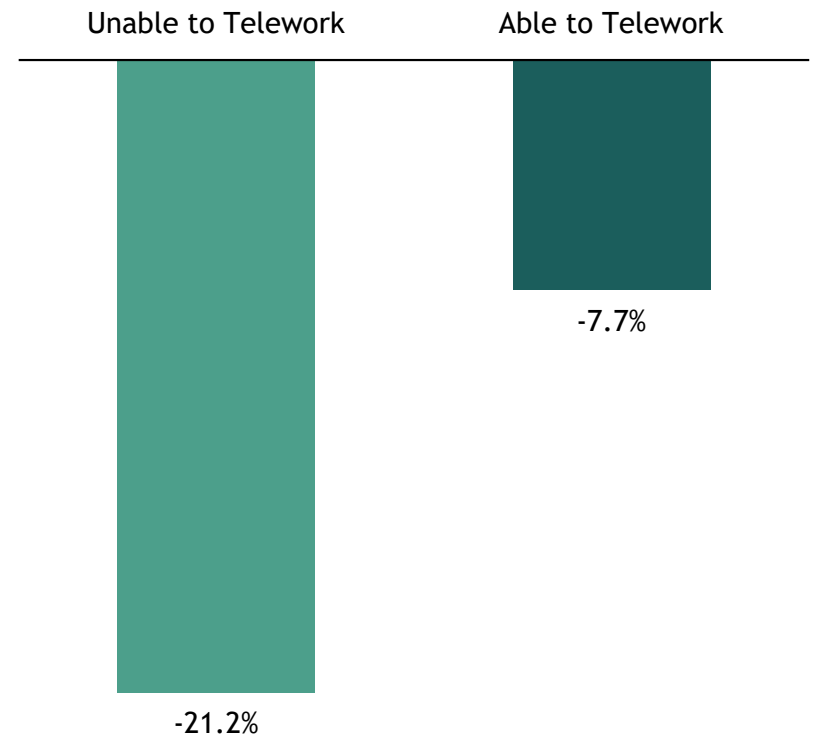
Source: Bureau of Labor Statistics, Haver Analytics and Blackstone Investment Strategy, as of 8/31/20. Represents production and nonsupervisory employees on nonfarm private payrolls. Wage cohorts based on 2019 average weekly wages according to following groupings: "Low-wage" industries (<\$750), "medium-wage" industries (\$750-\$1,000) and "high-wage" industries (>\$1,000).

# Most workers not able to telework pre-COVID; layoffs were concentrated in jobs without ability to telework

**Share of Workers, by Pre-COVID Ability to Telework and Take-up Rate<sup>(1)</sup>**  
(2016-2017)



**Estimated Change in Employment, by Occupational Ability to Telework<sup>(2)</sup>**  
(Feb. to Apr. 2020)



Source: Bureau of Labor Statistics Monthly Labor Review (June 2020).

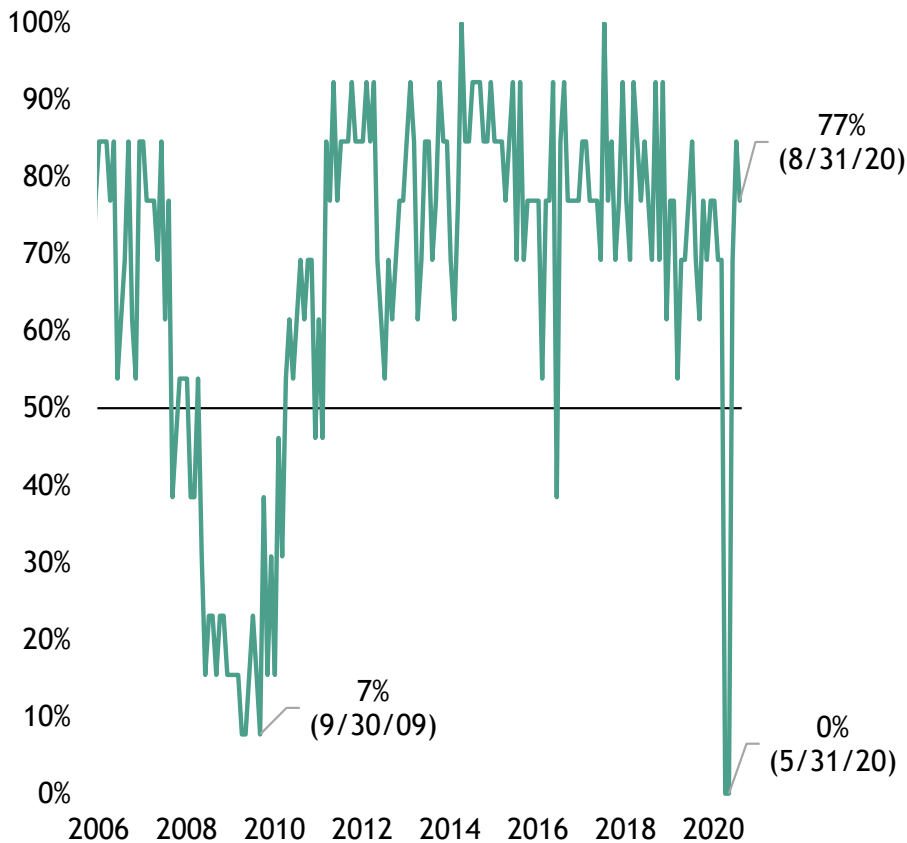
(1) Based on reported average of O\*NET-ATUS data and O\*NET-NLSY79 data.

(2) Based on authors' calculations of February-April 2020 Current Population Survey (CPS) data and O\*NET job-content data.

# Gains in employment have been broad-based, but certain industries well below pre-COVID payroll levels

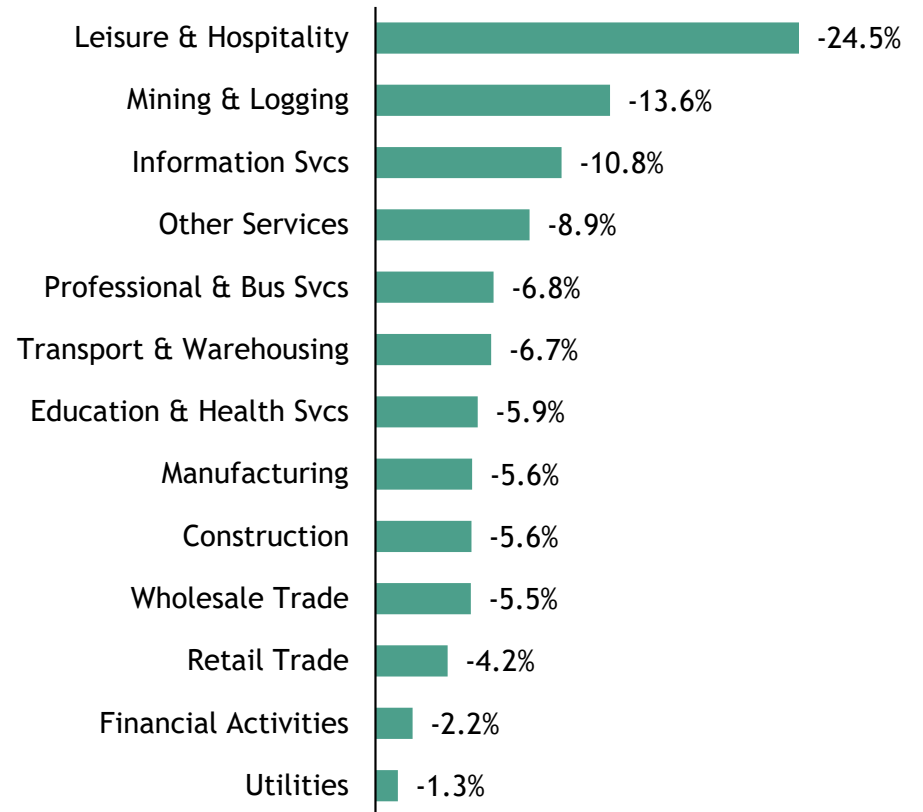
## Industry Job Gain Diffusion

(percent of industries with positive M/M change in payrolls)



## Current Payroll Levels by Industry

(change from Feb. 2020 to Aug. 2020)

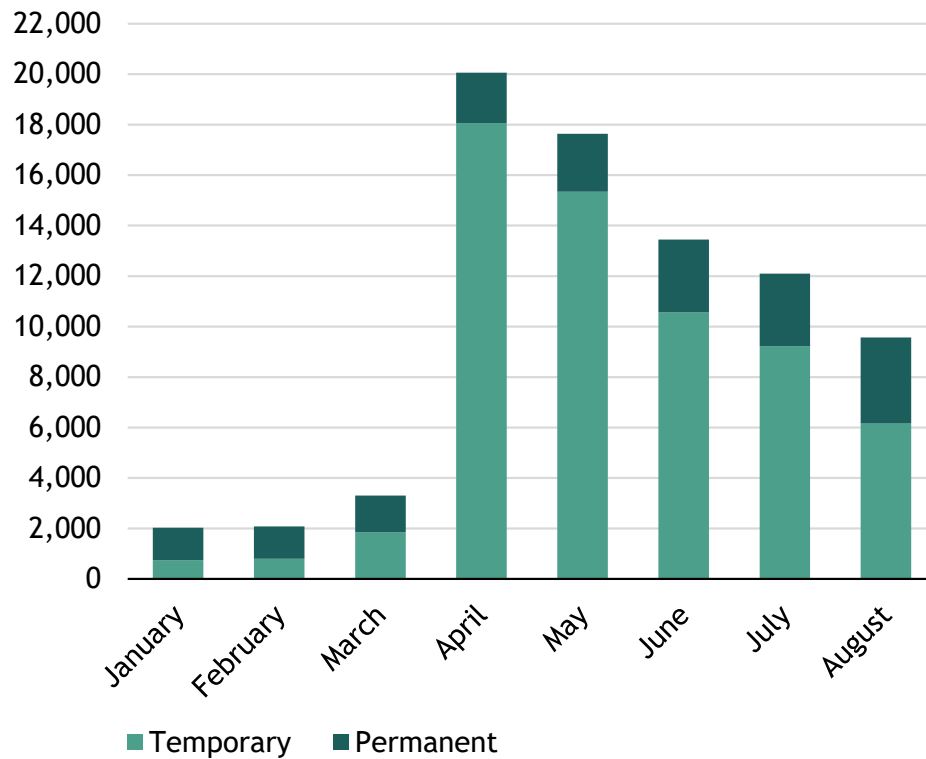


Source: Bureau of Labor Statistics, Haver Analytics and Blackstone Investment Strategy, as of 8/31/20. Represents production and nonsupervisory employees on nonfarm private payrolls.

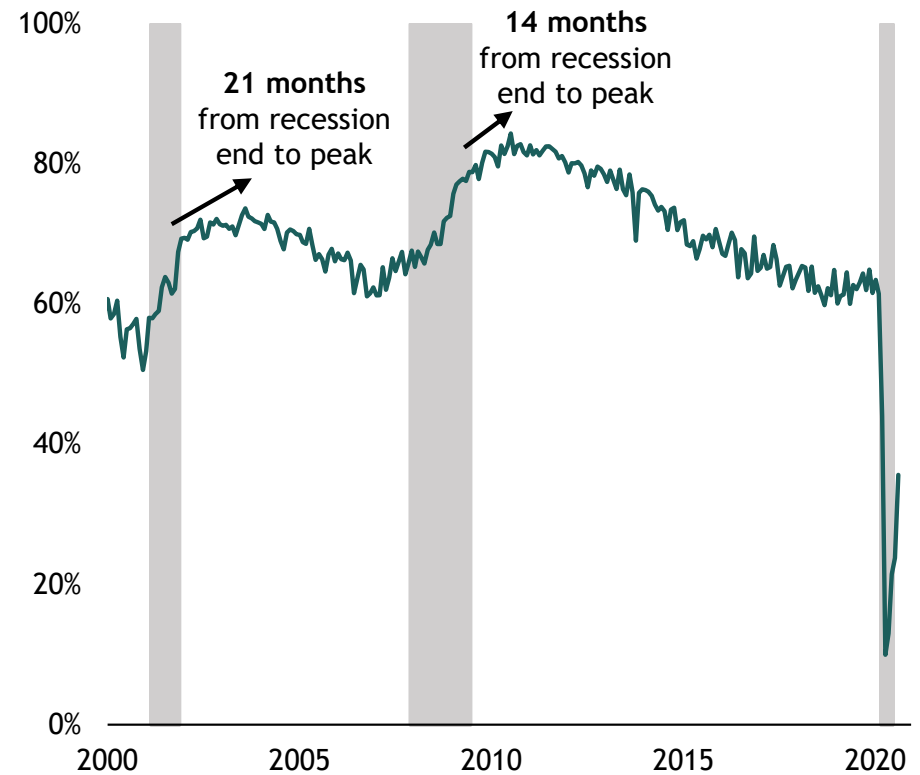
# Total number of layoffs are down, but a higher proportion of them are becoming permanent

## Number of Layoffs Classified as “Temporary” vs. “Permanent”

(2020 YTD; in thousands)



## Share of Layoffs Classified as “Permanent”

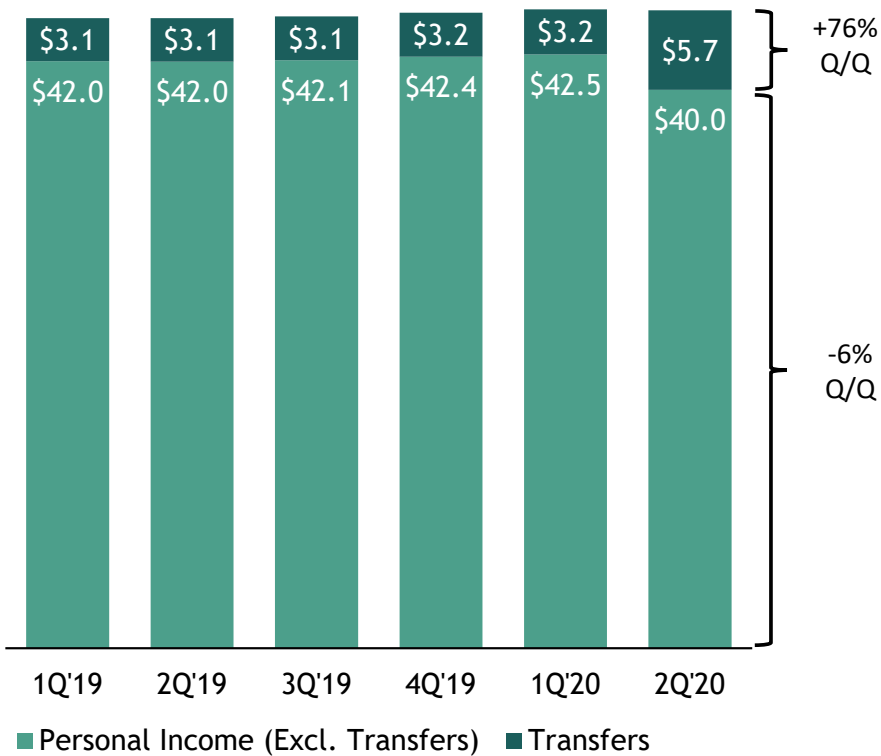


Source: Bureau of Labor Statistics, Haver Analytics and Blackstone Investment Strategy, as of 8/31/20.

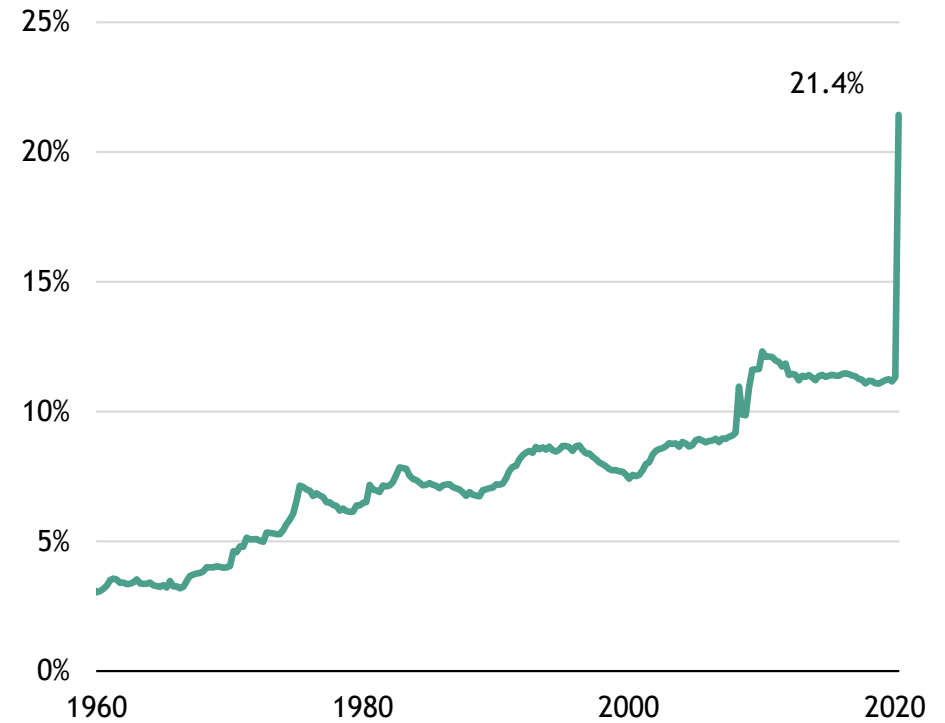
# US personal income was supported by generous government transfers, which increased +76% Q/Q in 2Q

## US Personal Income and Government Transfer Receipts

(US\$ in trillions, SAAR)



## Government Transfers Receipts as Percent of Income Received from Wages/Salary



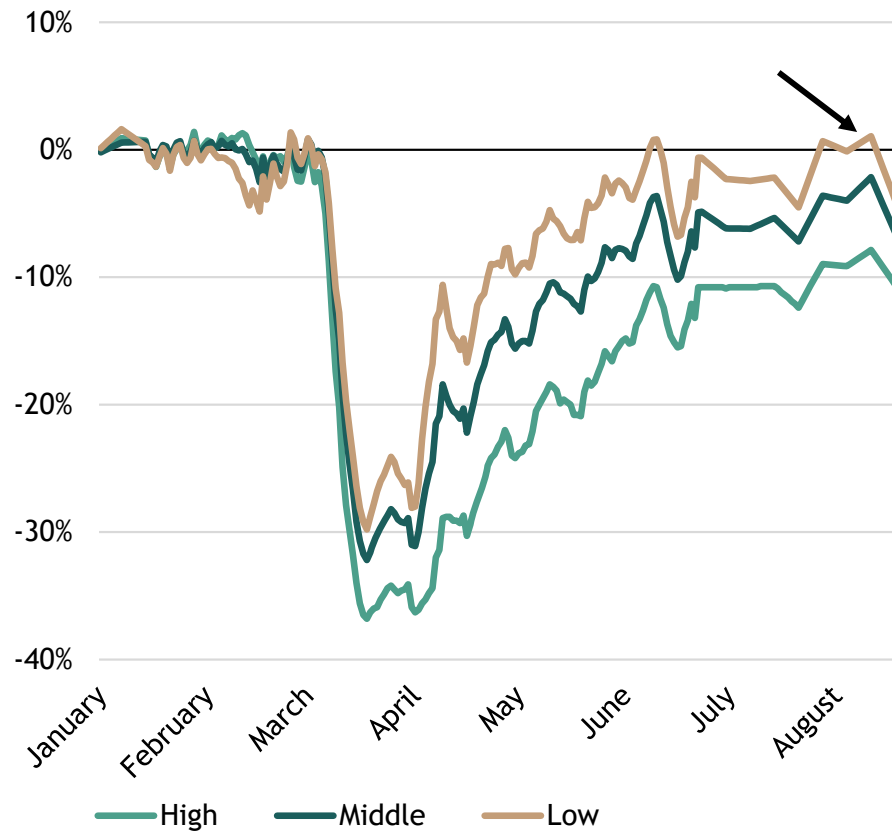
Source: Bureau of Economic Analysis, as of 6/30/20.



