

Blackstone

The Ten Surprises of 2022

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Joseph Zidle

Chief Investment Strategist and Senior Managing Director, Private Wealth Solutions

Byron R. Wien

Vice Chairman, Private Wealth Solutions

To receive future market commentary publications, please email BlackstoneStrategy@Blackstone.com

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I. The Ten Surprises

The Ten Surprises of 2021

These Surprises were announced on January 4, 2021. The definition of a “surprise” is an event that the average investment professional would assign a one-out-of-three chance of taking place, but which we believe is probable, having a better than 50% chance of happening.

1. Former President Trump starts his own television network and also plans his 2024 campaign. His lead program is *The Chief*, in which he weekly interviews heads of state and CEOs with management styles like his own. His virtual interview with Vladimir Putin draws more viewers than any television program in history.
2. Despite the hostile rhetoric from both sides during the U.S. presidential campaign, President Biden begins to restore a constructive diplomatic and trade relationship with China. China A shares lead emerging markets higher.
3. The success of between five and ten vaccines, together with an improvement in therapeutics, allows the U.S. to return to some form of “normal” by Memorial Day 2021. People are generally required to show proof of vaccination before boarding airplanes and attending theaters, movies, sporting events and other large gatherings. The Summer Olympics, postponed last year, are held in July with spectators allowed to physically attend.
4. The Justice Department softens its case against Google and Facebook, persuaded by the argument that the consumer actually benefits from the services provided by these companies. Certain divestitures are proposed and surveillance restrictions are applied, but the broad effort to break them up loses support, except in Europe.
5. The economy develops momentum on its own because of pent-up demand, and depressed hospitality and airline stocks become strong performers. Fiscal and monetary policy remain historically accommodative. Nominal economic growth for the full year exceeds 6% and the unemployment rate falls to 5%. We begin the longest economic cycle in history, surpassing the cycle that lasted from 2010 to 2020.

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The Ten Surprises of 2021 (cont'd)

6. The Federal Reserve and the Treasury openly embrace Modern Monetary Theory as their accommodative policies continue. As long as growth exceeds the rate of inflation, deficits don't seem to matter. Because inflation increases modestly, gold rallies and cryptocurrencies gain more respect during the year.
7. Even as energy company executives cut estimates for long-term growth, near-term opportunities are increasing. The return to "normal" increases both industrial activity and mobility, and the price of West Texas Intermediate oil rises to \$65/bbl. Rig counts increase and energy high yield bonds rally soundly. Energy stocks are among the best performers in 2021.
8. The equity market broadens out. Stocks beyond health care and technology participate in the rise in prices. "Risk on" is not without risk and the market corrects almost 20% in the first half, but the S&P 500 trades at 4,500 later in the year. Cyclical lead defensives, small caps beat large caps and the "K" shaped equity market recovery unwinds. Big cap tech is the source of liquidity, and the stocks are laggards for the year.
9. The surge in economic growth causes the 10-year Treasury yield to rise to 2%. The yield curve steepens, but a concomitant increase in inflation keeps real rates near zero. The Fed wants the strength in housing and autos to continue. As a result, it extends the duration of bond purchases in order to prevent higher rates at the long end of the curve from choking off credit to consumers and businesses.
10. The slide in the dollar turns around. The post-vaccine strength of the U.S. economy and financial markets attracts investors disenchanted with the rising debt and slower growth of Europe and Japan. Treasuries maintain a positive yield and the carry trade continues.

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The “Also Rans” of 2021

Every year there are always a few Surprises that do not make the Ten, because we either do not think they are as relevant as those on the basic list, or we are not comfortable with the idea that they are “probable.”

11. Cyber-attacks, mostly from Eastern Europe and the Middle East, begin to have an economic impact. Bank account information is invaded and distorted, patient records are lost at hospitals and credit collection companies can't keep track of customer purchases. Those tampering prove to be more skillful than those protecting the integrity of the data and the dislocation cost becomes significant.
12. Tesla acquires a major global auto manufacturer in a transaction that involves a combination of cash and stock. Elon Musk is the CEO and pledges to eliminate the internal combustion engine by the end of the decade.
13. Kim Jong-un threatens to explode his latest long-range missile, capable, he says, of reaching Los Angeles. Trump invites him onto TV and explains that Kim will be a better person and the world will be a better place if he works with other countries rather than threatening them. Kim agrees to stop testing long-range missiles. Trump looks into the camera and says, “People say I am the best negotiator.”

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The Ten Surprises of 2022

These Surprises were announced on January 3, 2022. The definition of a “surprise” is an event that the average investment professional would assign a one-out-of-three chance of taking place, but which we believe is probable, having a better than 50% chance of happening.

1. The combination of strong earnings clashes with rising interest rates, resulting in the S&P 500 making no progress in 2022. Value outperforms growth. High volatility continues and there is a correction that approaches, but does not exceed, 20%.
2. While the prices of some commodities decline, wages and rents continue to rise and the Consumer Price Index and other widely followed measures of inflation increase by 4.5% for the year. Declines in prices of transportation and energy encourage the die-hard proponents of the view that inflation is “transitory,” but persistent inflation becomes the dominant theme.
3. The bond market begins to respond to rising inflation and tapering by the Federal Reserve, and the yield on the 10-year Treasury rises to 2.75%. The Fed completes its tapering and raises rates four times in 2022.
4. In spite of the Omicron variant, group meetings and convention gatherings return to pre-pandemic levels by the end of the year. While Covid remains a problem throughout both the developed and the less-developed world, normal conditions are largely restored in the US. People spend three to four days a week in offices and return to theaters, concerts, and sports arenas en masse.
5. Chinese policymakers respond to recent turmoil in the country’s property markets by curbing speculative investment in housing. As a result, there is more capital from Chinese households that needs to be invested. A major asset management industry begins to flourish in China, creating opportunities for Western companies.

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The Ten Surprises of 2022 (cont'd)

6. The price of gold rallies by 20% to a new record high. Despite strong growth in the US, investors seek the perceived safety and inflation hedge of gold amidst rising prices and volatility. Gold reclaims its title as a haven for newly minted billionaires, even as cryptocurrencies continue to gain market share.
7. While the major oil-producing countries conclude that high oil prices are speeding up the implementation of alternative energy programs and allowing US shale producers to become profitable again, these countries can't increase production enough to meet demand. The price of West Texas crude confounds forward curves and analyst forecasts when it rises above \$100 per barrel.
8. Suddenly, the nuclear alternative for power generation enters the arena. Enough safety measures have been developed to reduce fears about its dangers, and the viability of nuclear power is widely acknowledged. A major nuclear site is approved for development in the Midwest of the United States. Fusion technology emerges as a possible future source of energy.
9. ESG evolves beyond corporate policy statements. Government agencies develop and enforce new regulatory standards that require public companies in the US to publish information documenting progress on various metrics deemed critical in the new era. Federal Reserve governors spearhead implementation of stress tests to assess financial institutions' vulnerability to climate change scenarios.
10. In a setback to its green energy program, the United States finds it cannot buy enough lithium batteries to power the electric vehicles planned for production. China controls the lithium market, as well as the markets for the cobalt and nickel used in making the transmission rods, and it opts to reserve most of the supply of these commodities for domestic use.

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11. The FDA approves the first ex vivo gene-editing treatment. This stimulates further research into genomic medicine, and progress is accelerated on developing in vivo gene therapies. Ethical concerns around CRISPR technology inspire heated debate, but also focus investor attention on the pharmaceuticals and health care sectors.
12. The digital economy gets a major boost when Jamie Dimon reverses his position on cryptocurrencies and J.P. Morgan seeks to become a leader in the space. Crypto becomes a major factor in the financial markets.
13. The United States and China both seek to become the global leader in advanced semiconductor capabilities in order to reduce their dependence on offshore manufacturing of the technology. The US government commits major funds to private contractors for semiconductor research, while China focuses on state-owned enterprises to get the job done.
14. Puerto Rico becomes the new retirement destination of choice. People are attracted by the good weather and low tax rates, and they put aside fears of hurricanes.

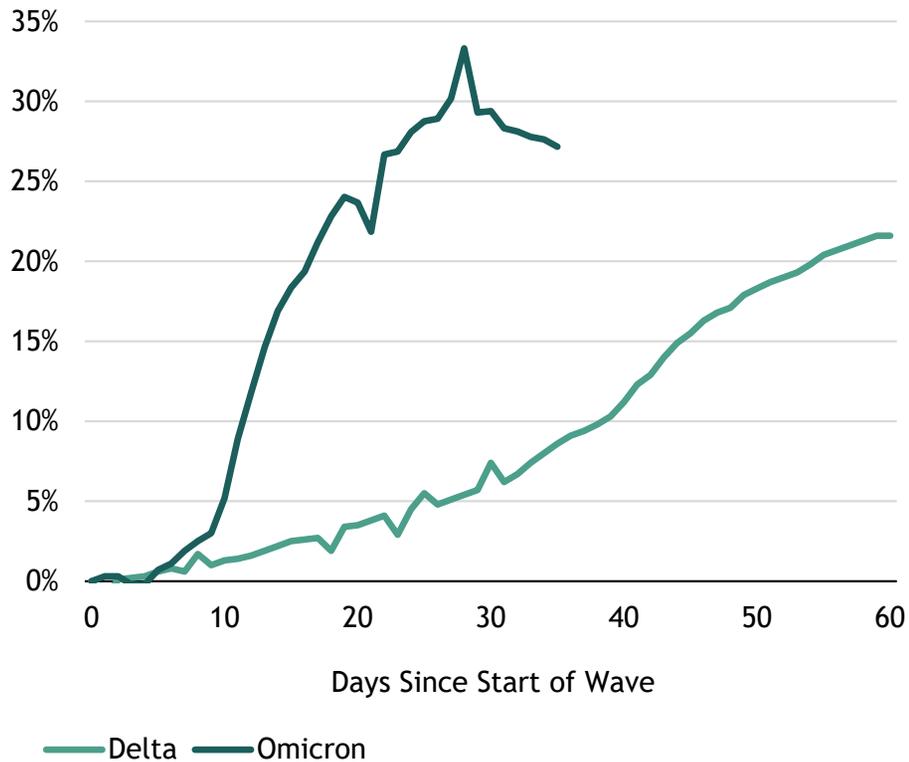
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II. Diverging Global Outlooks