# Spending by low-income cohort recovered to pre-COVID levels; bottom two quintiles account for 22% of spending

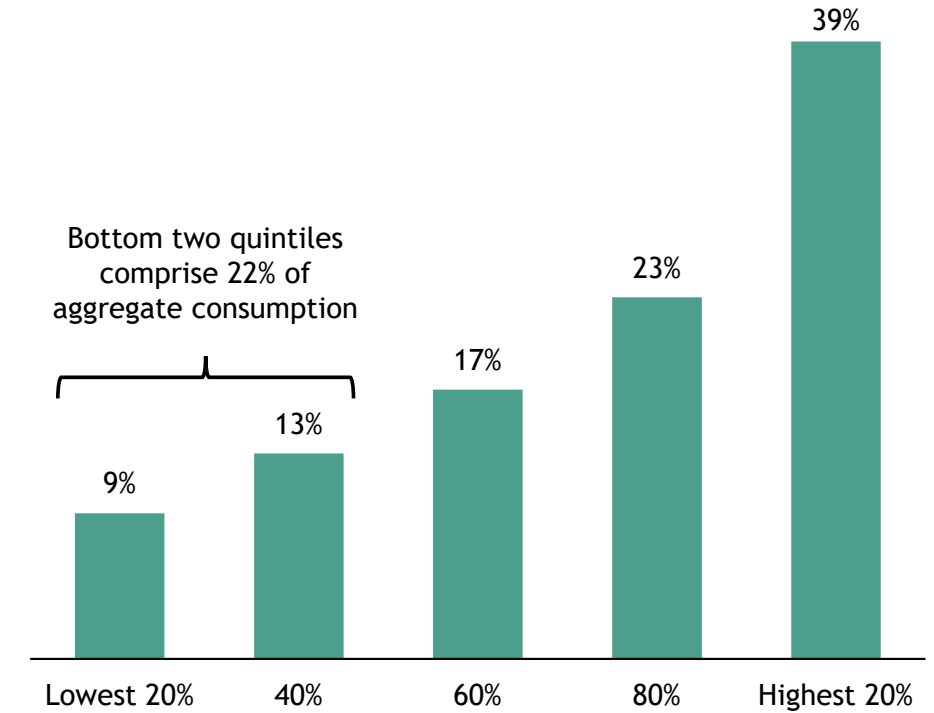
## Household Spending by Income Level<sup>(1)</sup>

(indexed to 0 as of Jan. 2020)



## Shares of Annual Consumer Expenditure<sup>(2)</sup>

(by quintile of income, 2019)

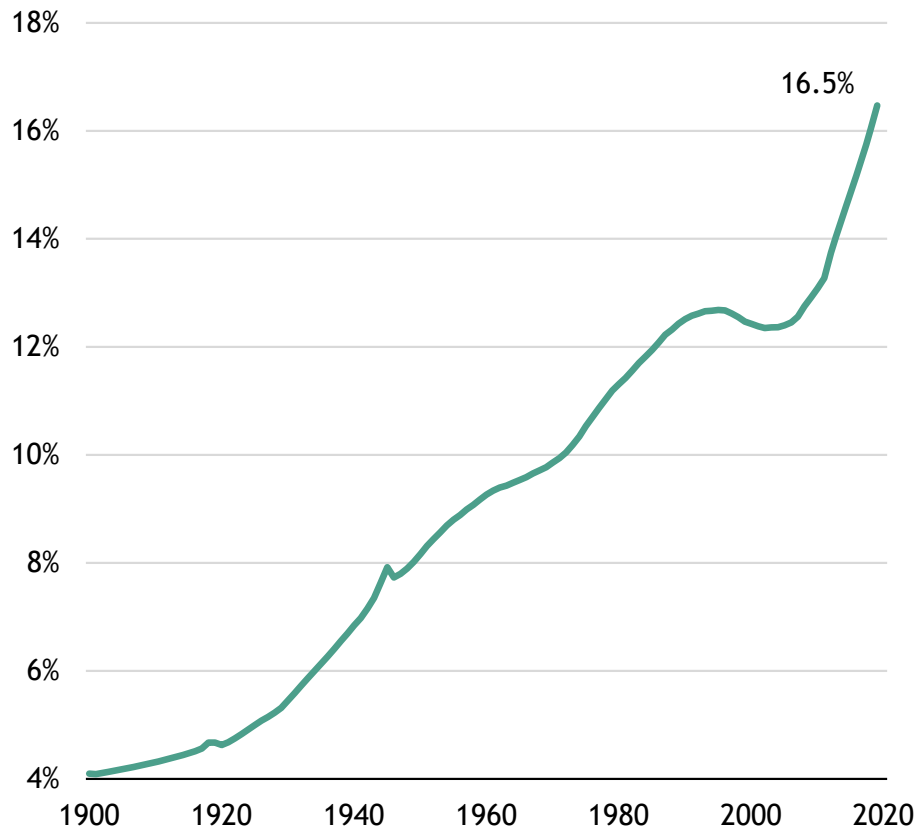


(1) Opportunity Insights Economic Tracker, as of 8/31/20. Represents seasonally adjusted credit/debit card spending. Income cohorts represent the top, middle two, and bottom quartiles of ZIP codes by median income. Changes are relative to average of 1/4/20 through 1/31/20 in all merchant category codes (MCC), 7 day moving average.

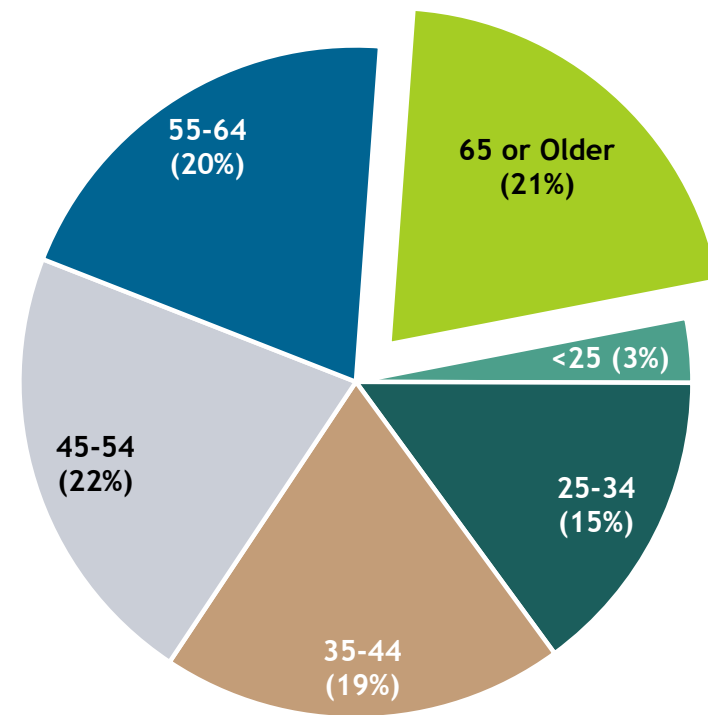
(2) Bureau of Labor Statistics Consumer Expenditure Surveys data for 2019, as of 9/09/20. Totals may not sum due to rounding.

# People aged 65+ comprise a larger-than-ever share of the population and account for 21% of consumer spending

Historical Share of US Population Aged 65 or Older<sup>(1)</sup>



Share of US Total Aggregate Expenditures by Age Range (2018)<sup>(2)</sup>



Source: Census Bureau, BEA, BLS and Blackstone Investment Strategy.

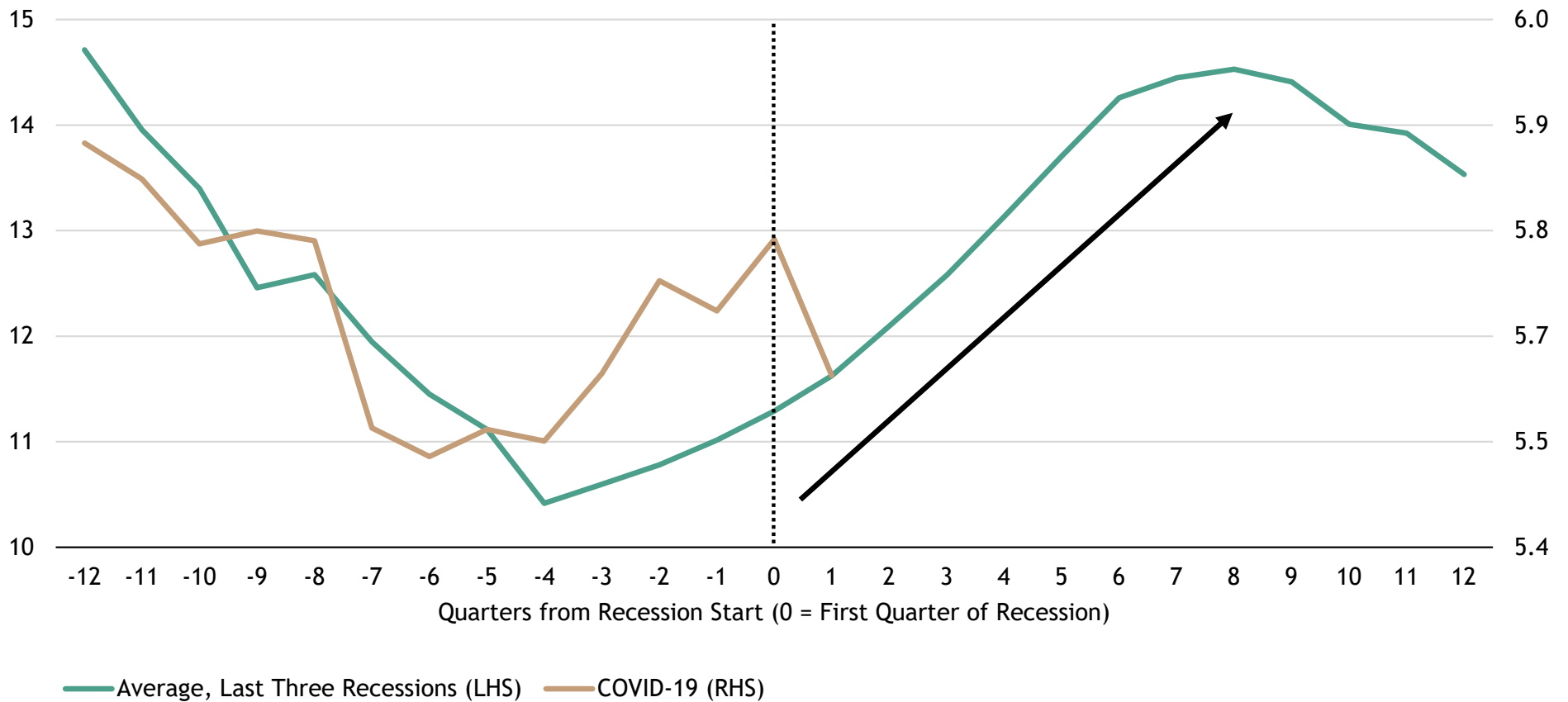
(1) Data for the time period 1901 to 2019, as of 7/1/19.

(2) As of 12/31/18.

# Business bankruptcies peak around 2 years after the onset of recessions, on average

## Total US Business Bankruptcies in Recessionary Periods

(4-quarter moving average, in thousands)



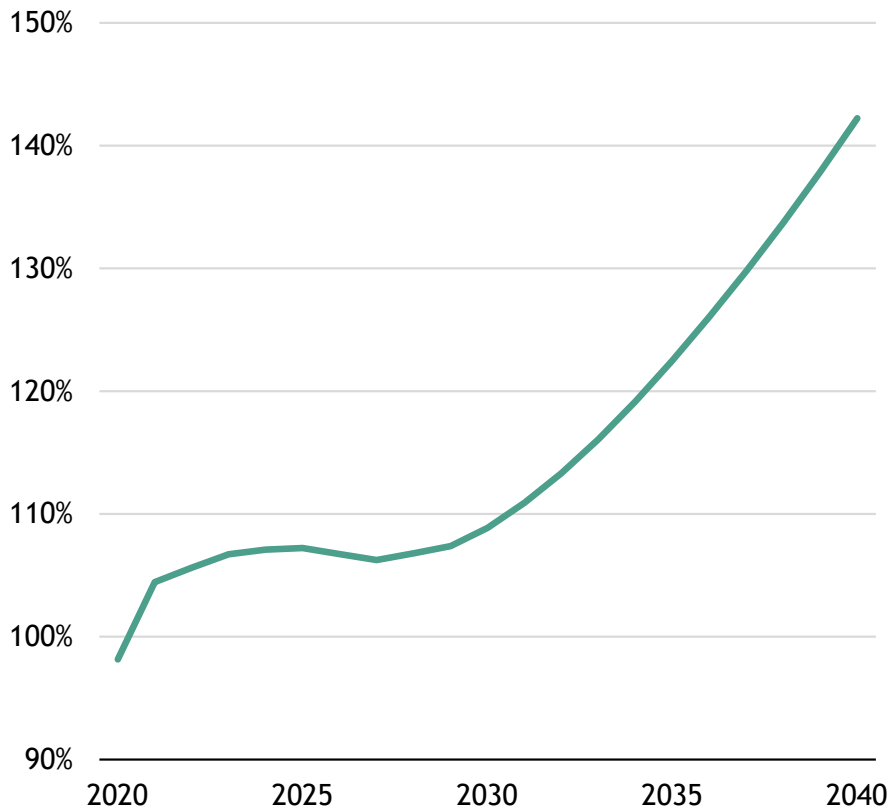
Source: American Bankruptcy Institute, Haver Analytics and Blackstone Investment Strategy analysis, as of 6/30/20. Represents four-quarter moving average of US business bankruptcy filings for the 1990, 2001, and 2007 recessionary periods, based on NBER business cycle dating.

# **III. “Lower for Longer” ...for Even Longer**

# Permanently large deficits and debt signal we may be in an “MMT world” – whether we acknowledge it, or not

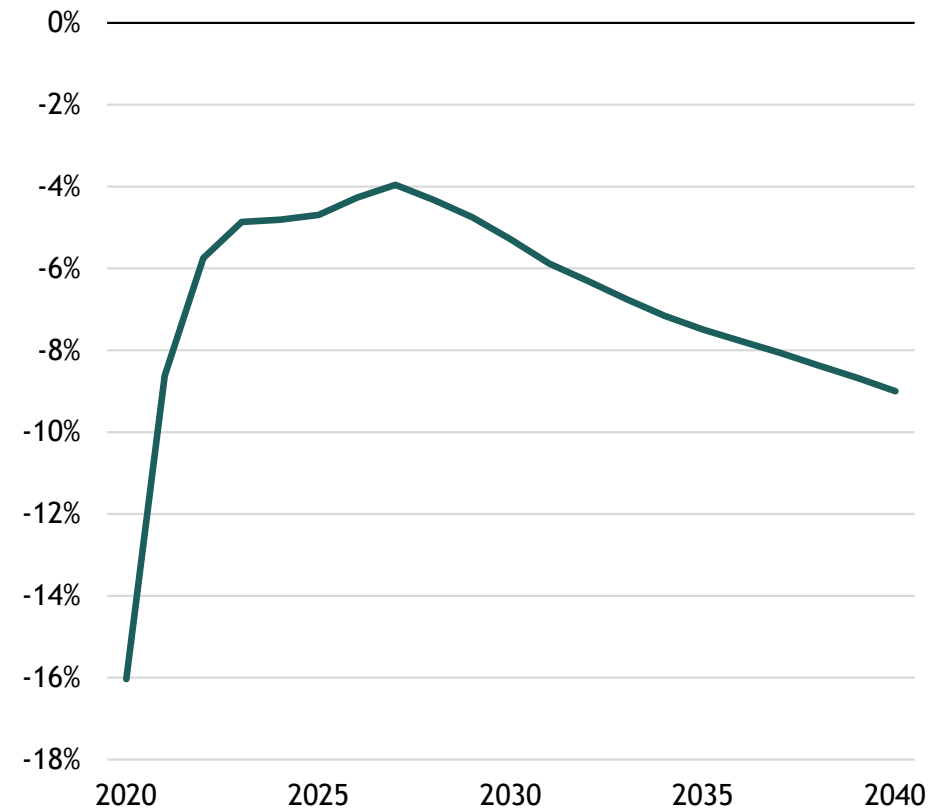
## CBO Estimates of Total Federal Debt

(percent of GDP)



## CBO Estimates of Federal Deficit Spending

(percent of GDP)

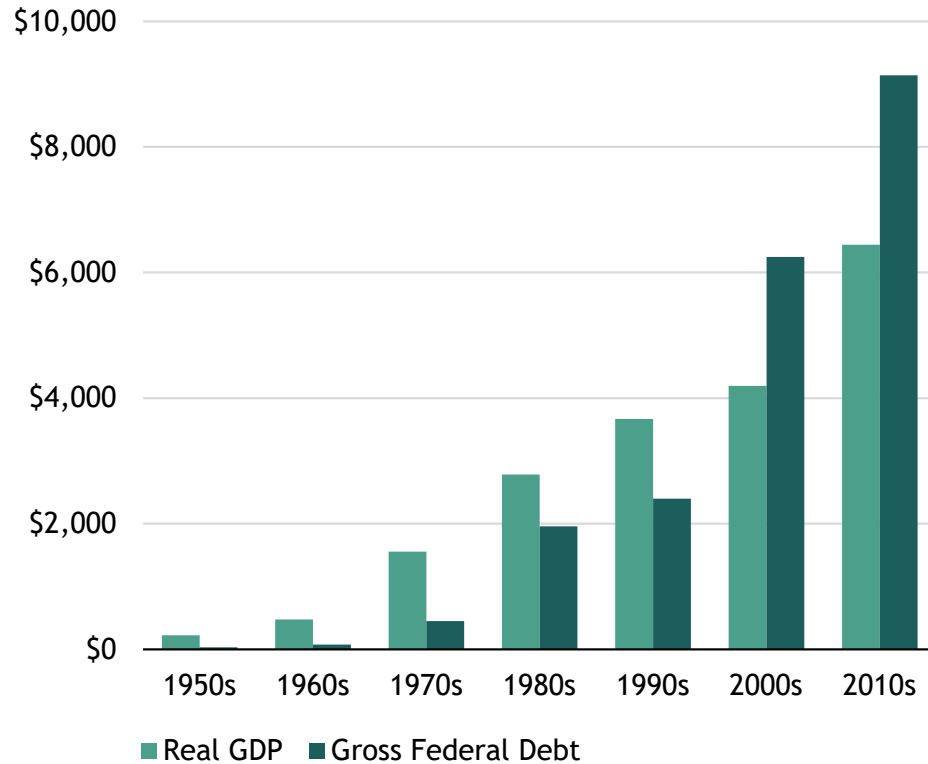


Source: Congressional Budget Office estimates, as of 9/2/20.

# In the 1950s, \$1 of debt corresponded to \$7.30 of GDP growth; today, \$1 of debt corresponds to \$0.70 of growth

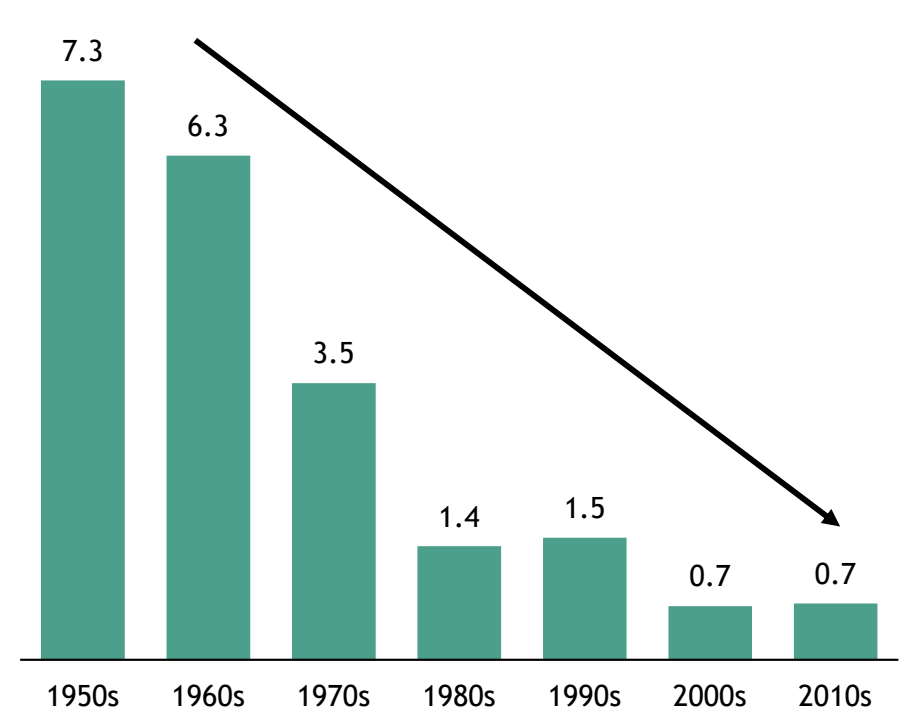
## Cumulative Change in US Real GDP and Gross Federal Debt, by Decade

(US\$ in trillions)



## Ratio: US Real GDP to Gross Federal Debt, by Decade

(decade's change in real GDP / decade's change in federal debt)

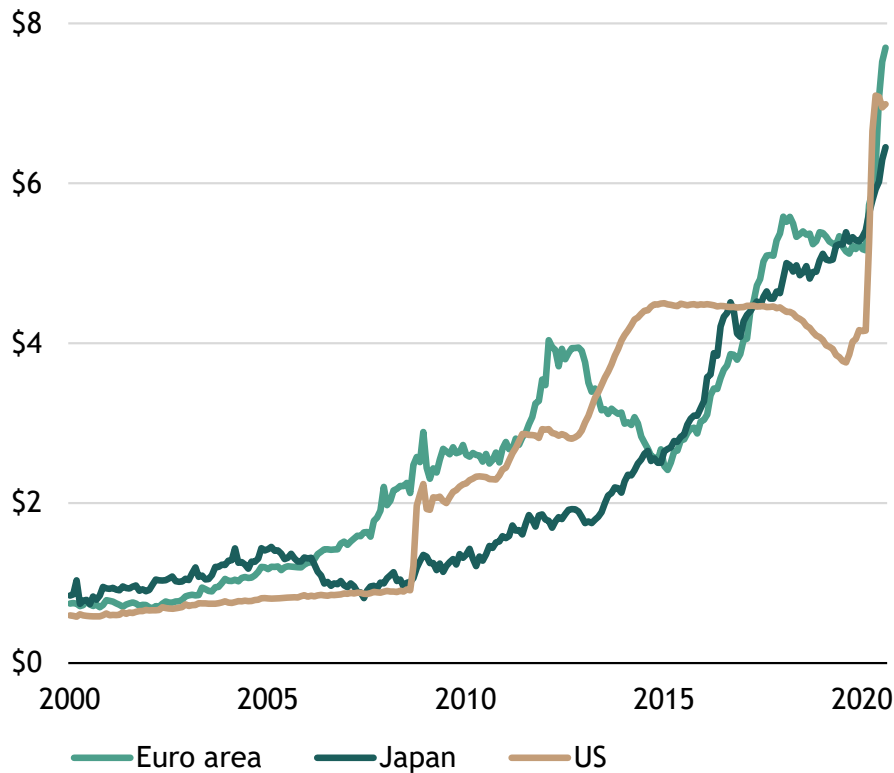


Source: Bureau of Economic Analysis and Office of Management and Budget, as of 12/31/19.

# Central banks operating as if there were no ceiling to the size of their balance sheets

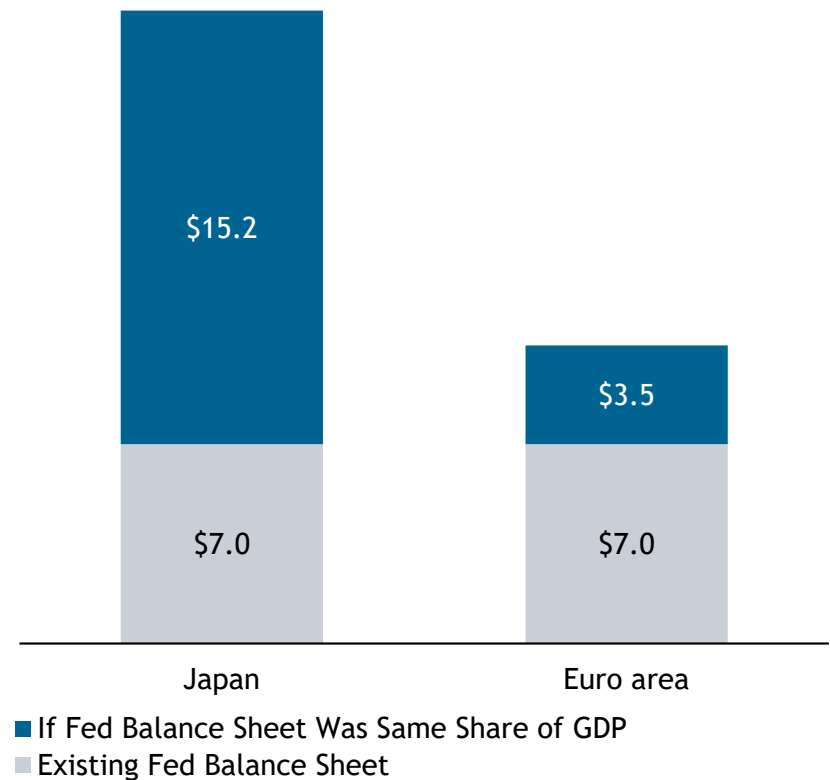
## Major Central Bank Balance Sheet Assets

(US\$ in trillions)



## Size of the Fed's Balance Sheet If It Were to Match BoJ/ECB's Assets-to-GDP Ratio

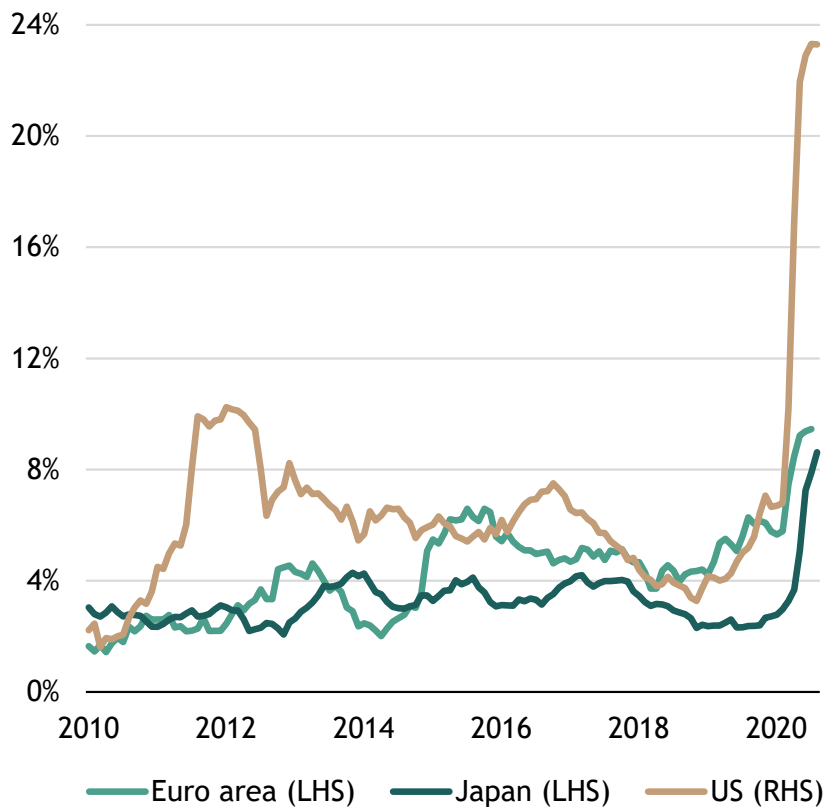
(US\$ in trillions)



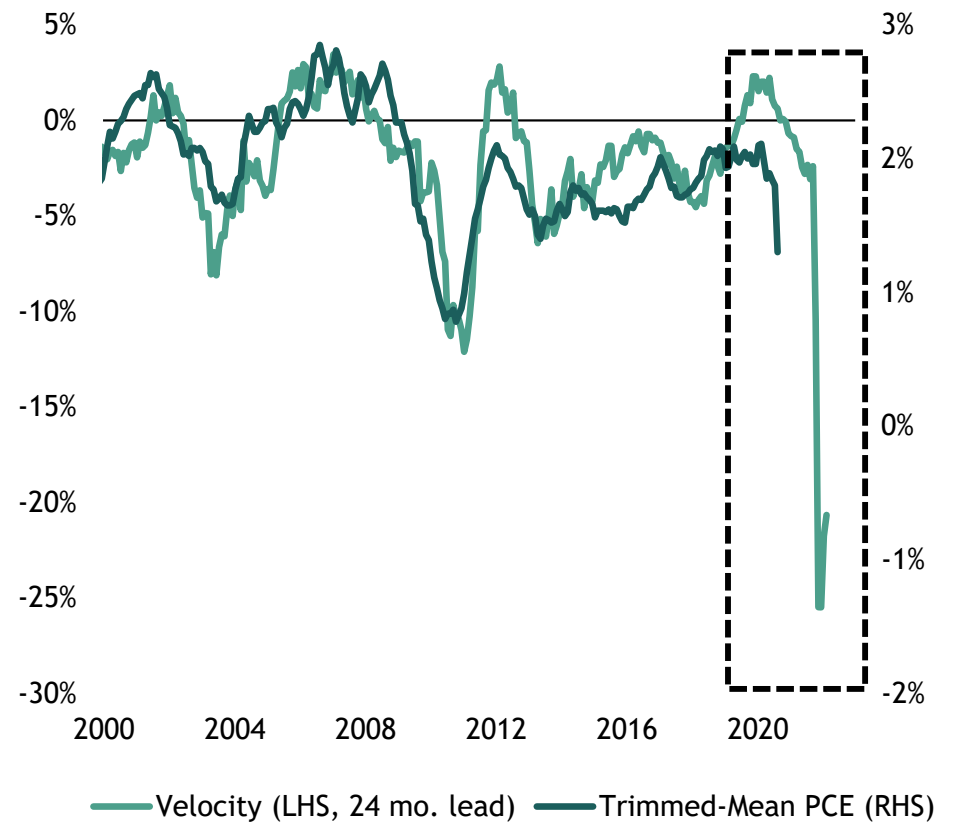
Source: Federal Reserve, Haver Analytics and Blackstone Investment Strategy. Balance sheet data as of 6/30/20, money supply data as of 5/31/20.

# M2 growth without velocity is not necessarily inflationary for the real economy; it's evident instead in financial assets

M2 Money Supply Growth (Y/Y)



Money Velocity Growth (Y/Y) and Trimmed-Mean PCE Inflation Rate<sup>(1)</sup>



Source: Central bank data, Haver Analytics and Blackstone Investment Strategy analysis. US and Japan data as of 8/31/20. Euro area as of 7/31/20.

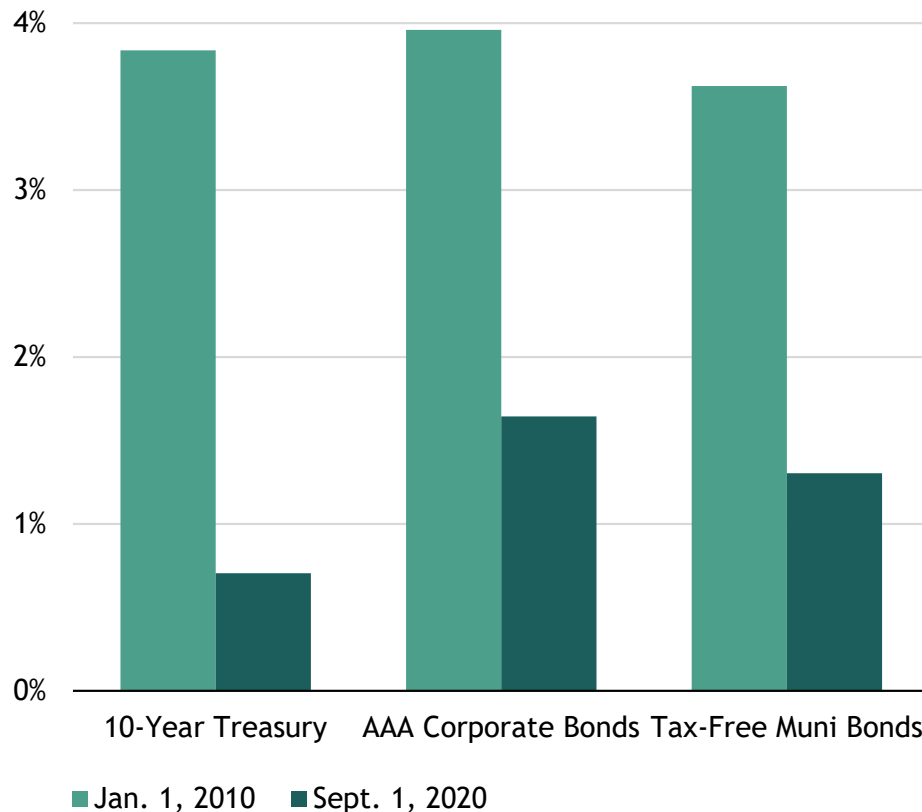
(1) Money velocity is M2 money supply divided by nominal GDP. The 12-month Trimmed-Mean PCE inflation rate is an alternative measure of core inflation in the price index for personal consumption expenditures (PCE). It is calculated by staff at the Dallas Fed, using data from the Bureau of Economic Analysis (BEA).