Omicron variant spreading more rapidly than Delta variant, but deaths have remained generally lower

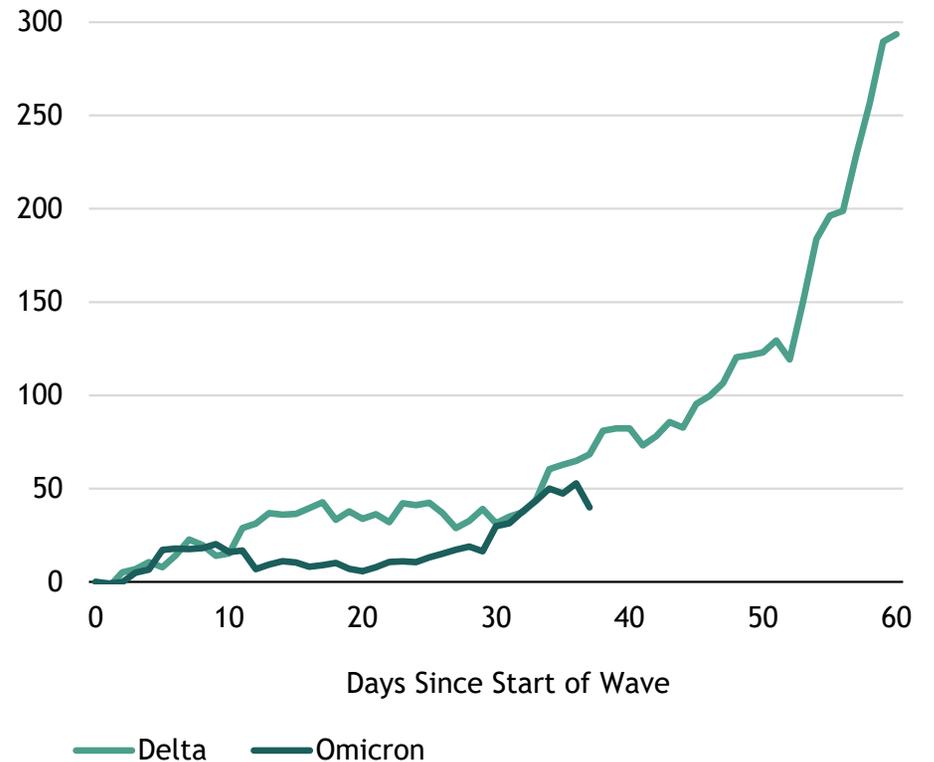
South Africa COVID Positivity Rate: Delta vs. Omicron Waves

(change in positivity rate since onset of respective wave)



South Africa Confirmed COVID Deaths: Delta vs. Omicron Waves⁽¹⁾

(change in confirmed deaths since onset of respective wave)



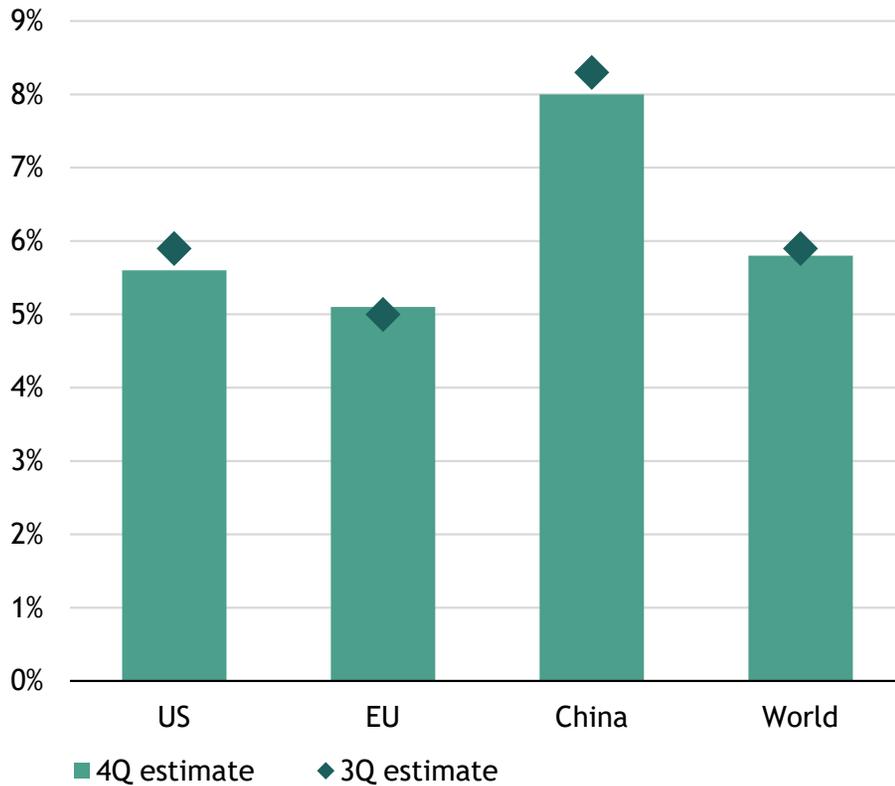
Source: Our World in Data, as of December 28, 2021. "Start of Wave" defined as the first day that the 7-day positive testing rate increased by at least one percent week over week.

(1) Represents daily new confirmed COVID-19 deaths, rolling 7-day average.

Concerns about COVID, persistent inflation, and tighter monetary policy have pushed down growth forecasts

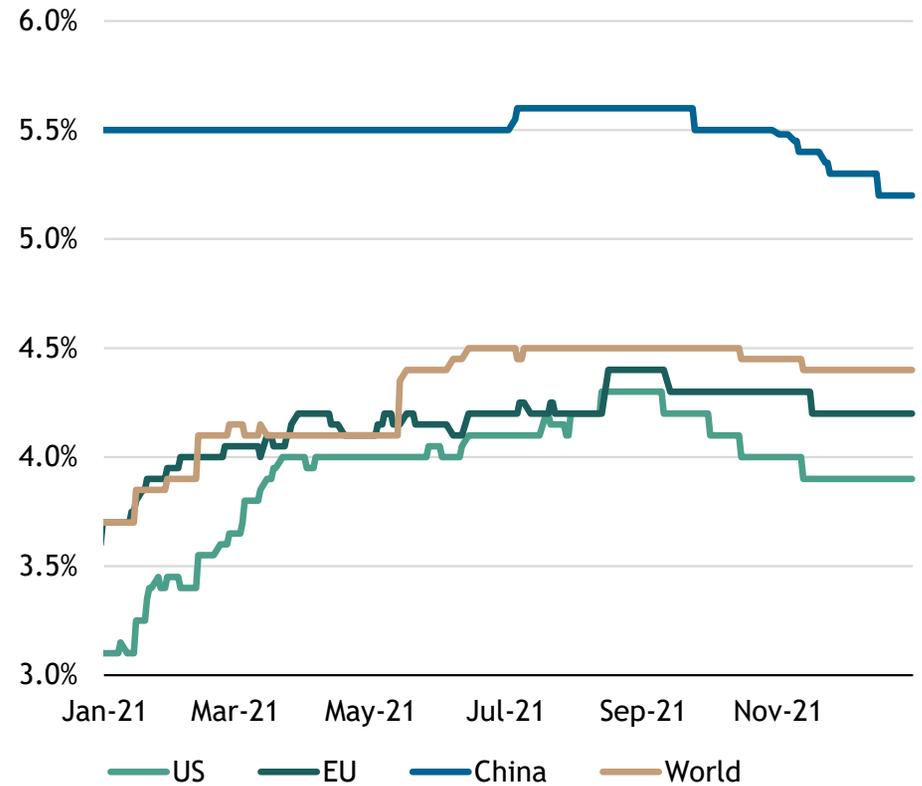
2021 Real GDP Growth Estimates⁽¹⁾

(YoY change)



2022 Real GDP Growth Estimates

(YoY change)



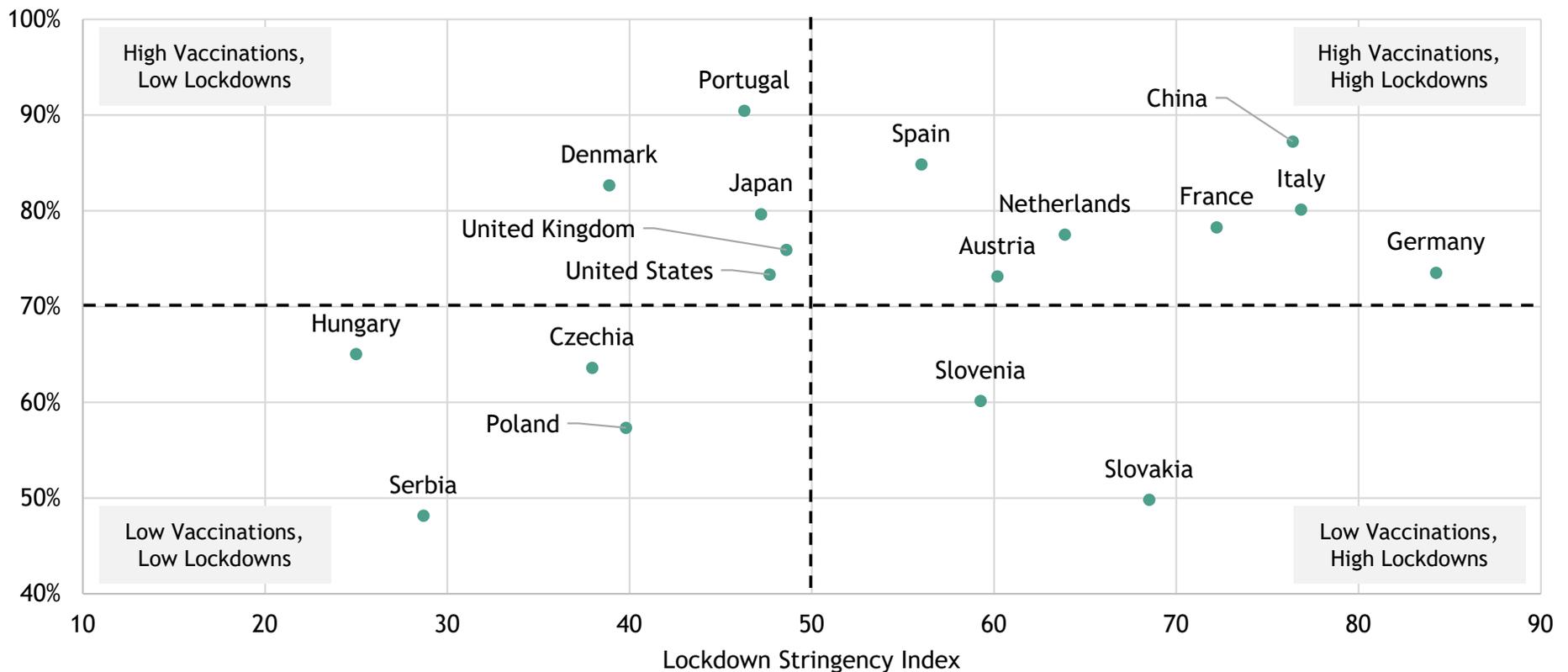
Source: Bloomberg consensus forecasts, as of December 31, 2021.

(1) "3Q estimate" is as of September 30, 2021; "4Q estimate" is as of December 31, 2021.

Western European countries are highly vaccinated, but increased lockdown measures may hamper growth

Vaccination Rates vs. Lockdown Stringency: Europe, US, Japan and China

(share of total population at least partially vaccinated)

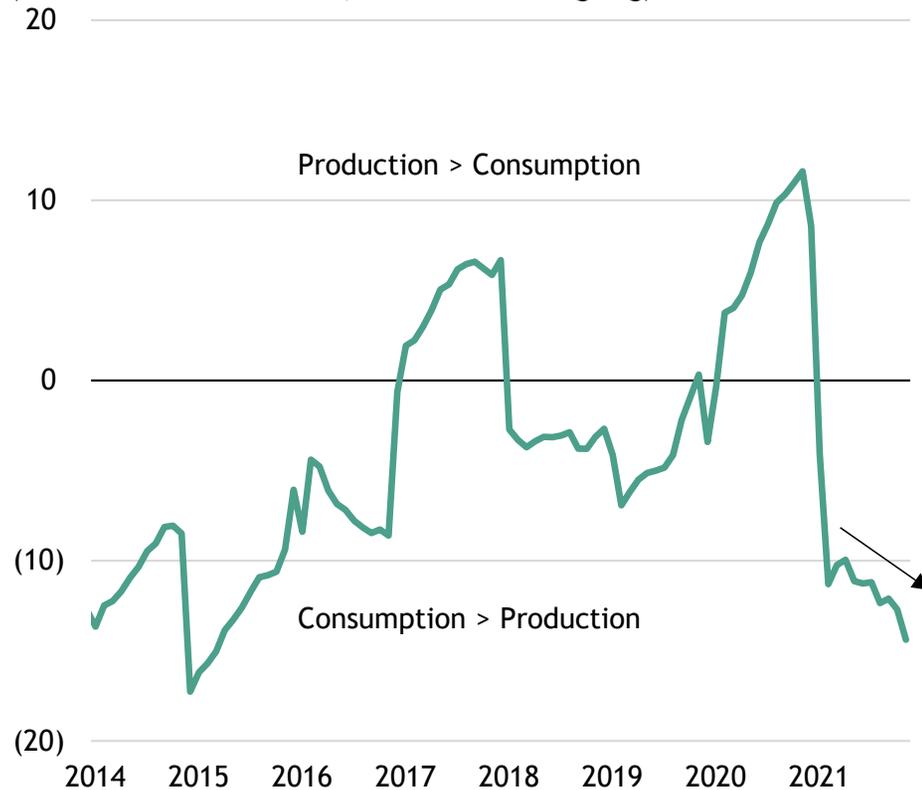


Source: Blackstone Investment Strategy, Our World in Data, and the Oxford Coronavirus Government Response Tracker (OxCGRT), as of December 31, 2021 (or latest observation available prior to then). “Lockdown Stringency Index” is calculated by OxCGRT using a composite measure of nine government response metrics, including: school closures, workplace closures, cancellation of public events, restrictions on public gatherings, closures of public transport, stay-at-home requirements, public information campaigns, restrictions on internal movements, and international travel controls.

China's strict COVID policies and energy shortages have hampered manufacturing activity in recent months

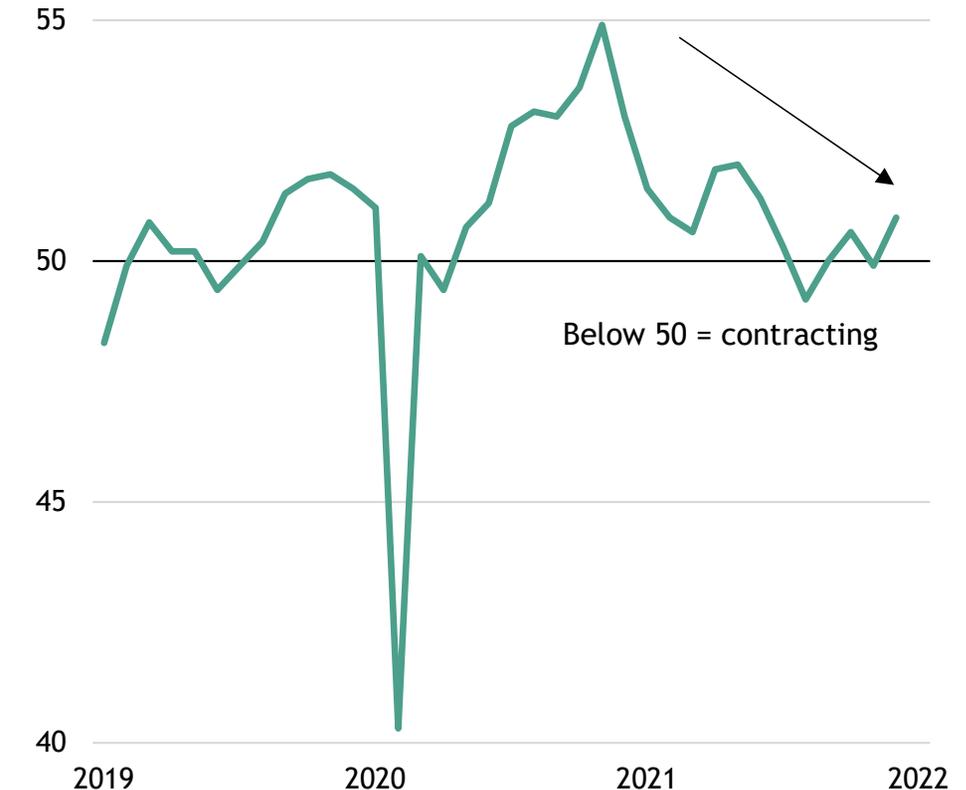
China's Net Electricity Consumption (Less Electricity Production)⁽¹⁾

(kilowatt-hours in billions, 12-month moving avg)



China Manufacturing PMI⁽²⁾

(diffusion index)