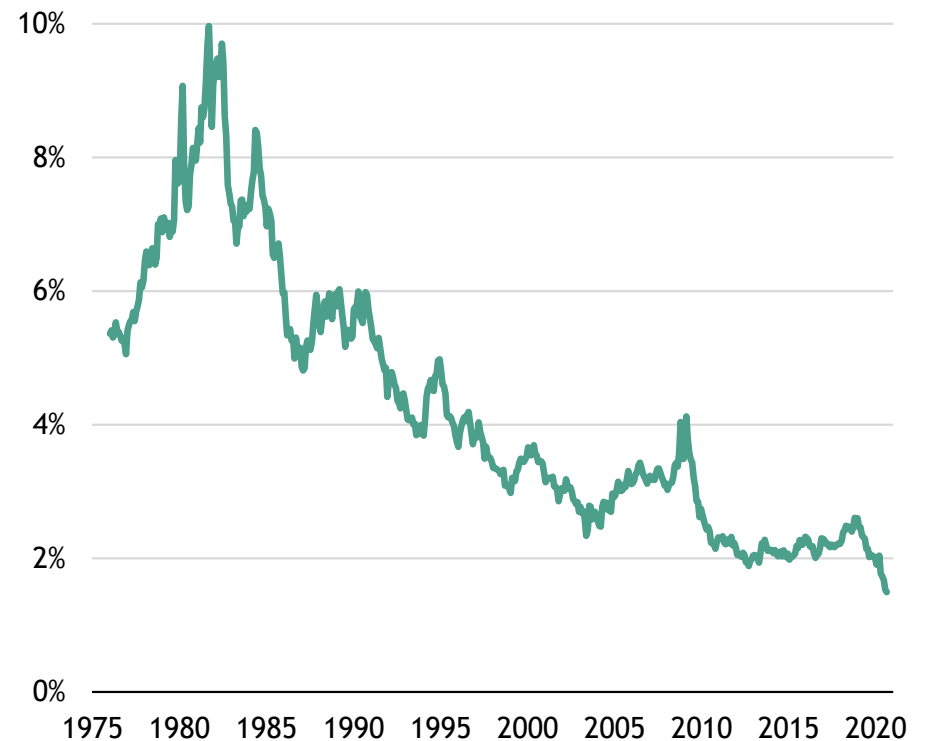
# No yield to be found in traditional fixed income; must get creative in asset selection to find income

## Change in Yields in Traditional Fixed Income Asset Classes<sup>(1)</sup>

(yield to worst)



## Historical Yield from a Traditional Portfolio of 60% Equities / 40% Bonds<sup>(2)</sup>



Source: Bloomberg, as of 8/31/20.

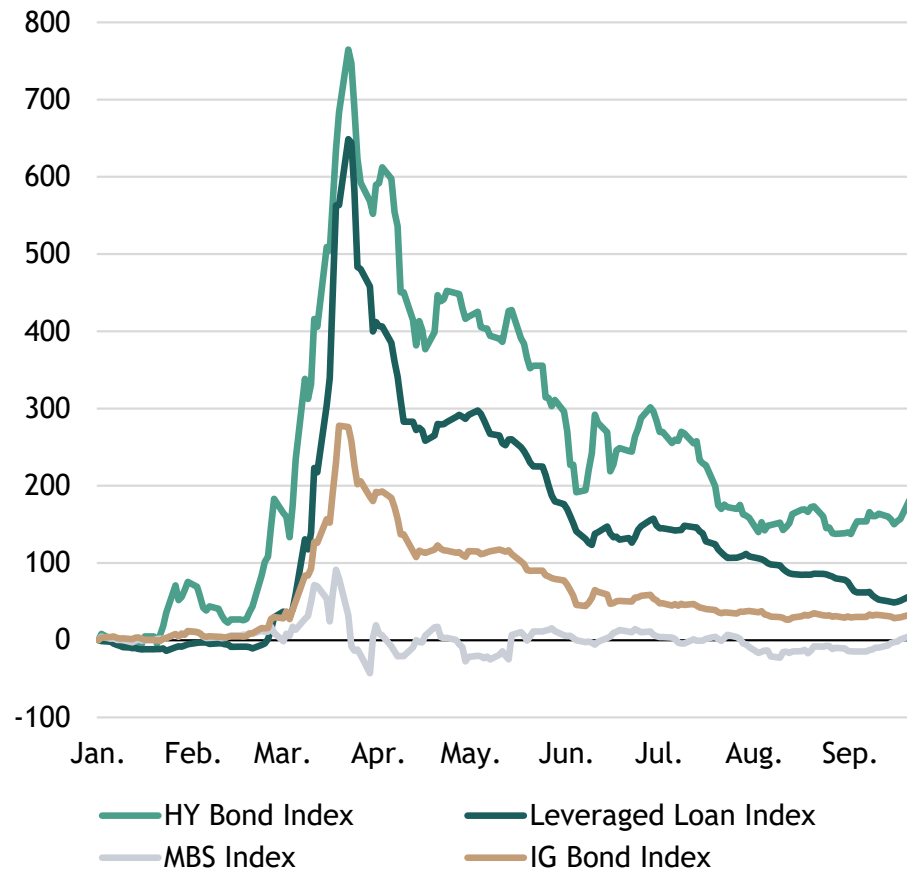
(1) Based on yields for generic 10-year US Treasury bonds and yield to worst for the Bloomberg Barclays Aaa Corporate Total Return Index and the Bloomberg Barclays Municipal Bond Index.

(2) Based on model portfolio with 60% allocation to S&P 500 Index and 40% allocation to Bloomberg Barclays US Aggregate Bond Index.

# Credit spreads in IG and MBS nearly back to pre-COVID levels; HY and Loans spreads remain somewhat wider

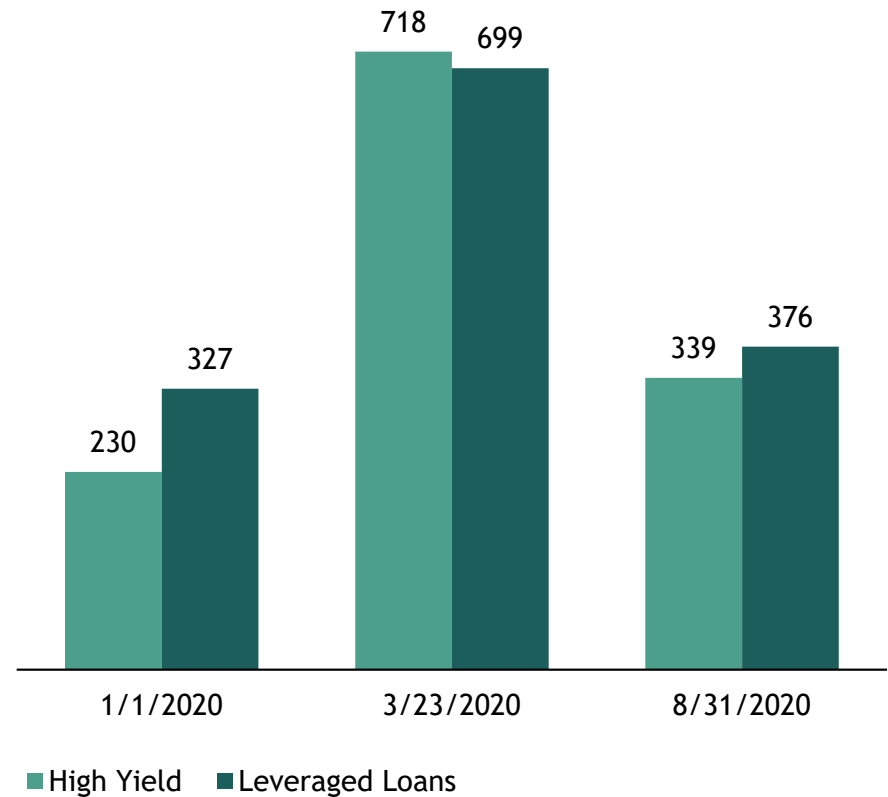
## Credit Market Spreads (2020 YTD)

(bps, 1/1/2020 = 0)



## Spreads Relative to IG Spreads

(bps)

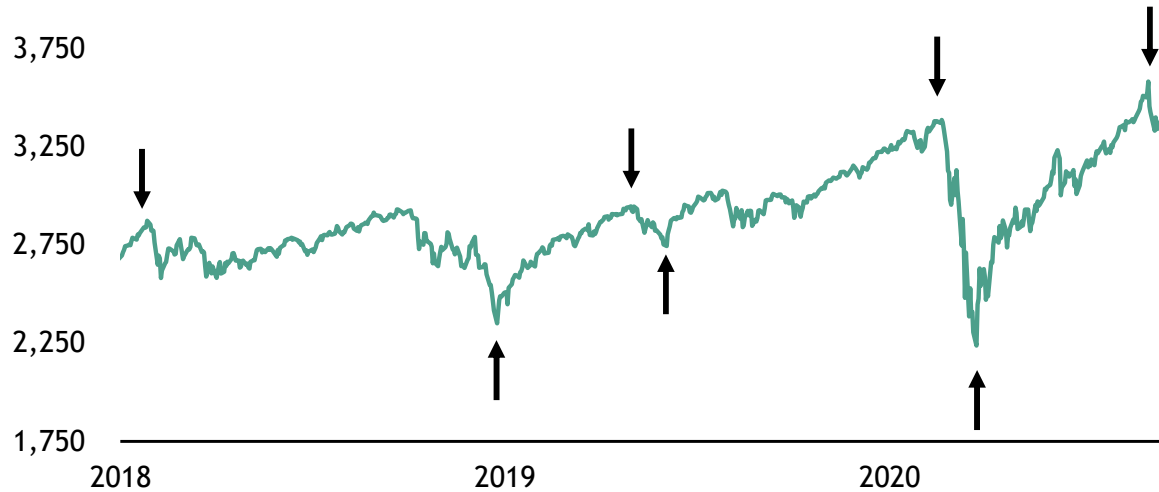


Source: S&P Global, Bloomberg and Blackstone Investment Strategy, as of 8/31/20. Represents the Bloomberg Barclays US Corporate Bond Index, the Bloomberg Barclays US High Yield Corporate Bond Index, Bloomberg Barclays US MBS Index and the S&P/LSTA Leveraged Loan Index. Spreads for IG, HY and MBS represent the yield to worst of each index relative to the generic 10Y UST yield. Spreads for the LL Index represent spread to maturity.

# **IV. Liquidity Is Driving the Markets**

# Market sentiment at optimistic extreme in recent months

## S&P 500 Composite Index

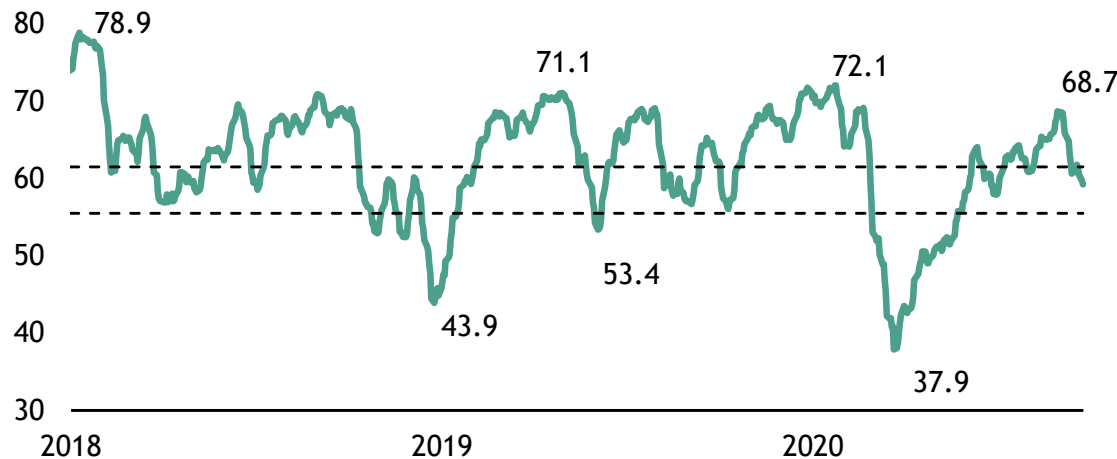


S&P 500 Index Performance Full History: 12/1/1995-9/22/2020		
NDR Crowd Sentiment Poll is:	% Gain/Annum	% of Time
Above 66.0	-3.2	26
57.0 - 66.0 from Above	-0.2	18
57.0 - 66.0 from Below	22.2	20
Below 57.0	11.1	36
Buy/ Hold = 7.0% Gain/ Annum		

### Historical average value of Crowd Sentiment Poll at:<sup>(1)</sup>

- Optimistic extremes (down arrows) = 68.7
- Pessimistic extremes (up arrows) = 46.9
- Average spread between extremes = 21.5

## NDR Crowd Sentiment Poll



### Extremes generated when sentiment reading:<sup>(2)</sup>

- Rises above 61.5 = Extreme Optimism
- Declines below 55.5 = Extreme Pessimism

Source: Ned Davis Research, as of 9/22/20.

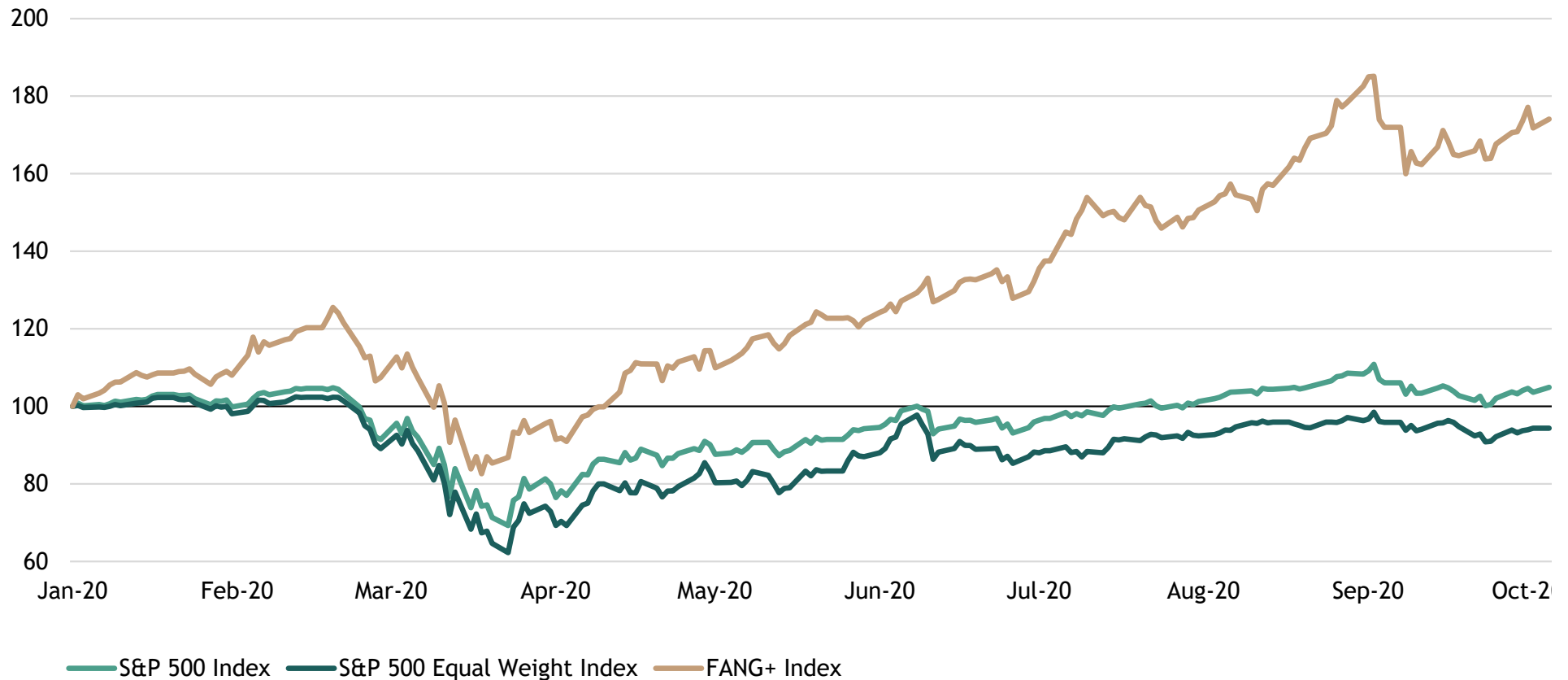
(1) Arrows represent extremes in optimism and pessimism. They do not represent buy and sell signals and can only be known for certain (and added to the chart) in hindsight.

(2) Sentiment must reverse by 10 percentage points to signal an extreme, in addition to reaching the above extreme levels.

# S&P 500 has exceeded pre-COVID levels, driven by significant outperformance of the FANG+ stocks

## S&P 500 vs. FANG+ Performance in 2020 YTD

(indexed to 100 as of Jan. 1, 2020)



Source: Bloomberg, as of 9/30/20. Note: FANG+ Index is equal-weighted and includes the following members: Facebook, Apple, Amazon, Netflix and Alphabet's Google.

# Five largest S&P 500 stocks comprise nearly a quarter of the total index market capitalization—a record high

## Combined Weight of 5 Largest S&P 500 Stocks<sup>(1)</sup>

(percent of total S&P 500 market capitalization)

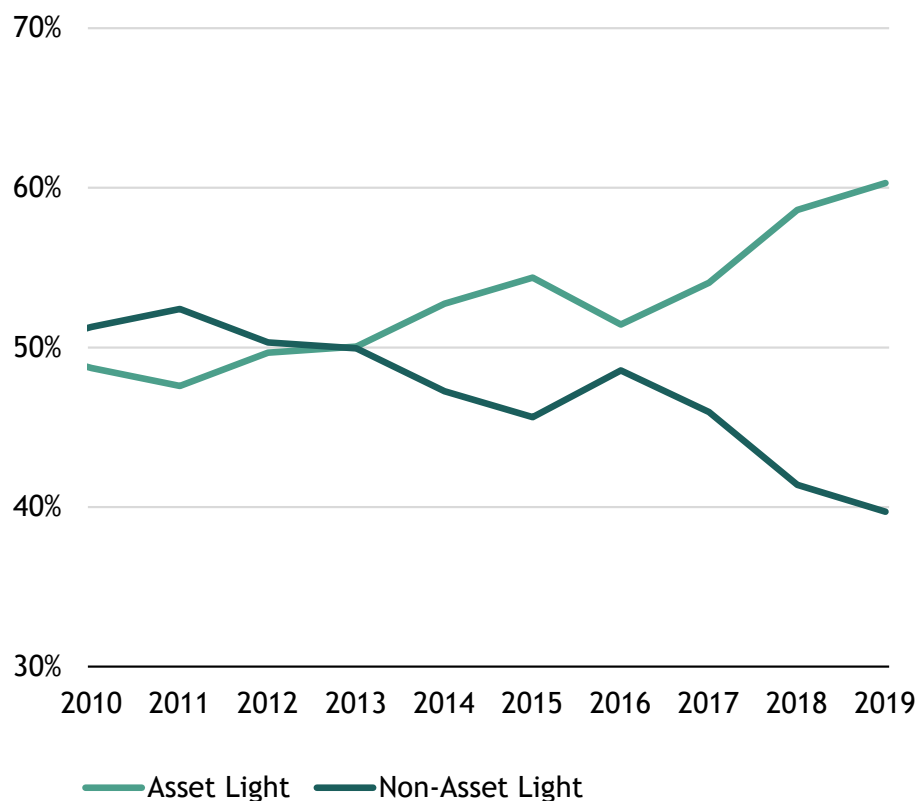


Source: Strategas Research Partners, as of 8/31/20.