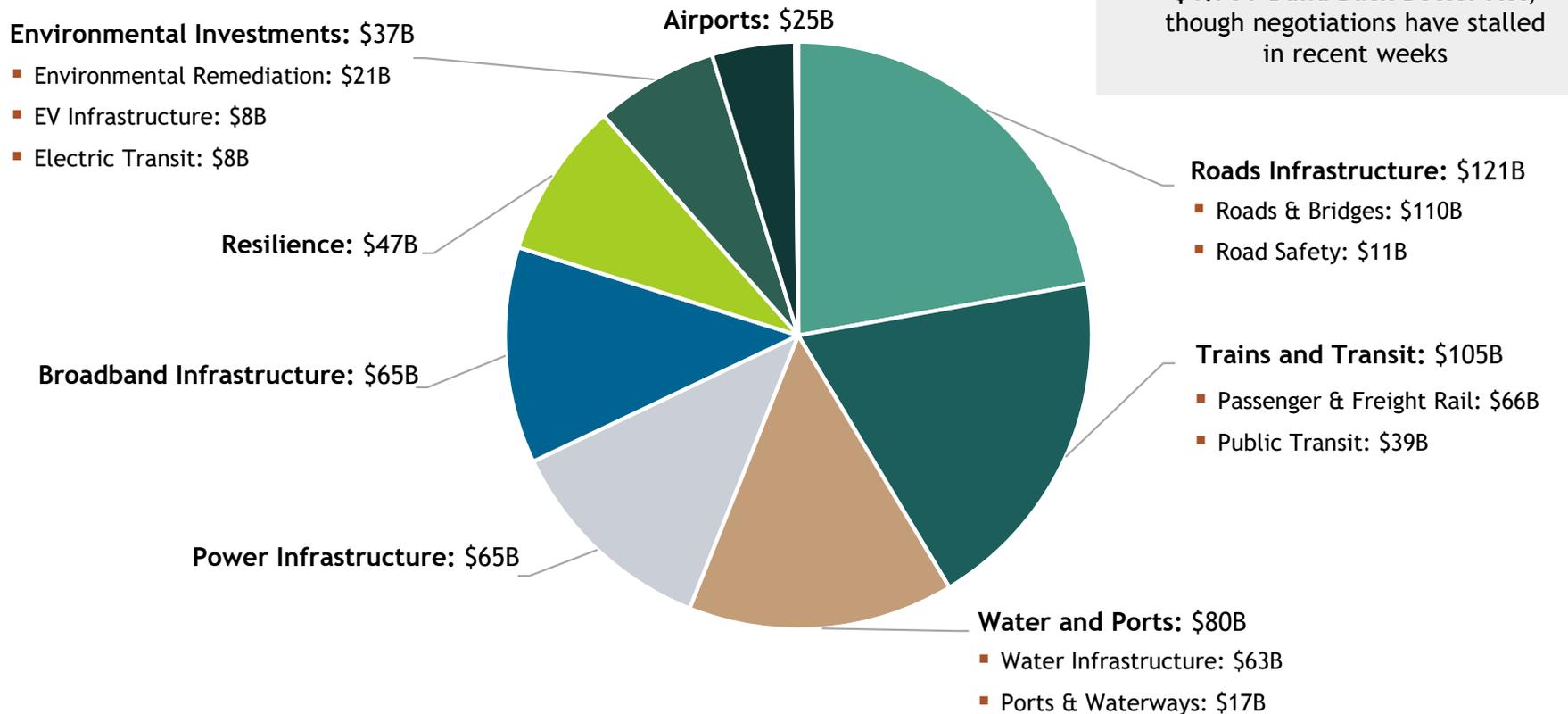
(1) Source: Blackstone Investment Strategy Macrobond, as of November 30, 2021.

(2) Source: Blackstone Investment Strategy, Markit, and Bloomberg, as of December 31, 2021.

President Biden signed bipartisan infrastructure bill, allowing ~\$550B in new spending over next 5 years

Budgetary Composition of the Infrastructure Investment and Jobs Act

(US\$ in billions)



Source: Congressional Budget Office, Joint Committee on Taxation, and Cornerstone Macro, as of November 8, 2021. Represents new (as opposed to previously approved) federal spending outlined in the Infrastructure Investment and Jobs Act, to be distributed over 5 years from FY 2022 through FY 2026.

Household net worth has recovered historically quickly, while loans as share of income remain subdued

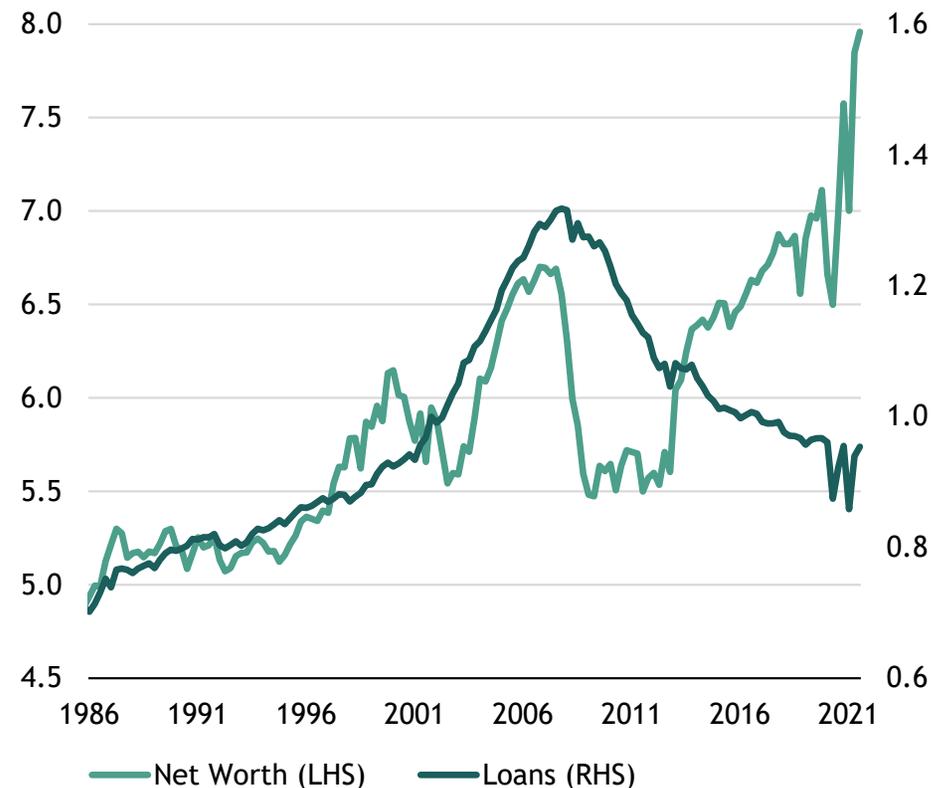
US Household Net Worth⁽¹⁾

(indexed to 100 as of one quarter prior to recession start)



US Household Net Worth and Loans⁽²⁾

(ratio to disposable personal income)



Source: Blackstone Investment Strategy and Federal Reserve Board, as of September 30, 2021. Data available on a one-quarter lag.

(1) "Global Financial Crisis" is indexed to 100 as of 3Q07; "COVID Crisis" is indexed to 100 as of 4Q19.

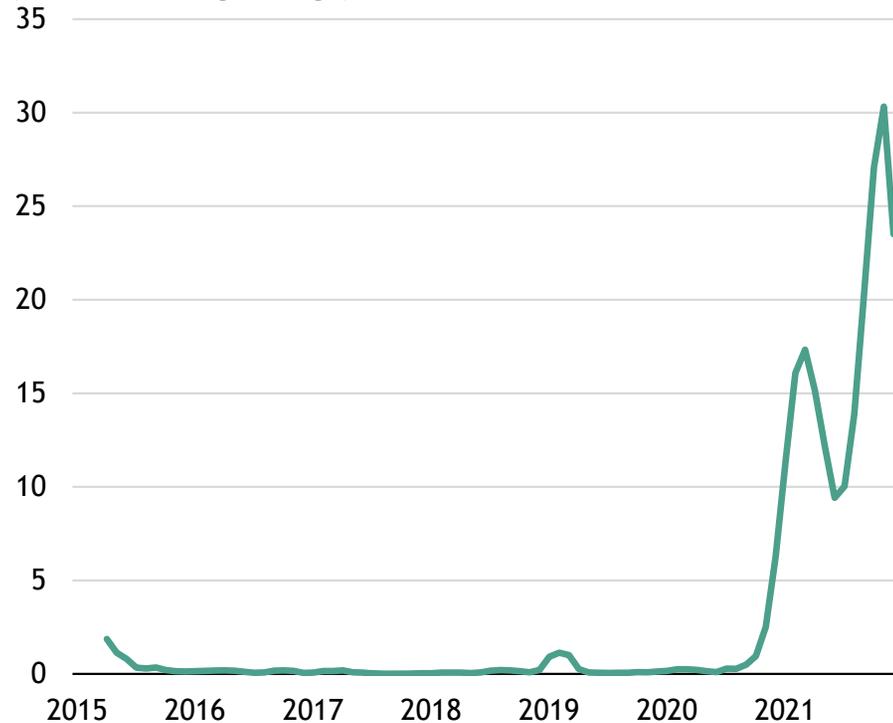
(2) "Loans" represent home mortgages, commercial mortgages, consumer credit, depository institution loans, and other loans and advances held by households and nonprofit organizations.

III. Retiring the Word “Transitory”

Ocean freight rates remain historically high but may be peaking; remains to be seen when and where they settle

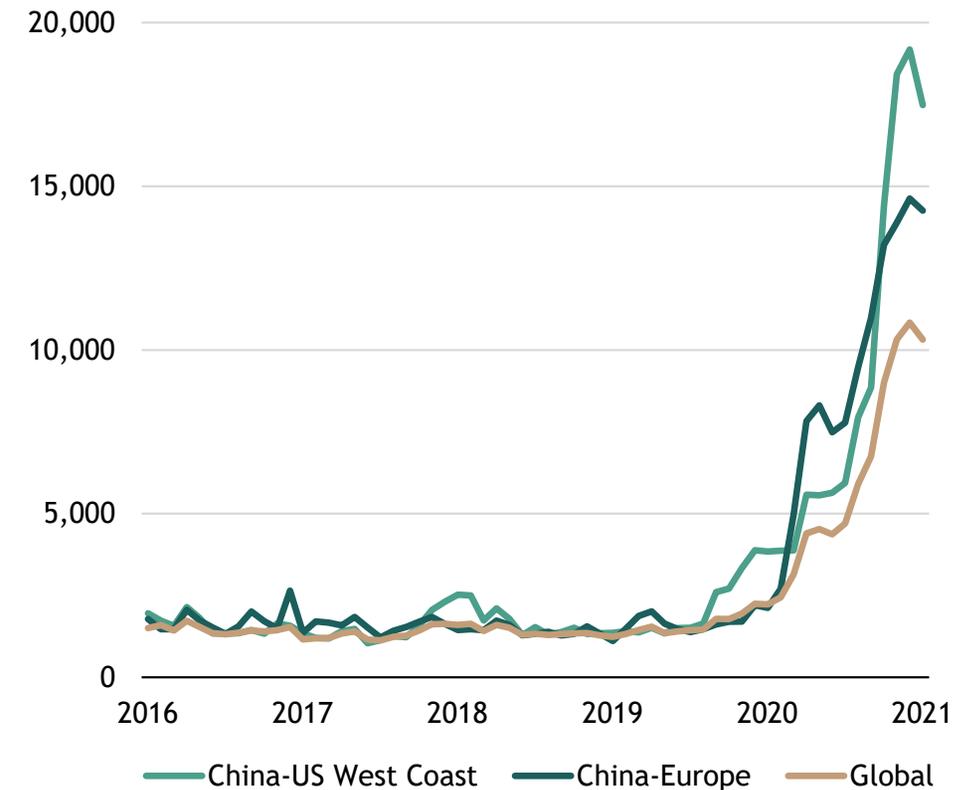
Port of Los Angeles: Number of Ships at Anchor

(3-month moving average)



Freightos Baltic Index⁽¹⁾

(select major trade routes)



Source: Blackstone Investment Strategy, Macrobond and Bloomberg, as of December 31, 2021. Monthly averages are shown for data with higher frequencies.

(1) Freightos Baltic Index (FBX) provides 40' container (FEU) indices for ocean freight. Each individual index trade lane is represented by 5-7 of the major ports of each region.

Shelter accounts for one-third of headline CPI basket but less than one-fifth of Nov. 2021 headline inflation

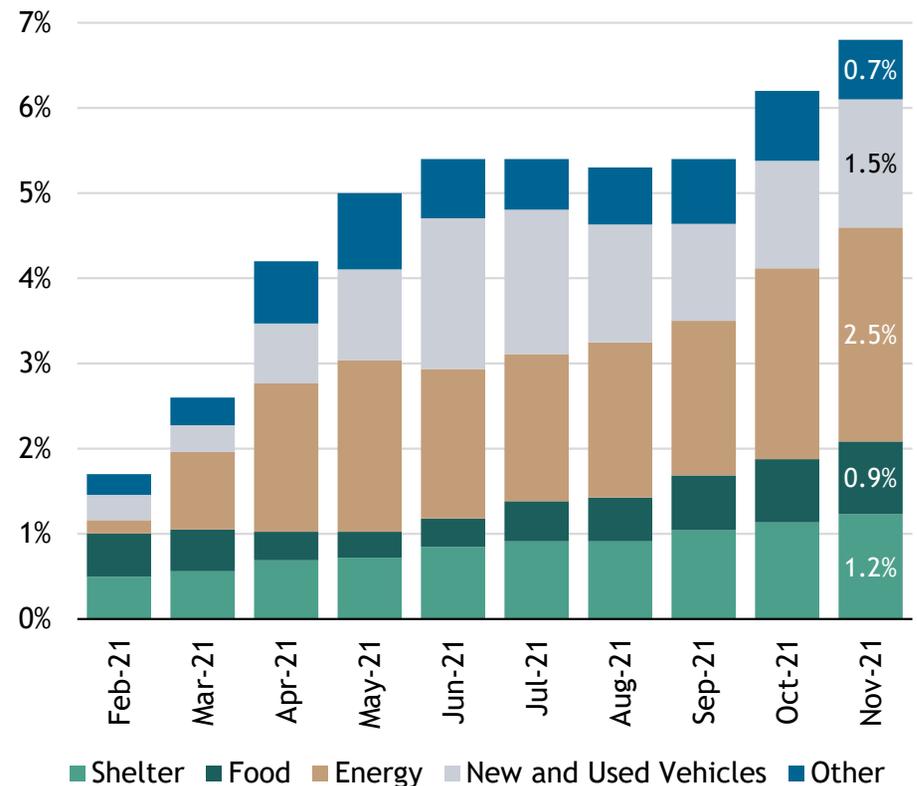
US CPI Inflation

(YoY%)

Inflation Component	CPI Basket Weight	Nov. '21 Growth (YoY%)
Shelter	32.4%	+3.8%
Food	14.0%	+6.1%
Energy	7.5%	+33.3%
New and Used Vehicles	7.3%	+20.6%
Other	38.8%	+1.8%
Total	100%	+6.8%

Composition of US CPI Inflation

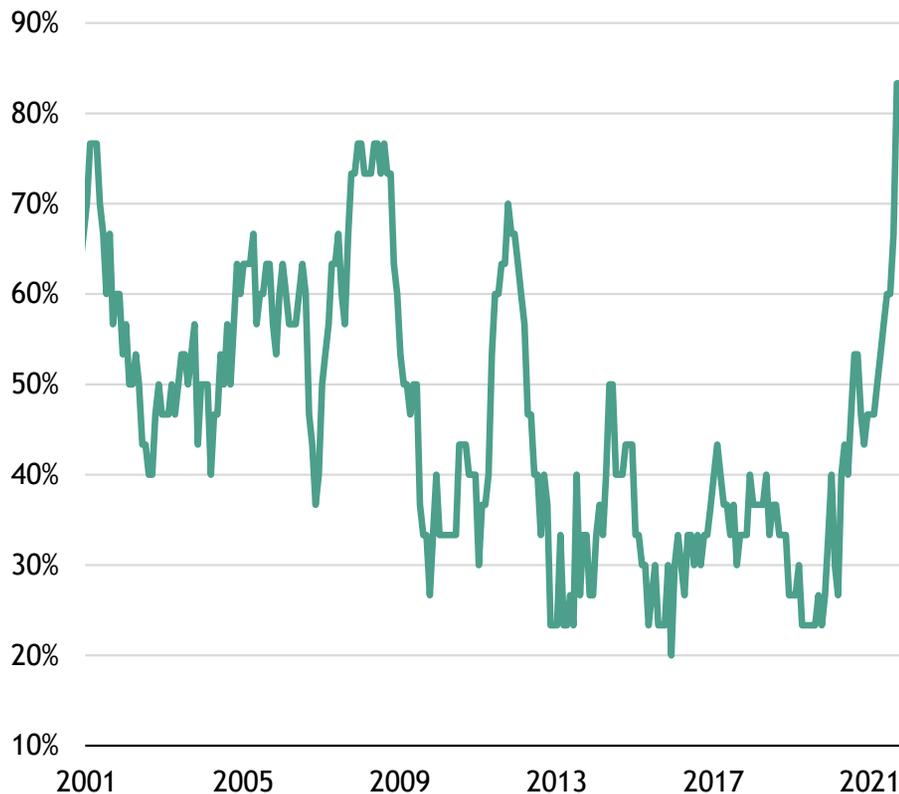
(YoY%)



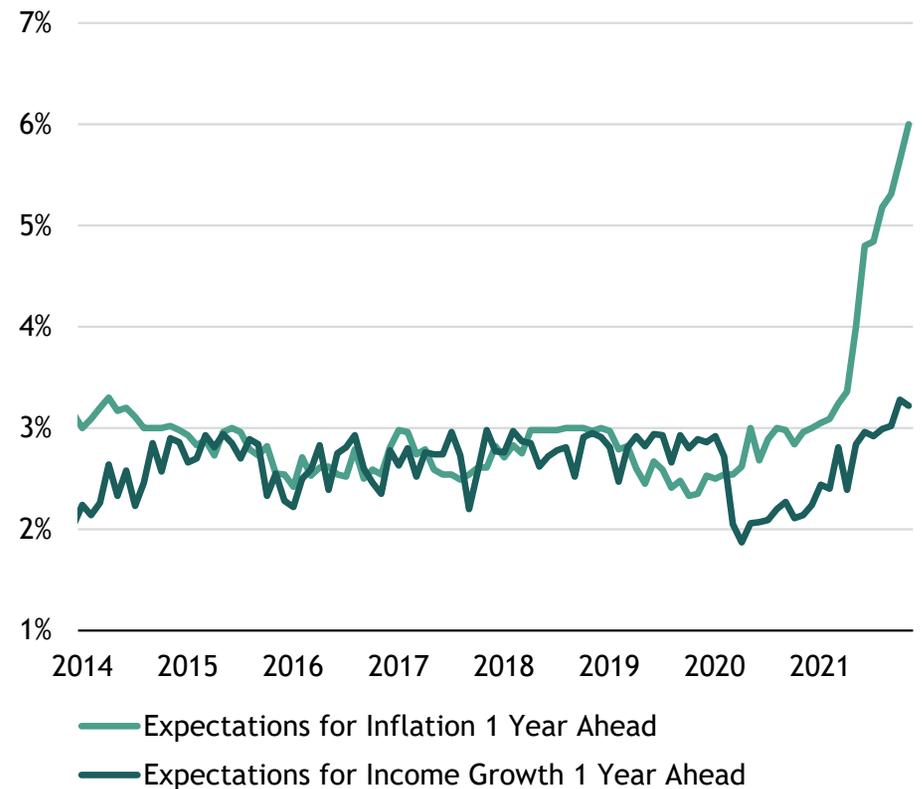
Source: Blackstone Investment Strategy and Bureau of Labor Statistics, as of November 30, 2021. All measures represent the Consumer Price Index for all urban consumers (US city average), which represents about 93% of the total US population. "Other" reflects commodities less food, energy, and vehicles, which include apparel and medical care commodities, and services less energy and shelter, which include transportation services and medical care services.