(1) Note: Represents the five largest stocks by market capitalization.

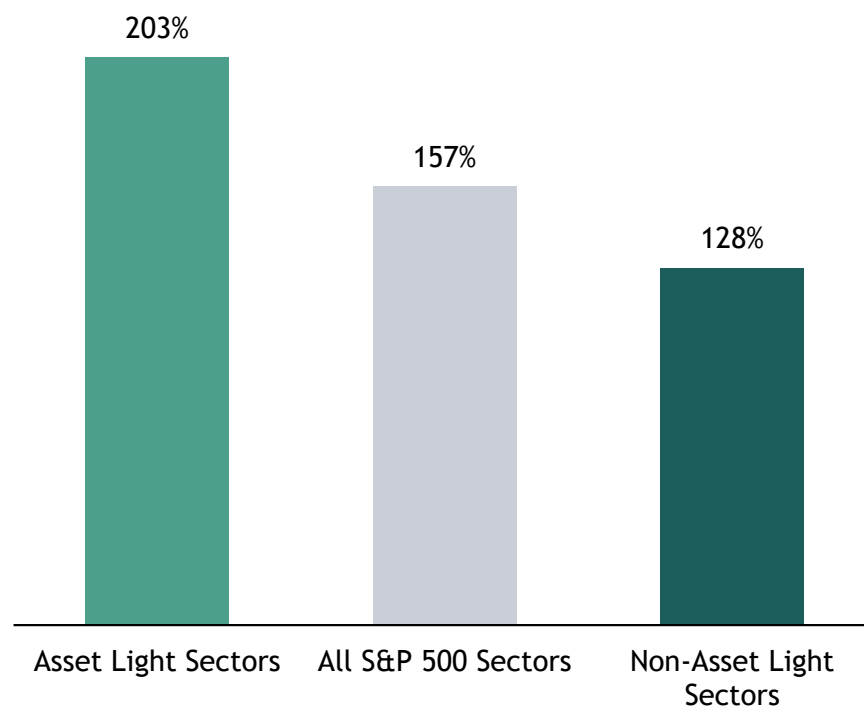
# Structural shift in the economy has led to the outperformance of sectors with “asset light” models

## Proportion of S&P 500 Index Market Cap in “Asset Light” Sectors



## Cumulative Performance of “Asset Light” vs. “Non-Asset Light” Sectors (2010-2019)

(weighted average by market capitalization)

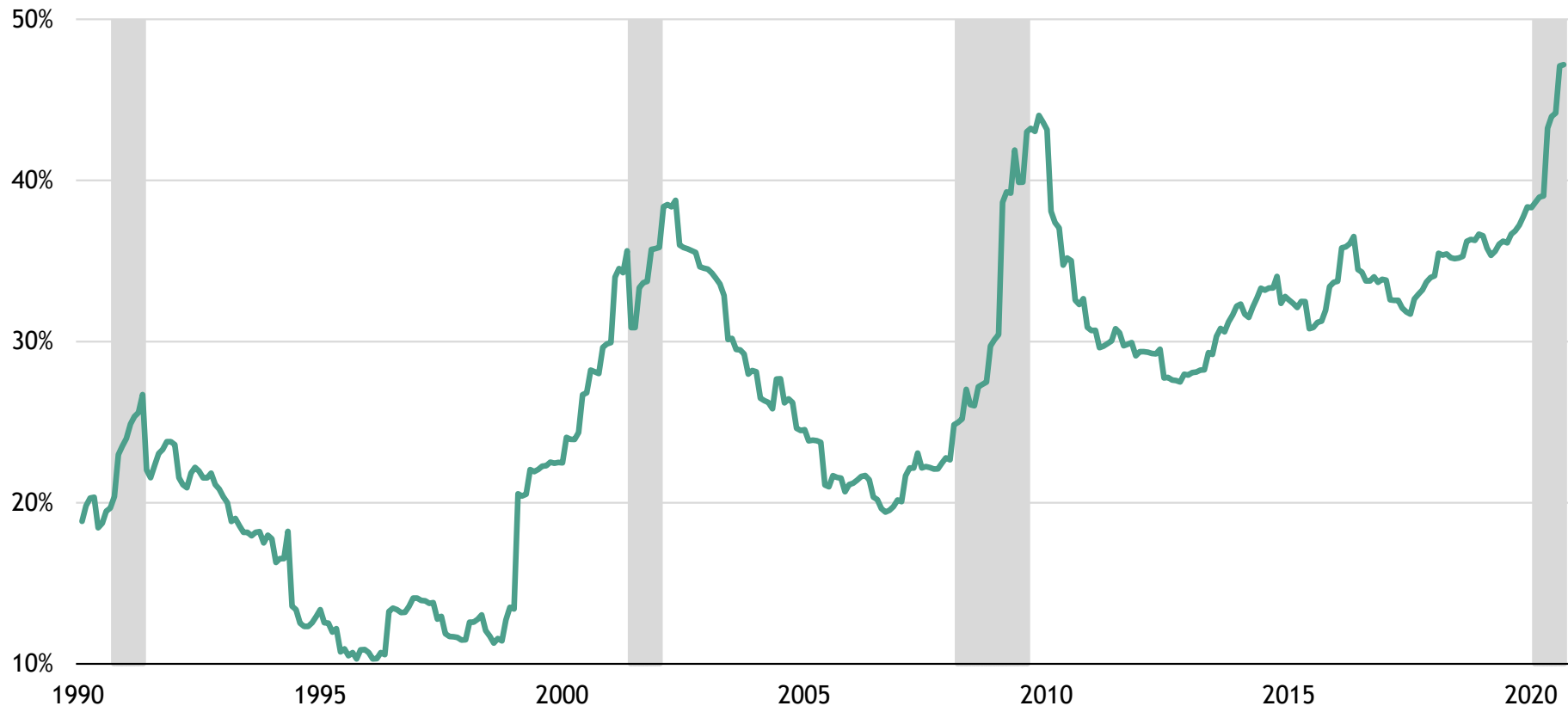


Source: Bloomberg, as of 12/31/19. “Asset light” sectors include the following S&P 500 GICS Level 1 sectors: Information Technology, Financials, Healthcare and Communications. “Non-asset light” sectors include all other S&P 500 GICS Level 1 sectors.

# Percent of the Russell 2000 classified as “non-earner” companies at all-time high

## “Non-Earner” Companies in the Russell 2000

(companies with no profit in last 12 months, share of total)



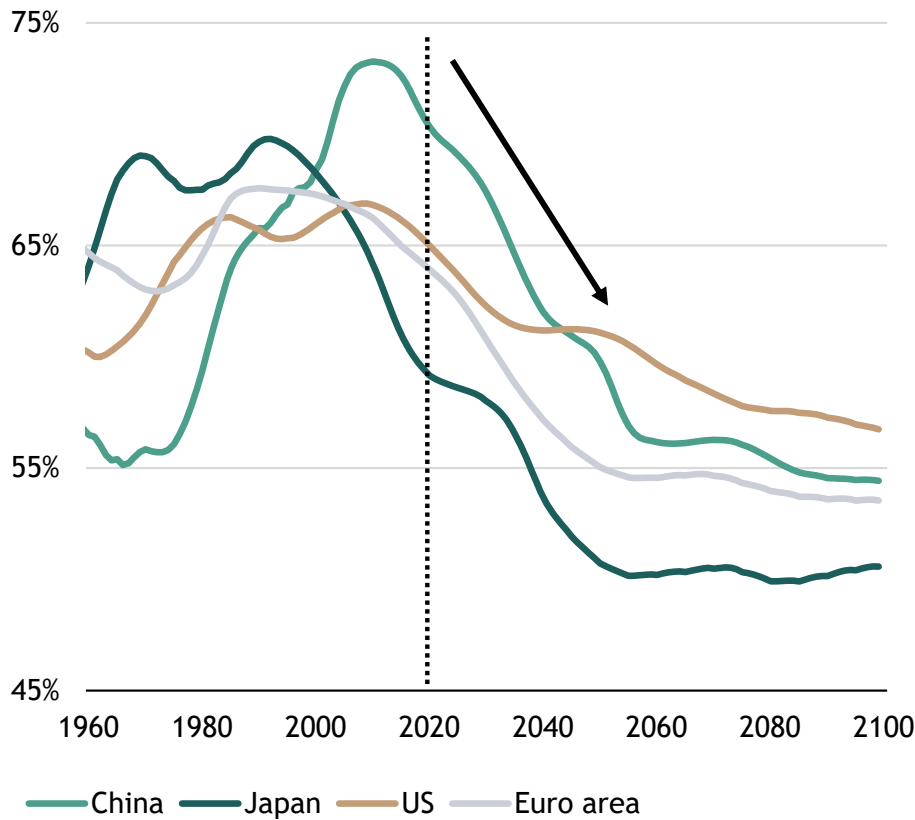
Source: Strategas Research Partners, as of 8/31/20. Based on companies with available data.



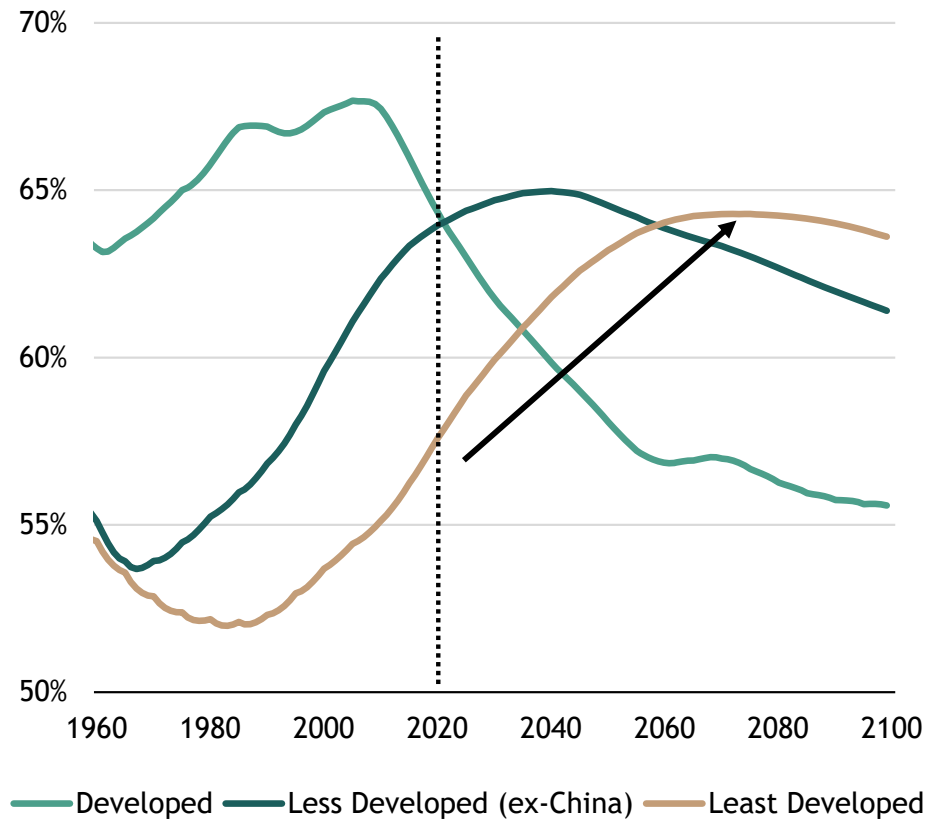
# **V. Structural Changes in the Economy**

# Working age populations declining in the developed world; won't peak in developing world for years

**Working Age Population Share of Total: Selected Major Economies**



**Working Age Population Share of Total: Developed vs. Developing Economies<sup>(1)</sup>**

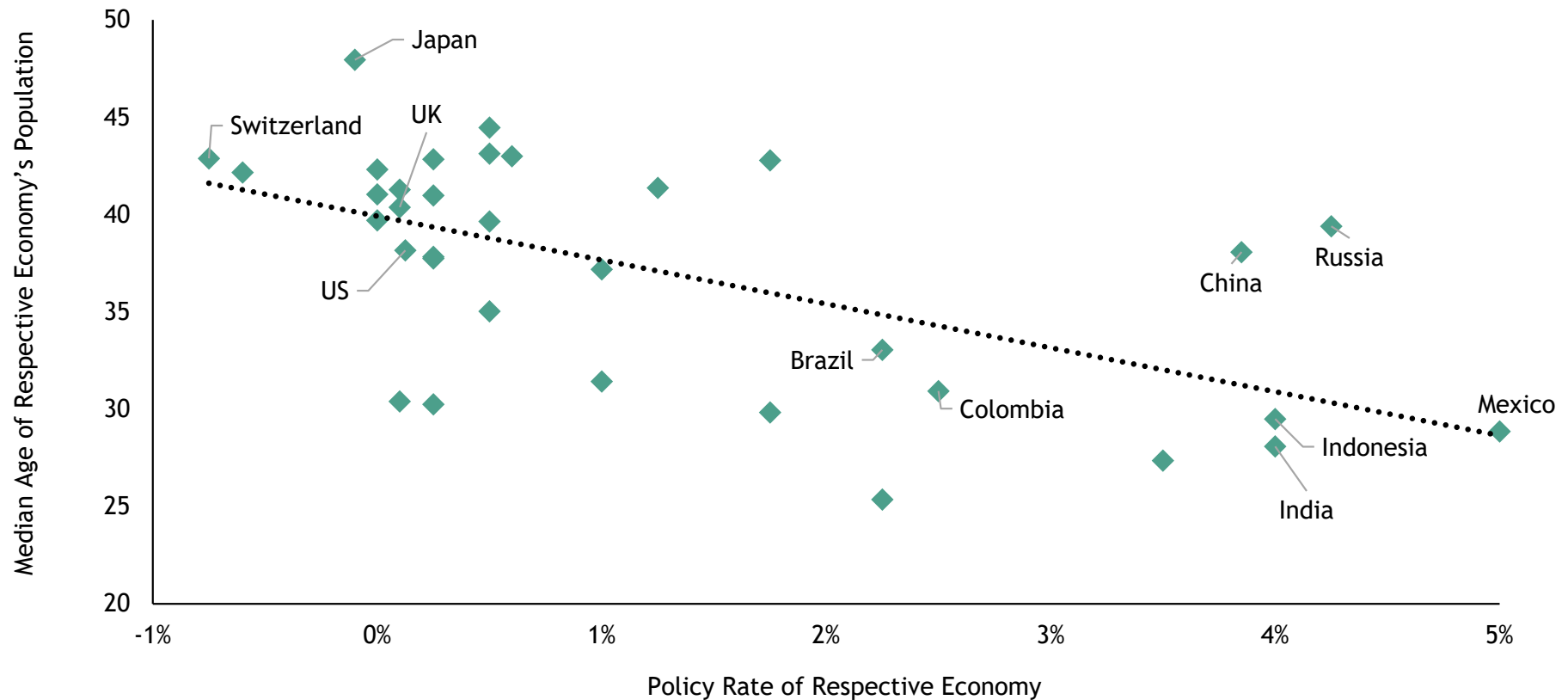


Source: United Nations World Population Prospects (2019). "Working-age population" defined as people aged 15-64.

(1) Based on UN Development Group definitions. More information can be found here: <https://population.un.org/wpp/DefinitionOfRegions/>.

# Economies with the oldest populations tend to have the lowest interest rates

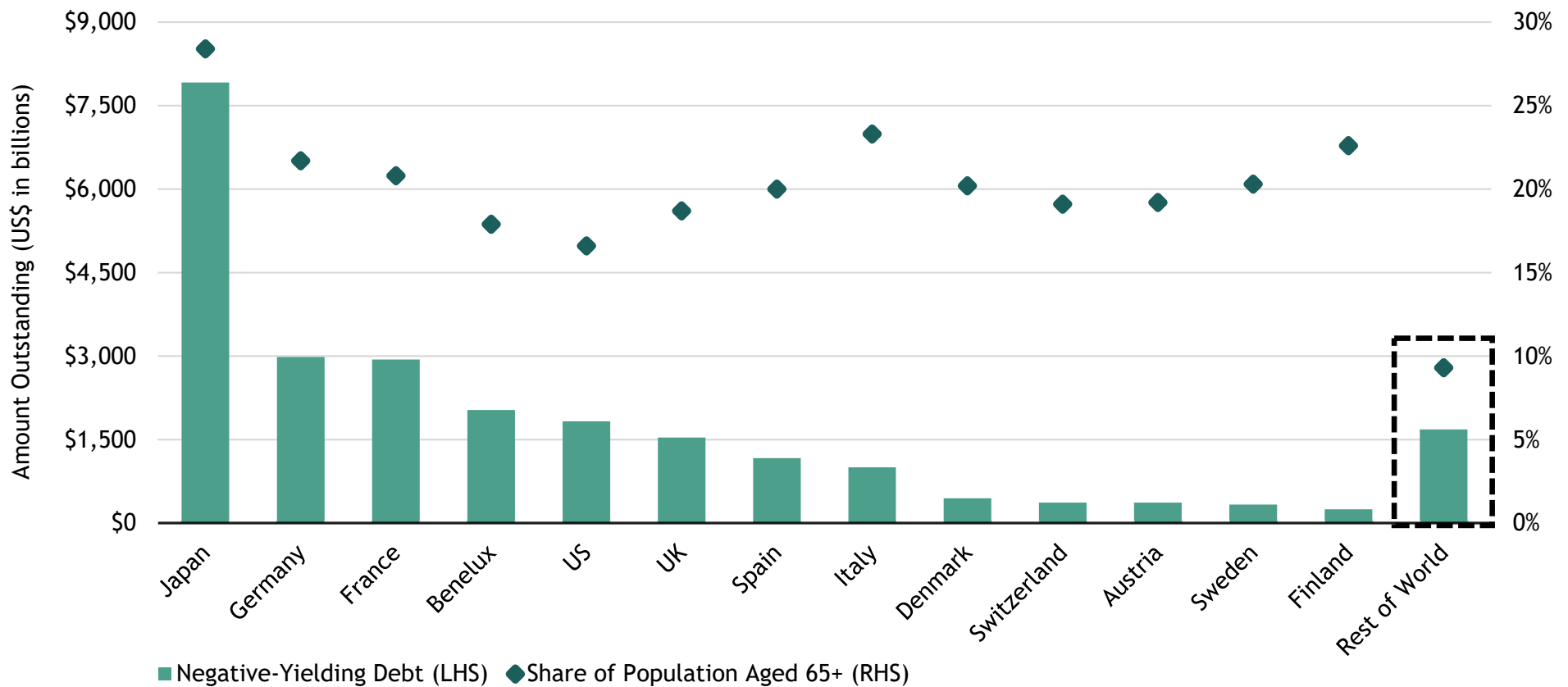
## Relationship between Population Median Age and Interest Rates



Source: United Nations World Population Prospects and Bank for International Settlements. Population data as of 2019, policy rate data as of 7/31/20.