83% of CPI components are now running above 2.5%; households expect inflation to outstrip income growth

Share of CPI Inflation Above 2.5% YoY⁽¹⁾



Household Expectations for Inflation and Income Growth⁽²⁾



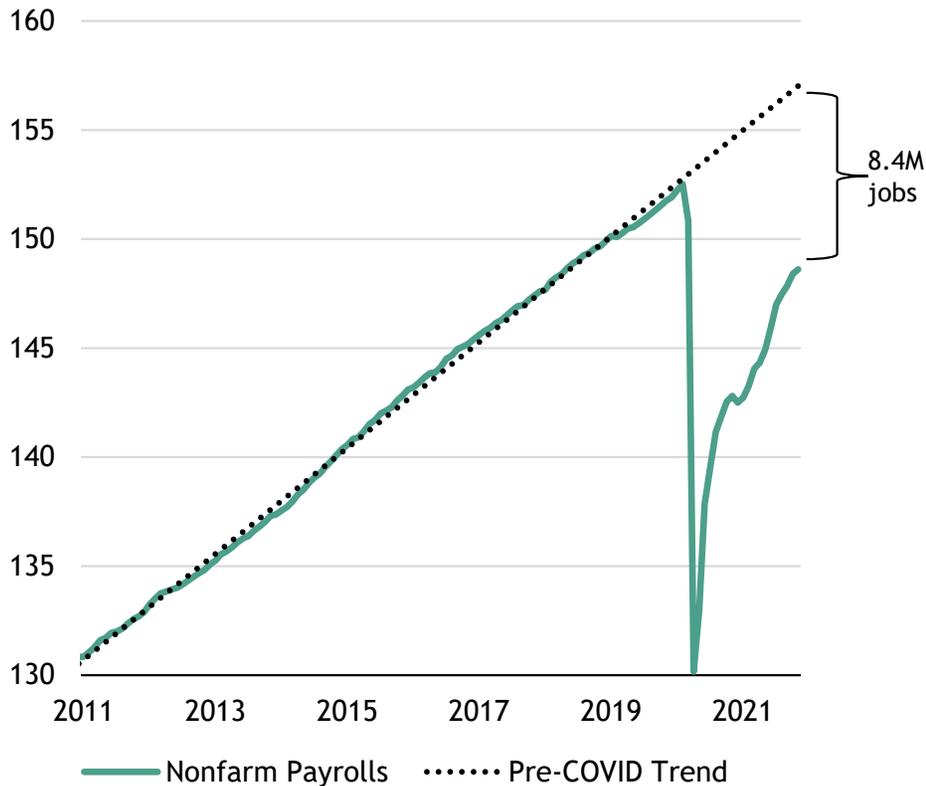
(1) Source: Blackstone Investment Strategy and Bureau of Labor Statistics, as of November 30, 2021. Based on a decomposition of the Consumer Price Index (CPI) for All Urban Consumers into 30 component parts.

(2) Source: Blackstone Investment Strategy and Federal Reserve Bank of New York, as of November 30, 2021. Series are sourced from FRBNY's monthly Survey of Consumer Expectations.

Despite 4.2% unemployment rate, labor force remains much smaller than pre-COVID, causing wage inflation

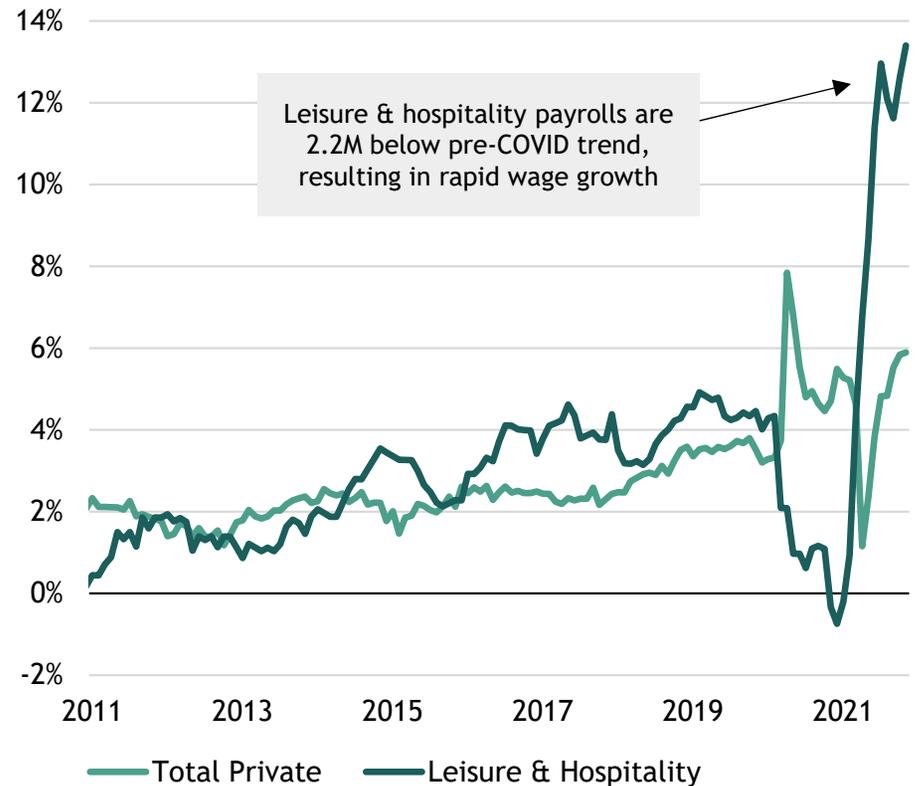
Nonfarm Payrolls⁽¹⁾

(millions of jobs, seasonally adjusted)



Average Hourly Earnings Growth

(production & non-supervisory employees, YoY, seasonally adjusted)



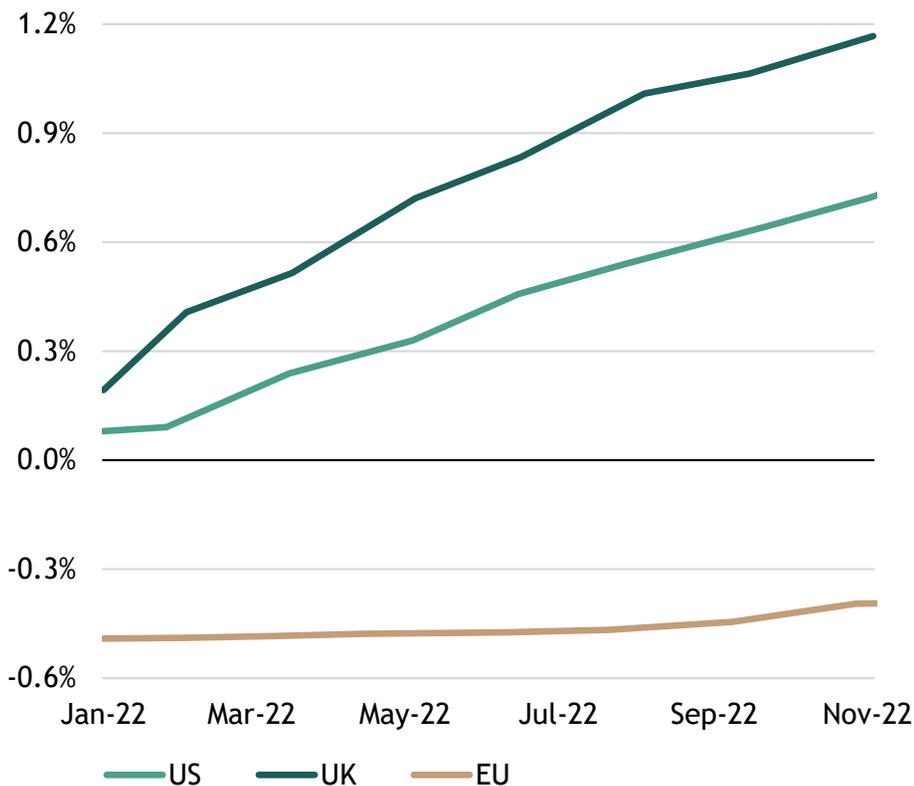
Source: Blackstone Investment Strategy, Bureau of Labor Statistics, and Macrobond, as of November 30, 2021. The unemployment rate was 4.2% as of November 2021.

(1) "Pre-COVID Trend" is the linear trend of monthly observations from January 2011 through February 2020.

IV. Reassessing Monetary Policy

Bank of England, Fed have pivoted hawkish in recent months, but ECB insists on low rates throughout 2022

Market-Implied Expectations for Select Central Bank Policy Rates⁽¹⁾



Major Central Banks' Rate Hike Commentary⁽²⁾

Federal Reserve: "We're in a very, very different place [from the last cycle] with high inflation, strong growth, a really strong economy. ... This is [an economy] in which it's appropriate for interest rate hikes." -Chair Jerome Powell (12/15)

→ Market expectation for first rate hike: **May 2022**

Bank of England: "The direction of travel for the Bank Rate during the next few quarters is clearly likely to be upwards." -MPC Member Michael Saunders (12/3)

→ Market expectation for next rate hike: **March 2022**

European Central Bank: "I see an inflation profile that looks like a hump. ... We are firmly of the view, and I'm confident, that inflation will decline in 2022." -President Christine Lagarde (12/3)

→ Market expectation for first rate hike: **year-end 2022**

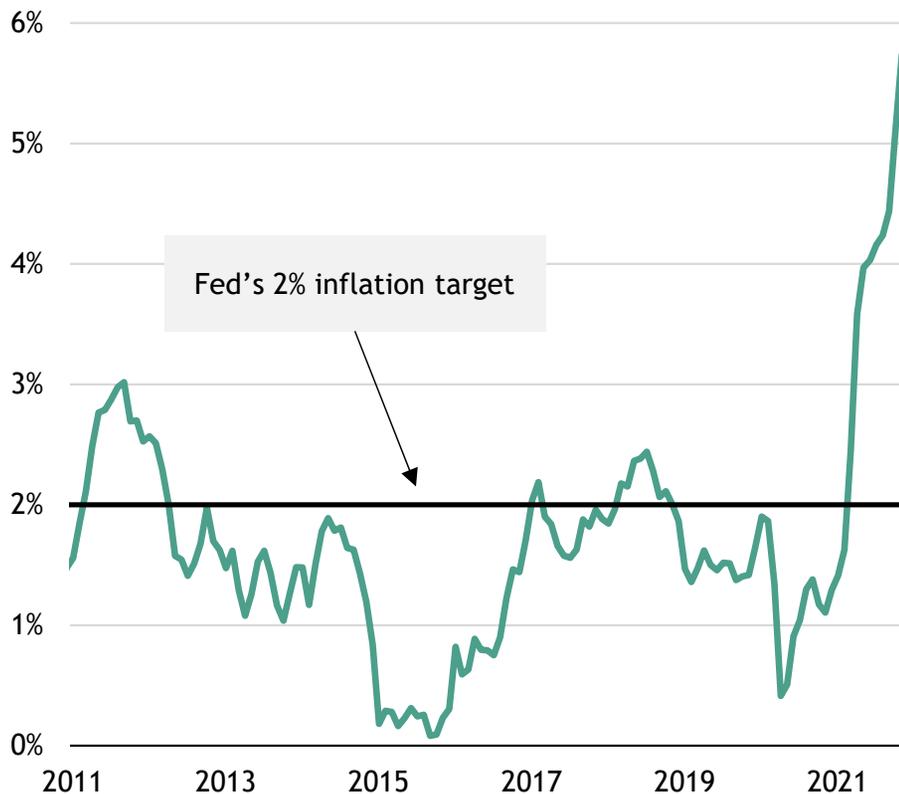
(1) Source: Blackstone Investment Strategy and Bloomberg, as of December 31, 2021. Reflects benchmark policy rates implied by overnight index swaps for each respective economy.