# Majority of world's negative-yielding debt is in the countries with highest shares of population aged 65+

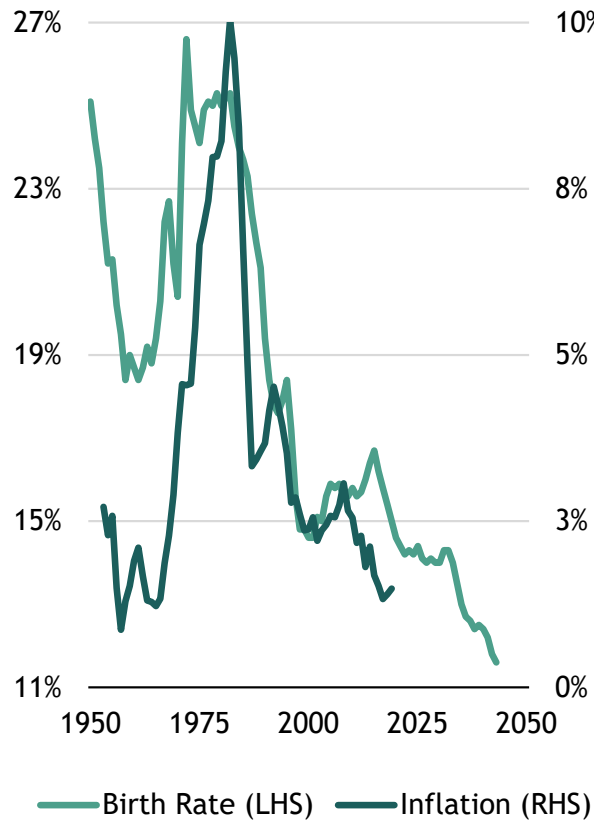
## Negative-Yielding Debt and Aging Populations



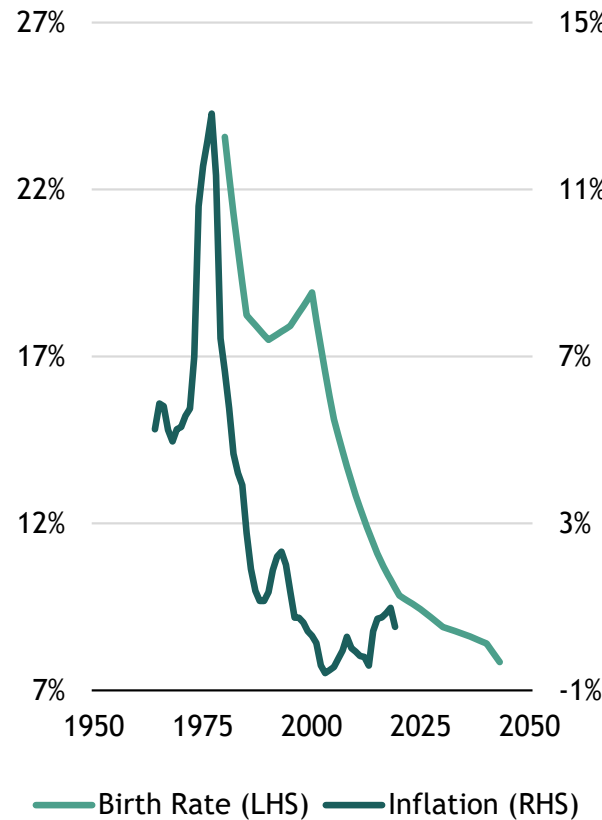
Source: Bloomberg and United Nations. Negative-yielding debt as of 9/15/20, and represents total amount of debt outstanding with yield to maturity less than zero, by country of domicile. Population statistics are estimates for the year 2020, based on UN World Population Prospects (2019). Note: "Rest of World" population estimate based on average of total global population.

# GDP growth is growth in population plus productivity; future growth depends on productivity gains

**United States Historical Birthrate and Inflation**

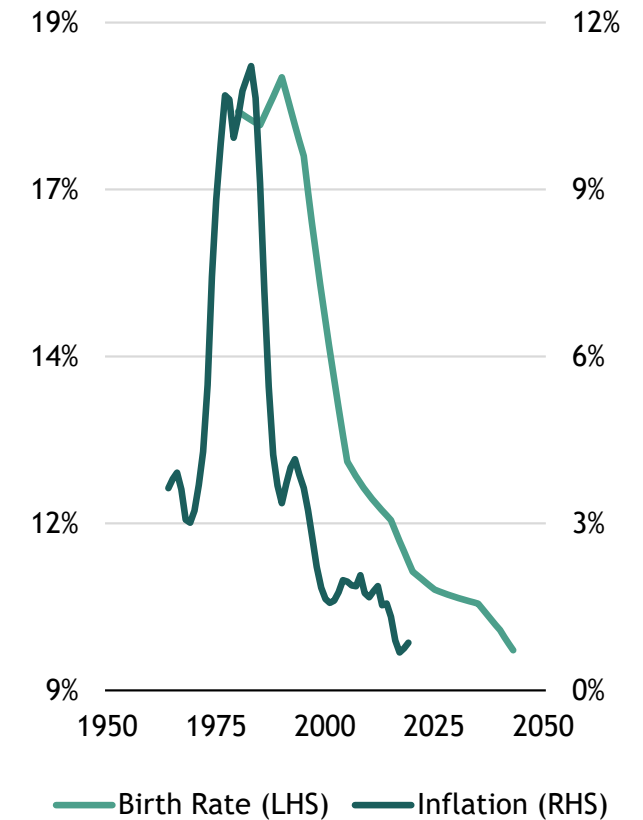


**Japan Historical Birthrate and Inflation**



**“Big Three” Historical Birthrate and Inflation**

(Average of Germany, France and Italy)



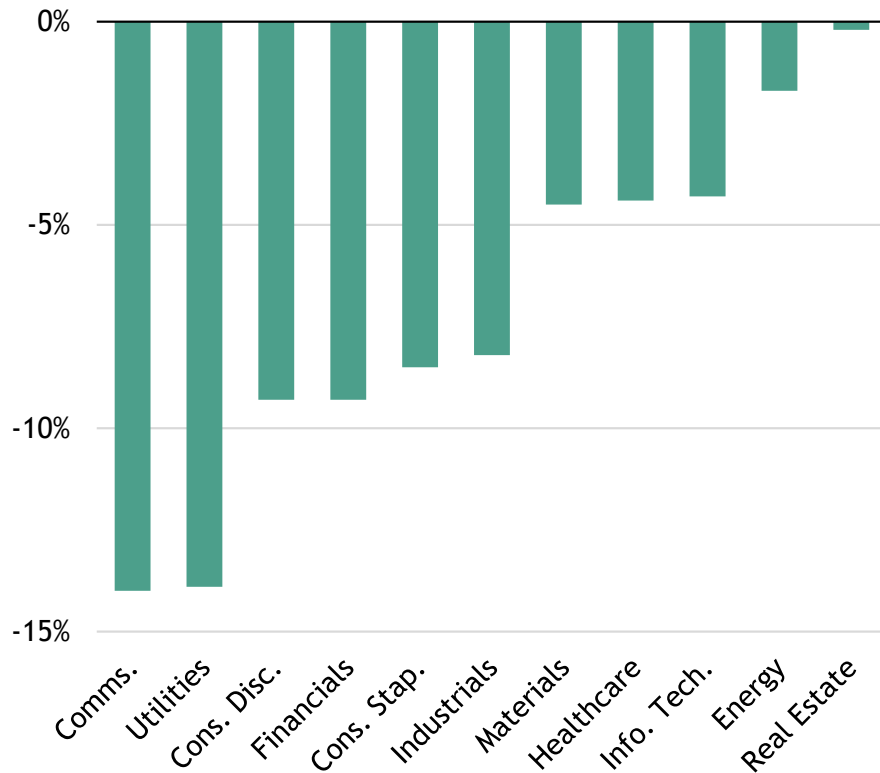
Source: Haver Analytics, World Bank, United Nations and Blackstone Investment Strategy. Birth rates represent “crude birth rate” (births per 1,000 population), 25-year lead. Inflation represents five-year average CPI for each country.

# **VI. Policy Analysis and Investment Implications**

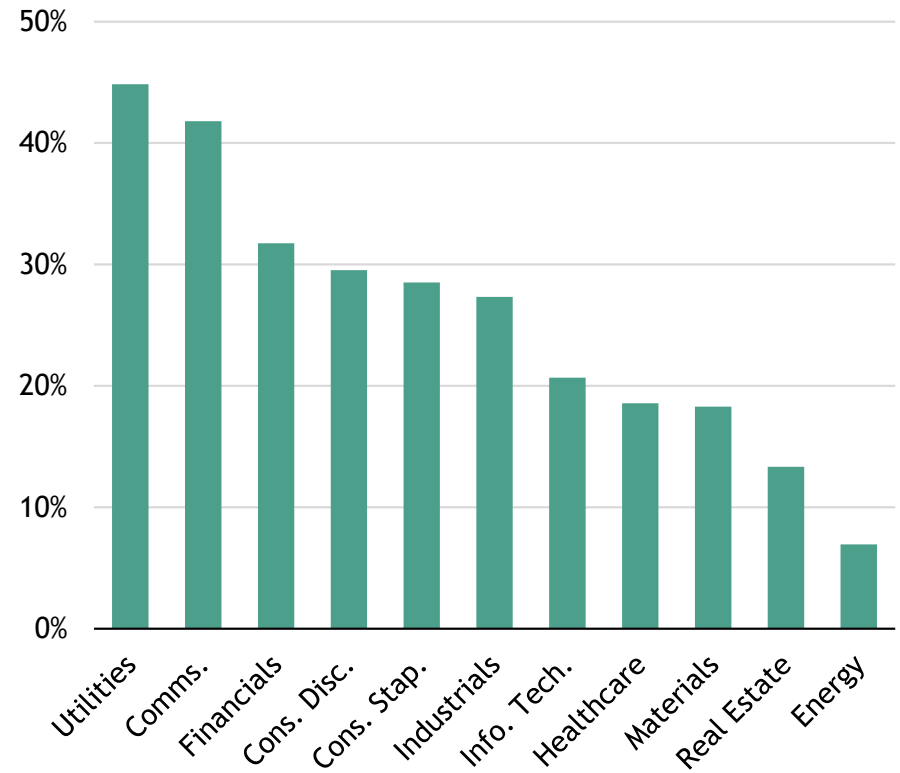
# Sectors that were the biggest winners of lower corporate tax rates could be most at risk if corporate tax rates rise

## Change in Median Effective Tax Rates, by S&P 500 Sector

(before and after 2017 Tax Cut and Jobs Act, or “TCJA”)



## Decline in Tax Rates as a Percent of Pre-TCJA Tax Rates, by S&P 500 Sector



Source: S&P Capital IQ Compustat and Ned Davis Research. Represents the median effective tax rates by sector as of 12/31/17 compared to rates as of 12/31/19.

# \$15 minimum wage would be a 27% increase over the 2019 effective US minimum wage of \$11.80

## US Federal Minimum Wage<sup>(1)</sup>

(real minimum wage deflated using CPI, 2010 = 100)

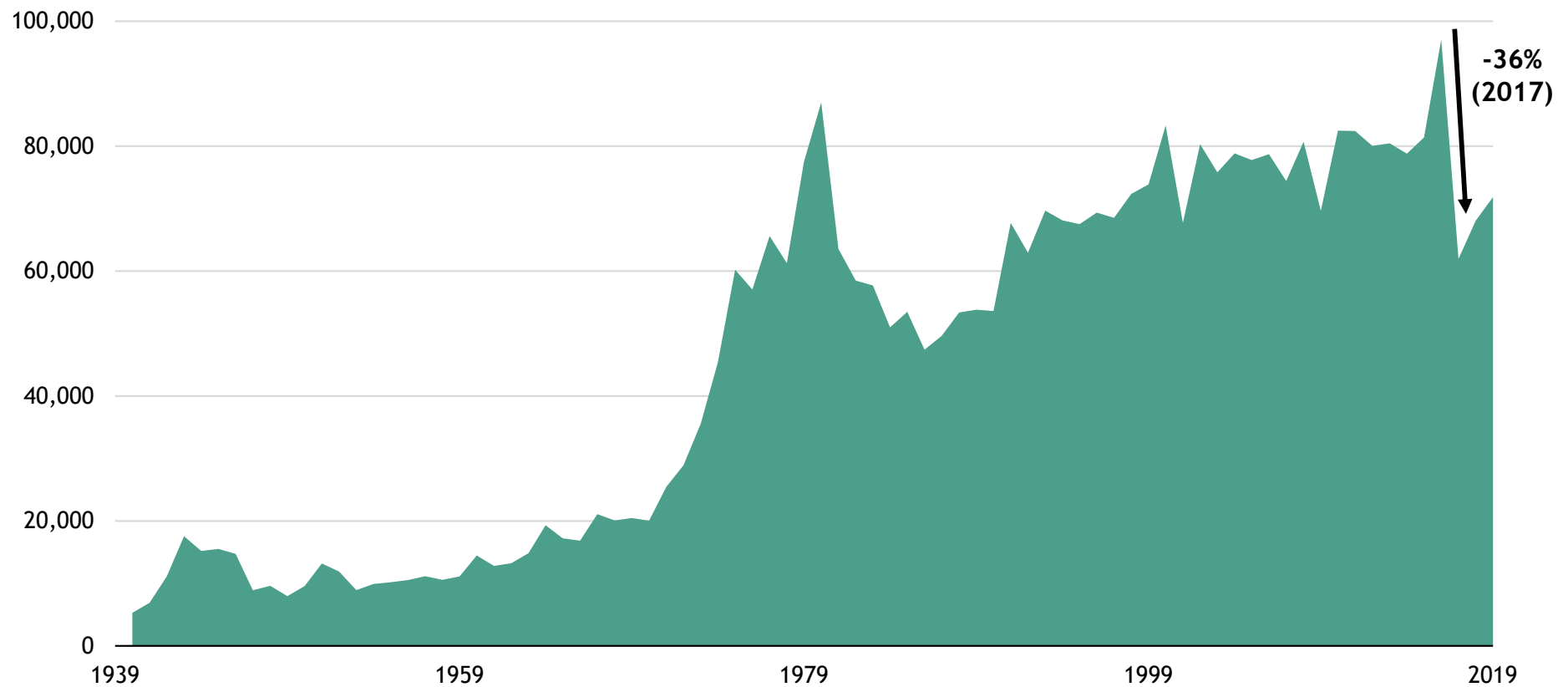


(1) Source: Bureau of Labor Statistics and Department of Labor, as of 12/31/19. Real wage deflated using CPI for All Urban Wage Earners and Clerical Workers: All Items in U.S. City Average, 2010=100.  
 (2) Source: Ernie Tedeschie, as of 3/29/19. Represents the binding federal, state or local minimum wage weighted by usual labor hours of minimum wage workers at nonfarm wage and salary jobs paid hourly. It includes federal and state laws as well as 32 localities with separate ordinances whose geography can be identified in the Current Population Survey Outgoing Rotation Group.



# Federal regulations decreased by -36% in 2017, the largest Y/Y percent decrease in 70 years

## Number of Pages in Federal Register

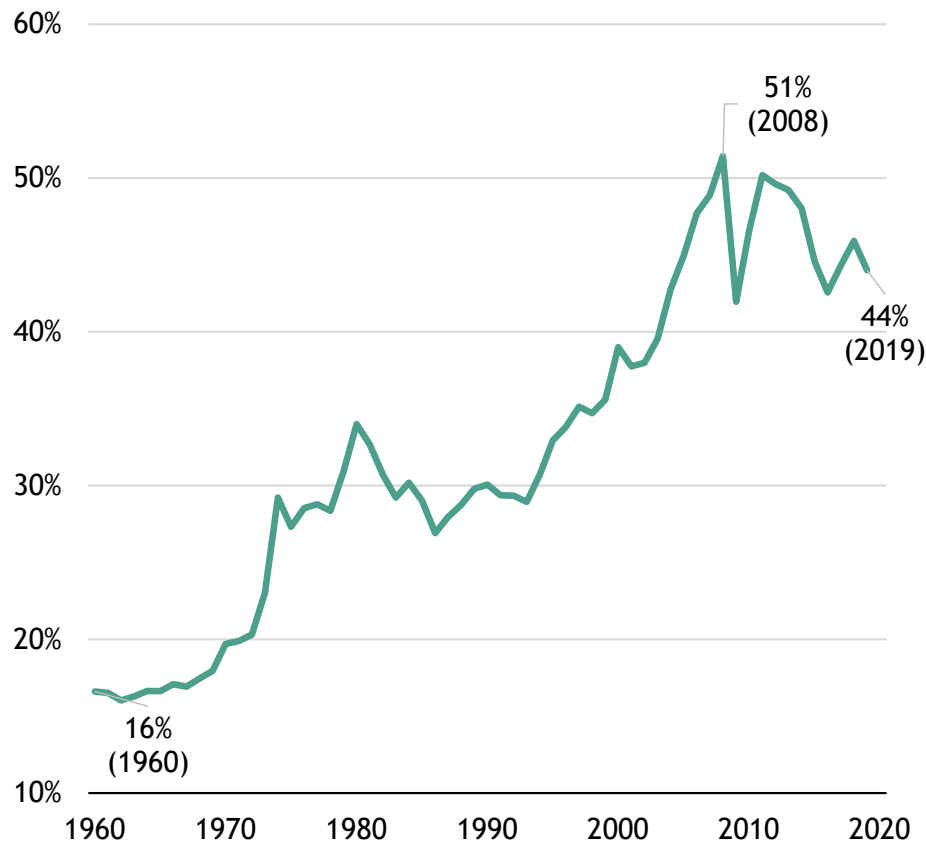


Source: Office of the Federal Register and Haver Analytics, as of 12/31/19. This series is used to track the flow of new government regulations each year and as a proxy for the federal regulatory burden.