(2) Source: Blackstone Investment Strategy. Powell's remarks were made during his press conference after the Fed's December policy meeting on December 15, 2021; Saunders's remarks were made during an online webinar on December 3, 2021; Lagarde's remarks were made during an interview with Reuters on December 3, 2021.

Fed argues that prices have not been high for long, but average inflation over the last 5 years is well above 2%

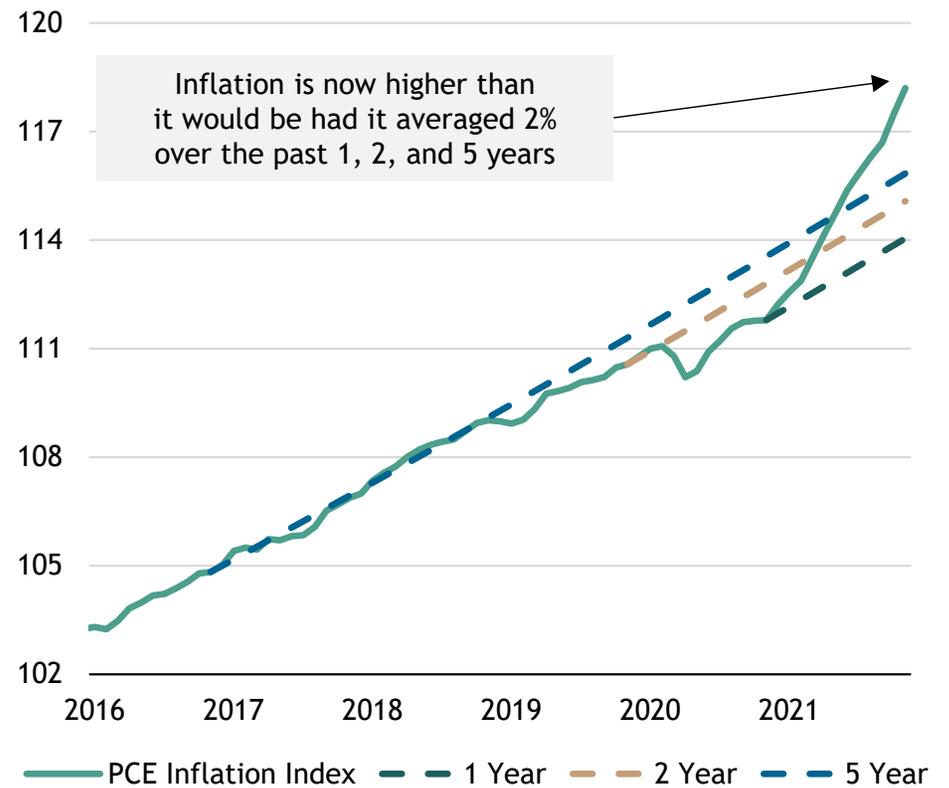
PCE Inflation Growth

(YoY change)



PCE Inflation Index and Look-Back Periods⁽¹⁾

(indexed to 100 as of 2012, seasonally adjusted)



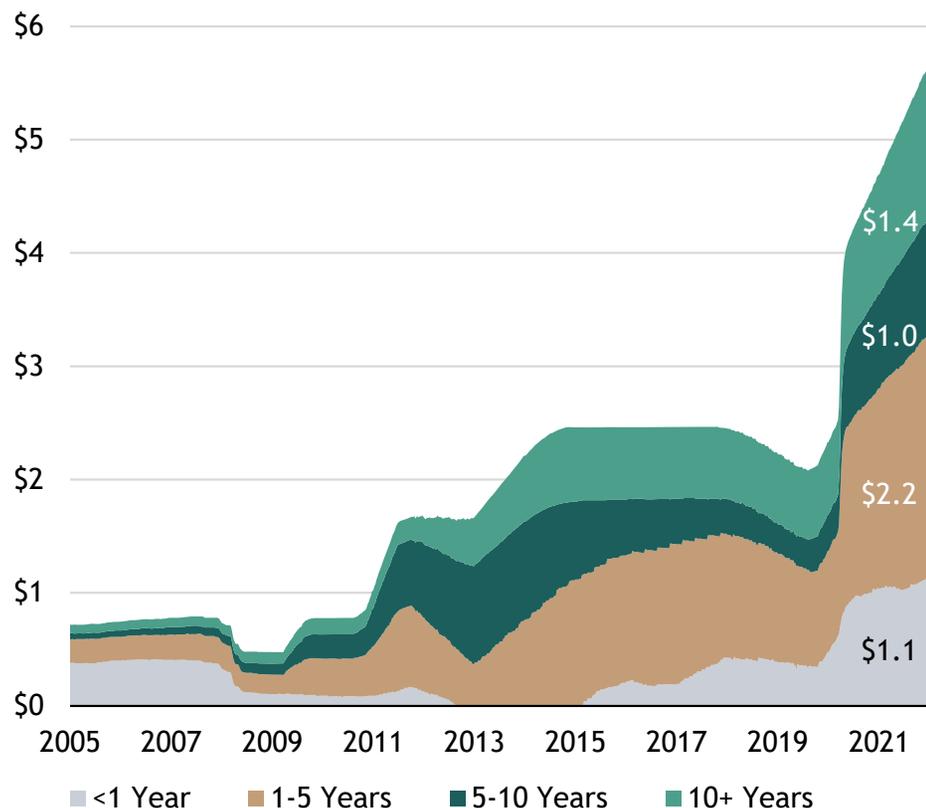
Source: Blackstone Investment Strategy and Bureau of Economic Analysis, as of November 30, 2021. "PCE" is Personal Consumption Expenditures.

(1) Dotted lines represent the hypothetical path of the PCE inflation index if the index's average annualized monthly percentage change over the stated period (i.e., over 1 year, 2 years, or 5 years) had equaled 2%.

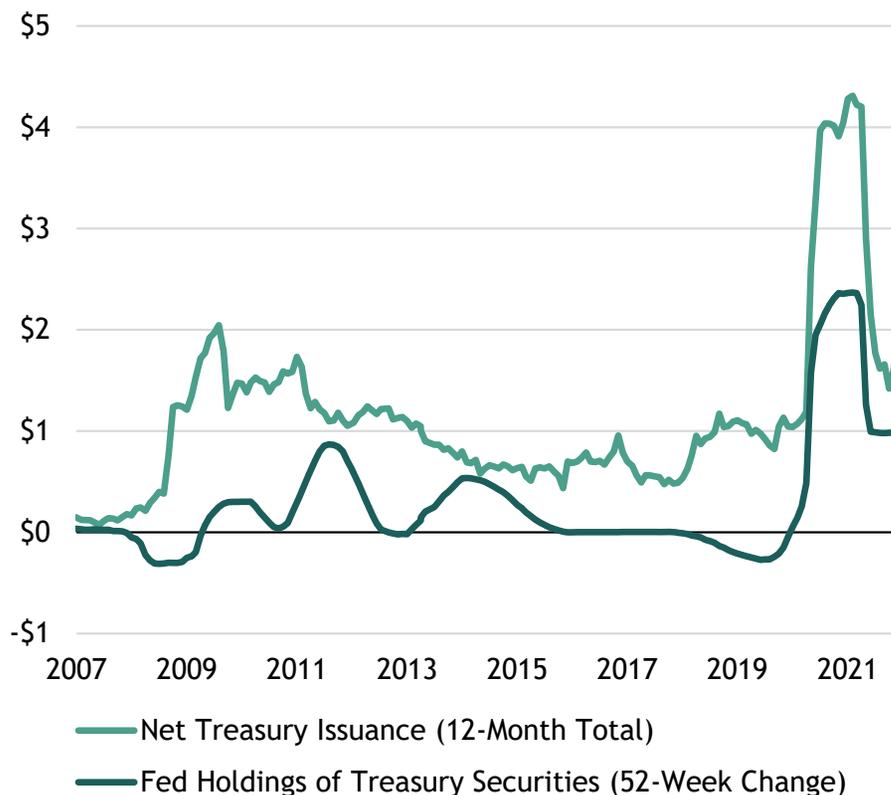
Fed has started tapering of asset purchases, but impact on yields may be muted by reduced Treasury issuance

Fed Balance Sheet: Treasury Holdings⁽¹⁾

(US\$ in trillions)



Treasury Net Issuance vs. Fed Purchases⁽²⁾



(1) Source: Blackstone Investment Strategy, Federal Reserve Board, and Macrobond, as of December 27, 2021. Represents securities held outright by the Federal Reserve, as of each week's Wednesday.