# Two major trends—rising trade and declining tax rates—cannot be counted on to continue in decades ahead

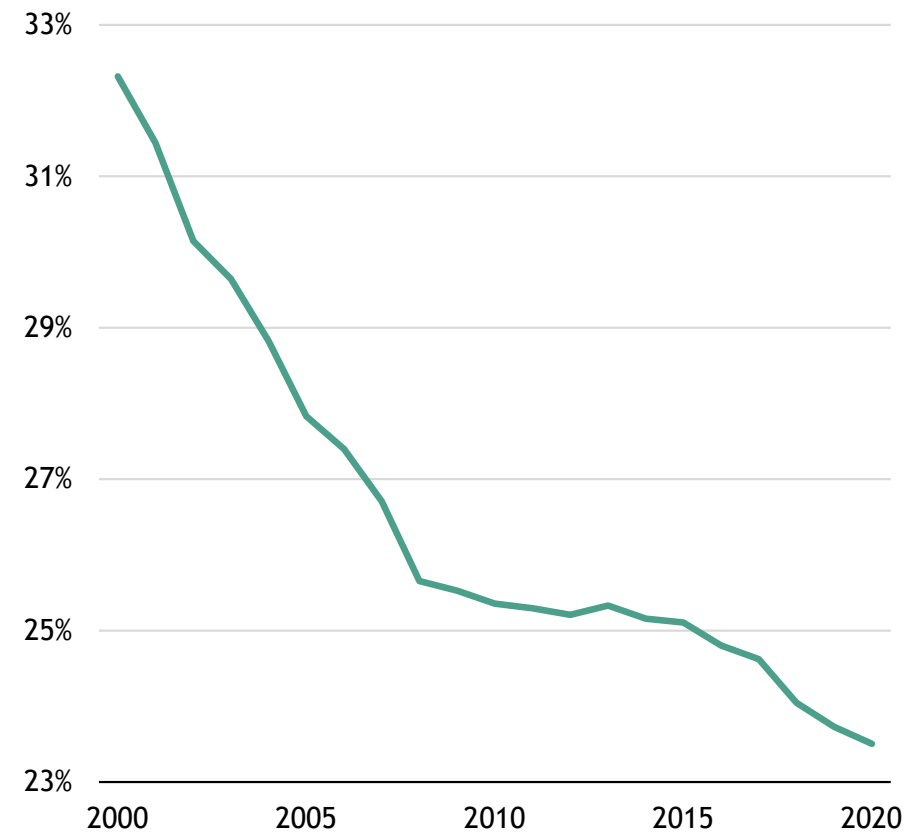
## World Merchandise Trade

(percent of world GDP)



## OECD Corporate Income Tax Rate

(average of OECD member countries)

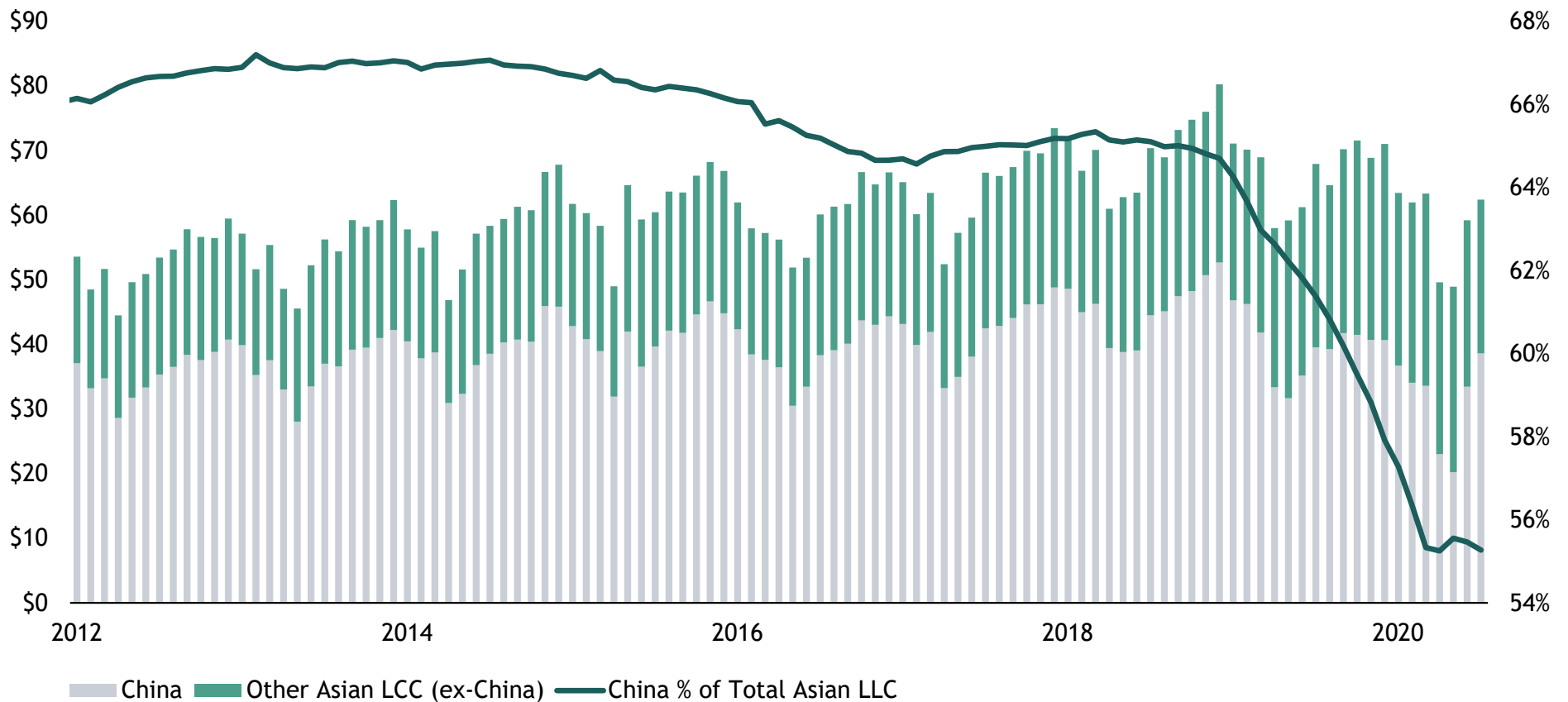


Source: World Bank, OECD and Haver Analytics, as of 12/31/19. Corporate income tax rates represent the statutory rate for resident corporations.

# Marked shift out of China and towards other Asian Low-Cost Countries (LCCs)

## Monthly US Imports from China and Other Asian Low-Cost Countries (LCCs)

(US\$ in billions)



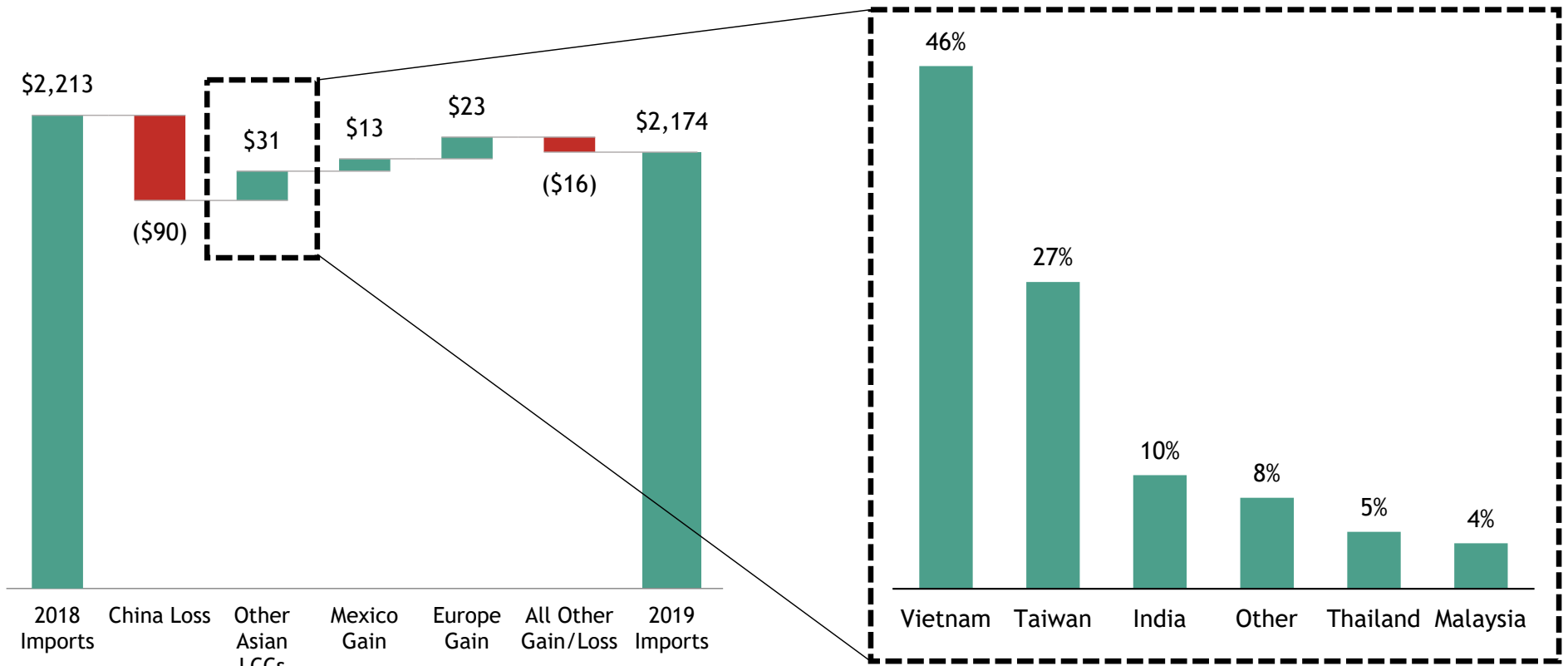
Source: Census Bureau and Haver Analytics, as of 7/31/20. Notes: China includes Hong Kong. Percentage is a rolling 12-month average. "Other Asian LCCs" as defined by Kearney Reshoring Index.

# \$31B increase in imports from Other Asian LCCs likely substitution out of China; Vietnam biggest winner (46%)

## US Manufacturing Import Mix Change<sup>(1)</sup>

(US\$ in billions, change in 2019 levels relative to 2018 levels)

## Share of the \$31B Increase in Imports from LCCs, by Economy



Source: Kearney 2020 Reshoring Index, as of 12/31/19. Note: China includes Hong Kong. Definition of "LCCs" per Kearney Reshoring Index.

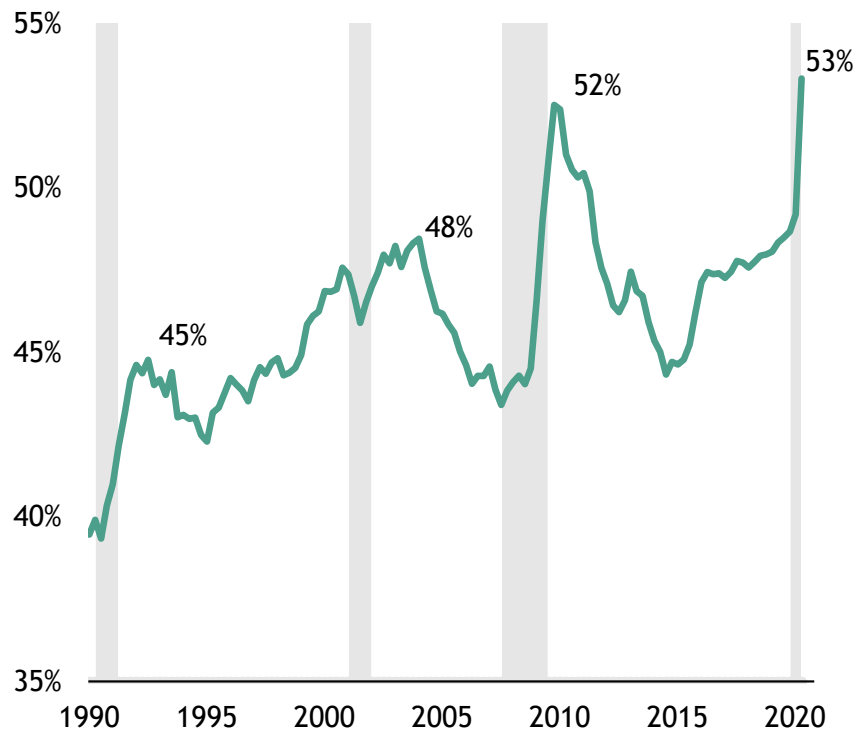
(1) Note: Chart is illustrative; not to scale.

# **VII. Bright Spots in the Recovery**

# COVID-19 accelerated trends such as technology investment; unlike prior cycles, it's unlikely to reverse

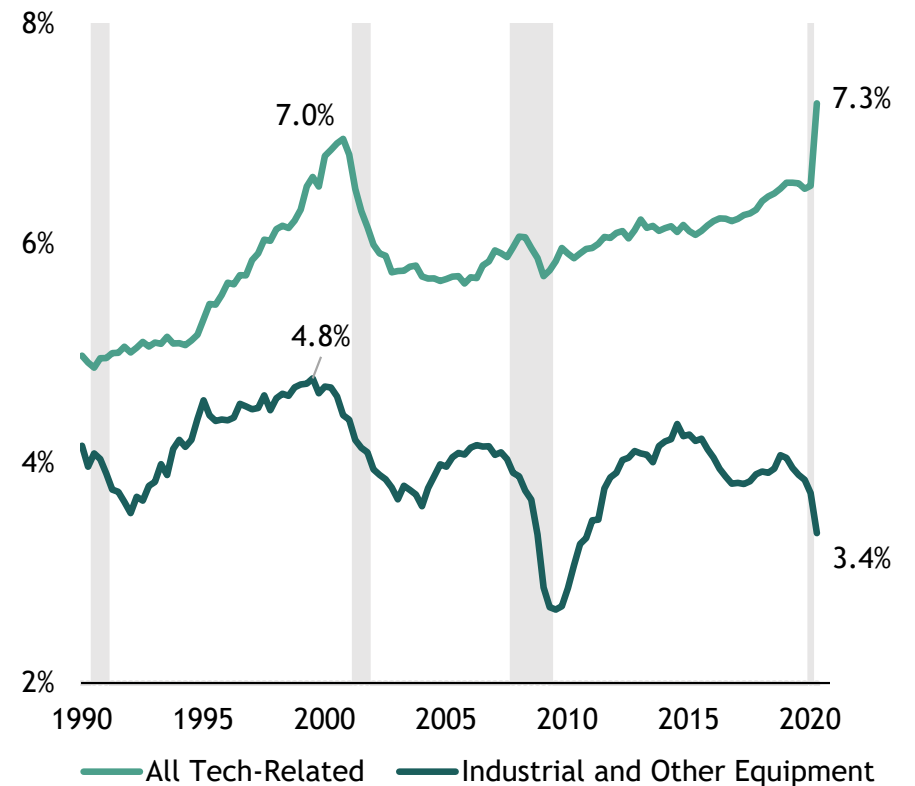
## Technology-Related CapEx<sup>(1)</sup>

(percent of US gross private investment)



## Technology-Related vs. Industrial Equipment CapEx<sup>(1)</sup>

(percent of US GDP)



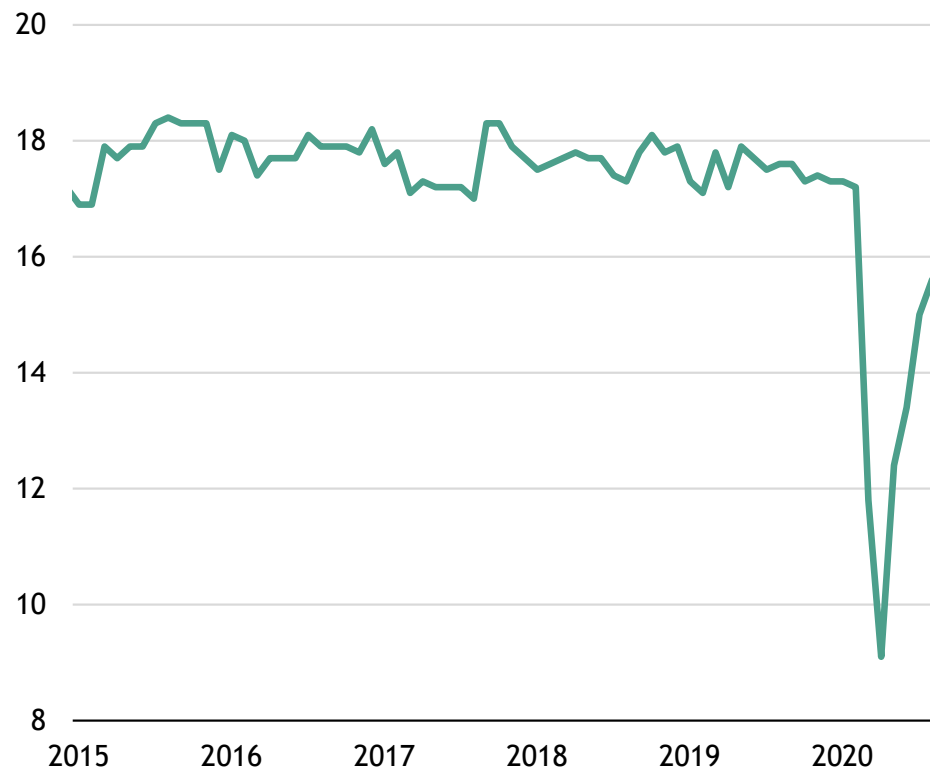
Source: Bureau of Economic Analysis and Haver Analytics, as of 6/30/20. Represents gross private nonresidential fixed investment.

(1) "Technology-related CapEx" includes investment in intellectual property products and information processing equipment. "Industrial and Other Equipment" includes industrial equipment, transportation and related equipment and other equipment.

# Vehicle sales have recovered to 91% of pre-COVID levels; retail sales have made new highs

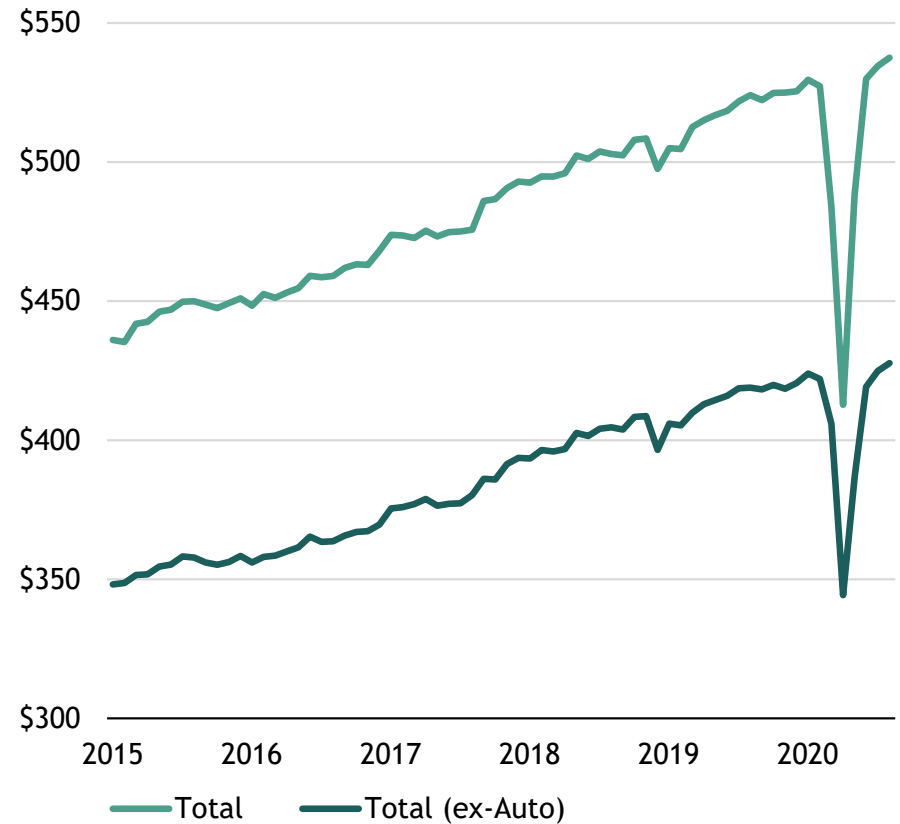
## Total Vehicle Sales

(millions, SAAR)



## Retail Sales and Food Services

(US\$ in billions, seasonally adjusted)

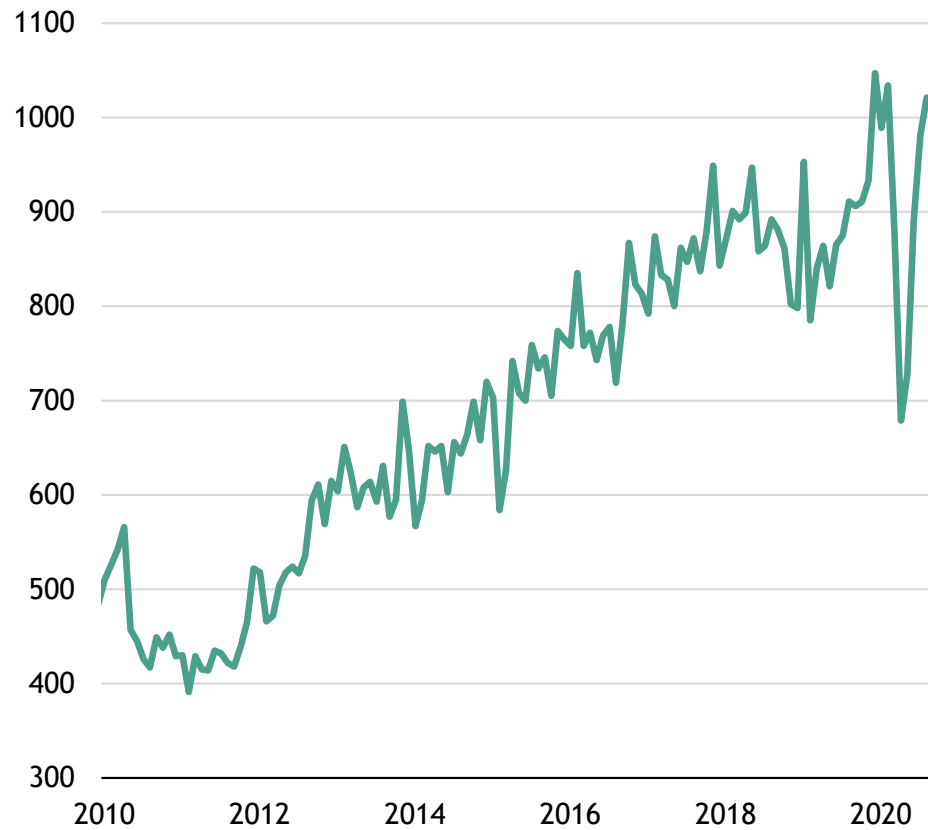


Source: Bureau of Economic Analysis, Census Bureau and Haver Analytics, as of 8/31/20.

# Single-family home starts have fully reversed their COVID-related drops; multifamily starts remain volatile

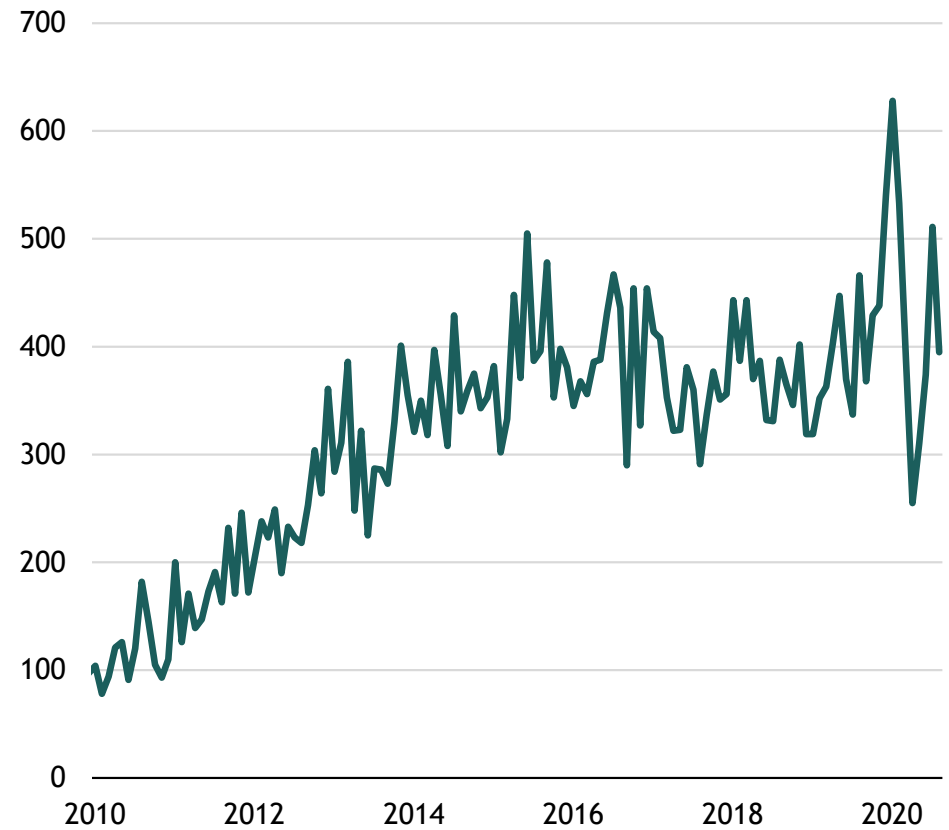
## Single-Family Home Starts

(thousands, SAAR)



## Multifamily Home Starts

(thousands, SAAR)



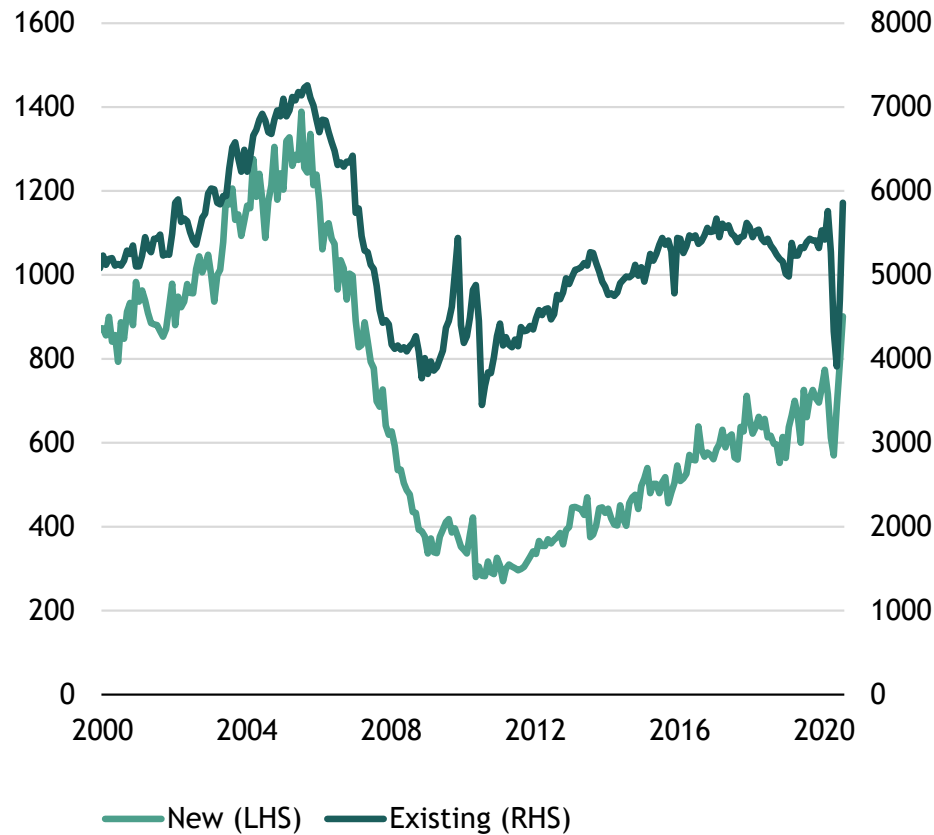
Source: Census Bureau and Haver Analytics, as of 8/31/20.



# New/existing home sales reached highest levels since 2006; home builder confidence at record highs

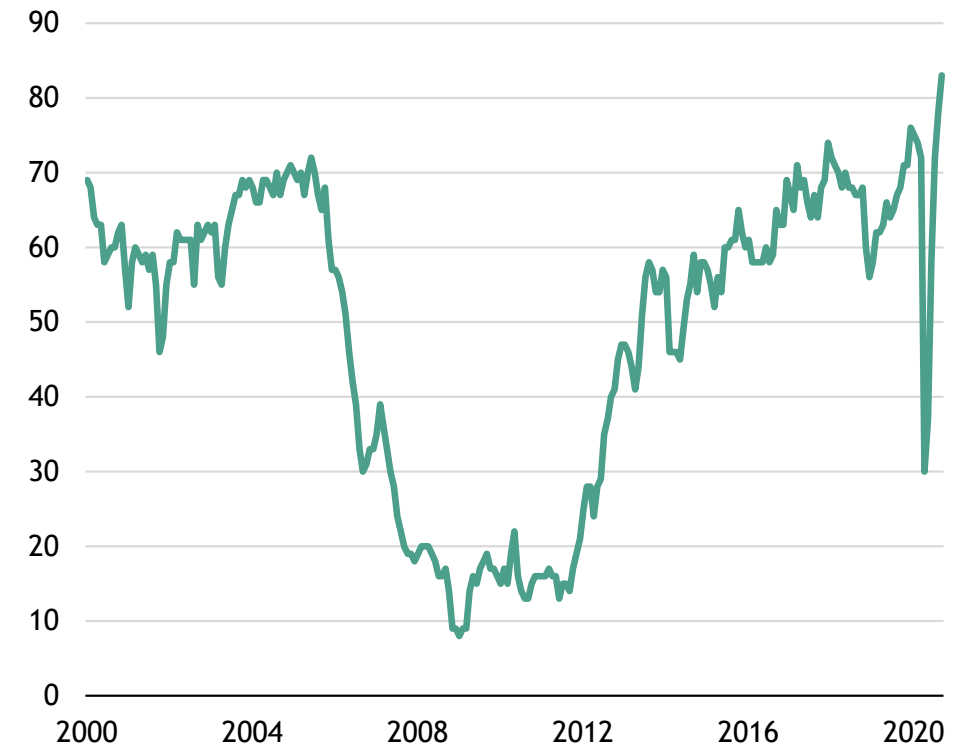
## New and Existing Home Sales<sup>(1)</sup>

(thousands, SAAR)



## NAHB Housing Market Index

(expectations for sales of new homes)

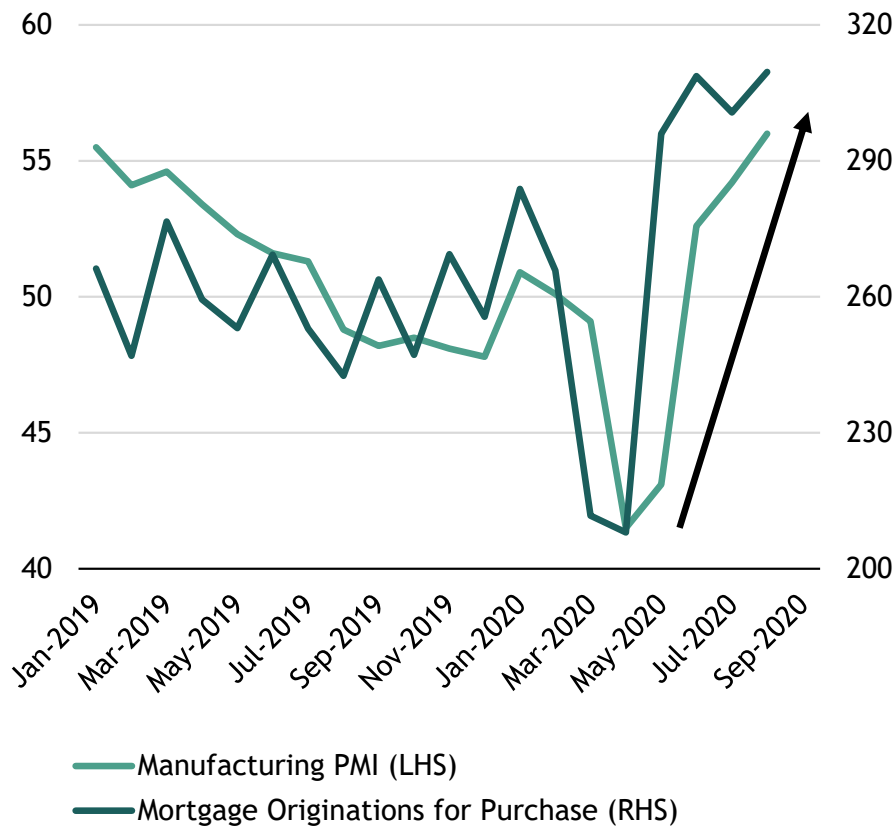


Source: Census Bureau, National Association of Realtors, National Association of Home Builders and Haver Analytics, as of 8/31/20.

(1) New home sales are for single-family homes. Existing home sales include single-family, townhomes, condominiums and cooperative homes.

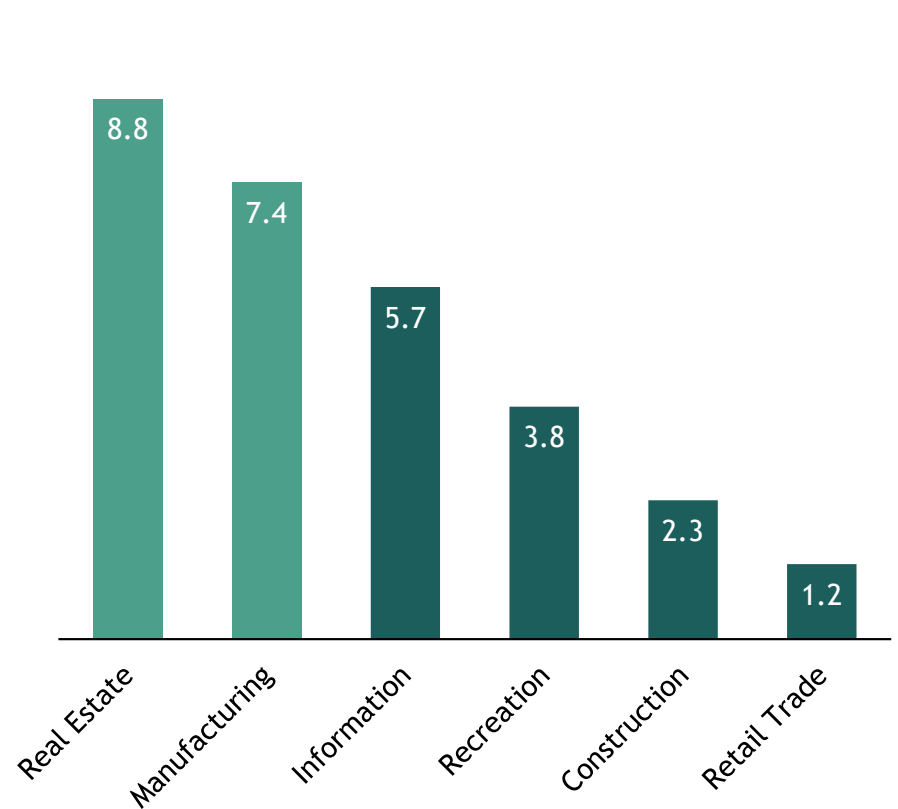
# Housing and manufacturing sectors are associated with high job multipliers relative to other sectors (e.g., retail)

**Manufacturing and Housing Indices<sup>(1)</sup>**



**Employment Multipliers, Select Sectors<sup>(2)</sup>**

(Total number of indirect jobs created per direct job)



(1) Source: ISM, Mortgage Bankers Association and Bloomberg, as of 8/31/20.

(2) Source: Economic Policy Institute and BLS, as of 1/23/19. Includes “supplier” jobs and “induced” jobs. “Supplier” jobs defined as materials and capital services supplier jobs. “Induced” jobs defined as jobs supported by re-spending of income from direct jobs and supplier jobs, as well as public-sector jobs supported by tax revenue.

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