(2) Source: Blackstone Investment Strategy, Securities Industry and Financial Markets Association (SIFMA), and Federal Reserve Board, as of December 31, 2021.

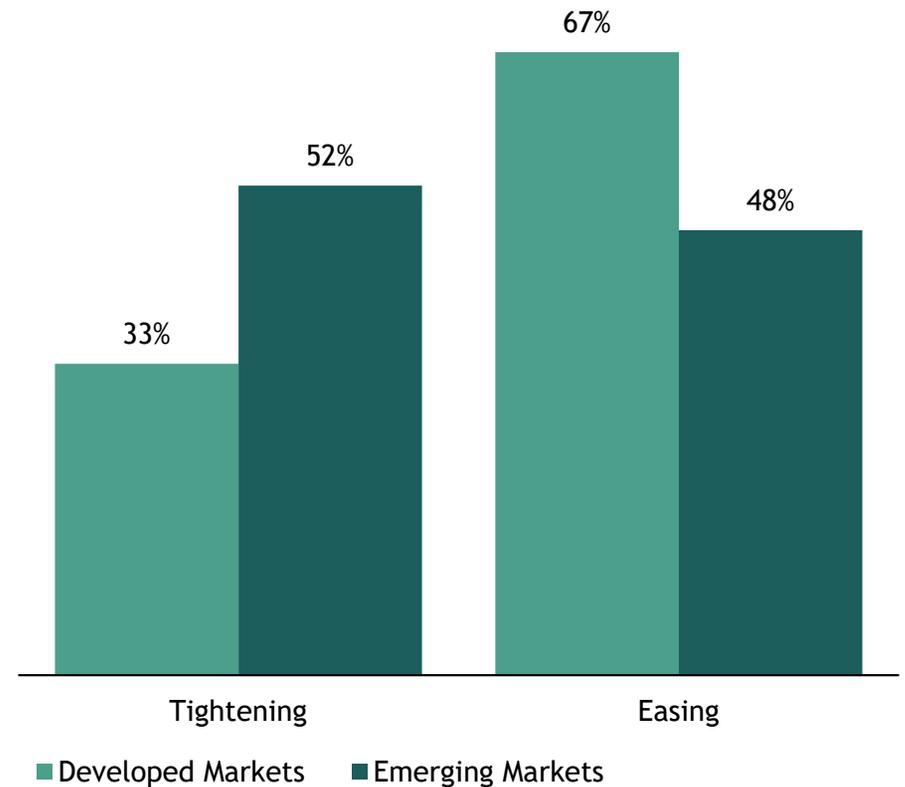
Global yield curves are flattening as expectations for rate hikes increase, especially in emerging market economies

Average Global 10Y-2Y Spread⁽¹⁾

(basis points)



Share of Central Banks Tightening or Easing Policy Rates⁽²⁾



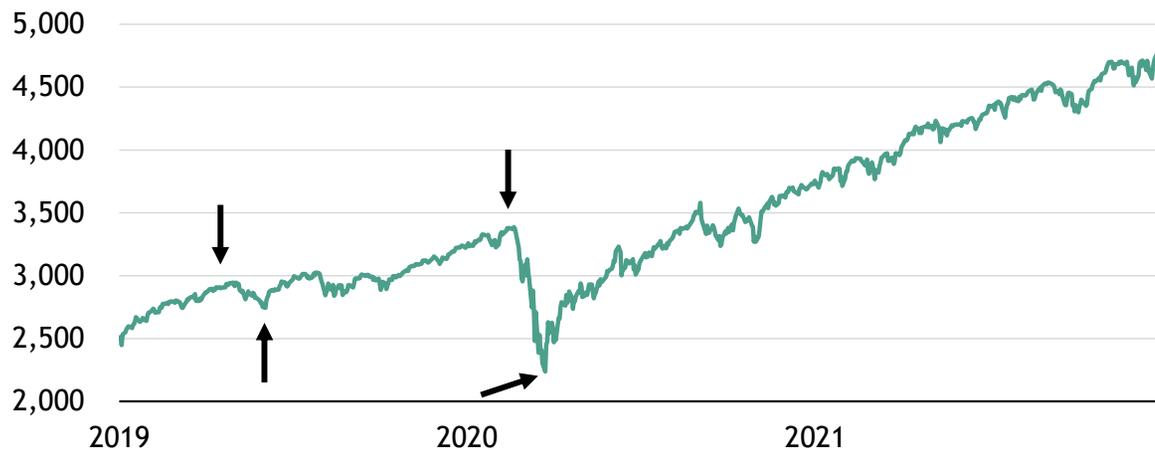
(1) Source: Blackstone Investment Strategy and Bloomberg, as of December 31, 2021. Represents average spread of month-end generic bond yields, averaged across 39 countries.

(2) Source: Blackstone Investment Strategy, Ned Davis Research, and Haver Analytics, as of January 4, 2022. Based on central bank policy rates aggregated from 12 developed market countries and 21 emerging market countries.

V. Market Outlook

Market sentiment at optimistic extreme in recent months

S&P 500 Composite Index



S&P 500 Index Performance⁽¹⁾

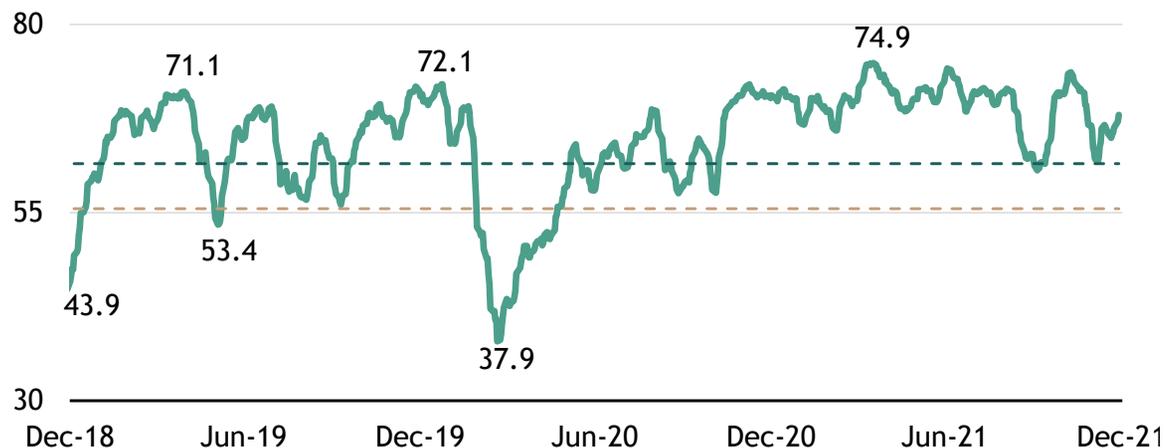
Full History: 12/1/1995 - 12/28/2021

NDR Crowd Sentiment Poll is:	% Gain / Annum	% of Time
Above 66.0	-0.1	28
57.0 - 66.0 from Above	3.3	18
57.0 - 66.0 from Below	22.3	19
Below 57.0	11.1	34
Buy / Hold = 8.2% Gain / Annum		

Historical average value of Crowd Sentiment Poll at:⁽²⁾

- Optimistic extremes (down arrows) = 68.7
- Pessimistic extremes (up arrows) = 46.8
- Average spread between extremes = 21.9

NDR Crowd Sentiment Poll



Extremes generated when sentiment reading:⁽³⁾

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

Source: Ned Davis Research, as of December 28, 2021.

(1) Totals may sum to >100 due to rounding.

(2) 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.

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

Dividend discount model shows implied S&P 500 price levels at various levels of earnings and risk-free rates

S&P 500 Dividend Discount Model⁽¹⁾

		10-Year Treasury Yield										
		1.00%	1.25%	1.50%	1.75%	2.00%	2.25%	2.50%	2.75%	3.00%	3.25%	3.50%
Trailing Twelve-Month EPS	\$225	8,206	6,741	5,719	4,967	4,389	3,932	3,561	3,254	2,996	2,776	2,585
	\$228	8,316	6,831	5,796	5,033	4,448	3,985	3,609	3,298	3,036	2,813	2,620
	\$231	8,425	6,920	5,872	5,099	4,506	4,037	3,656	3,341	3,076	2,850	2,654
	\$234	8,534	7,010	5,948	5,166	4,565	4,089	3,704	3,384	3,116	2,887	2,689
	\$237	8,644	7,100	6,024	5,232	4,623	4,142	3,751	3,428	3,156	2,924	2,723
	\$240	8,753	7,190	6,101	5,298	4,682	4,194	3,799	3,471	3,196	2,961	2,758
	\$243	8,863	7,280	6,177	5,364	4,740	4,247	3,846	3,514	3,236	2,998	2,792
	\$246	8,972	7,370	6,253	5,430	4,799	4,299	3,894	3,558	3,275	3,035	2,827
	\$249	9,081	7,460	6,329	5,497	4,858	4,352	3,941	3,601	3,315	3,072	2,861
	\$252	9,191	7,550	6,406	5,563	4,916	4,404	3,988	3,645	3,355	3,109	2,896
	\$255	9,300	7,640	6,482	5,629	4,975	4,456	4,036	3,688	3,395	3,146	2,930
	\$258	9,410	7,729	6,558	5,695	5,033	4,509	4,083	3,731	3,435	3,183	2,965
	\$261	9,519	7,819	6,635	5,762	5,092	4,561	4,131	3,775	3,475	3,220	2,999
	\$264	9,629	7,909	6,711	5,828	5,150	4,614	4,178	3,818	3,515	3,257	3,034
	\$267	9,738	7,999	6,787	5,894	5,209	4,666	4,226	3,862	3,555	3,294	3,068
	\$270	9,847	8,089	6,863	5,960	5,267	4,719	4,273	3,905	3,595	3,331	3,103

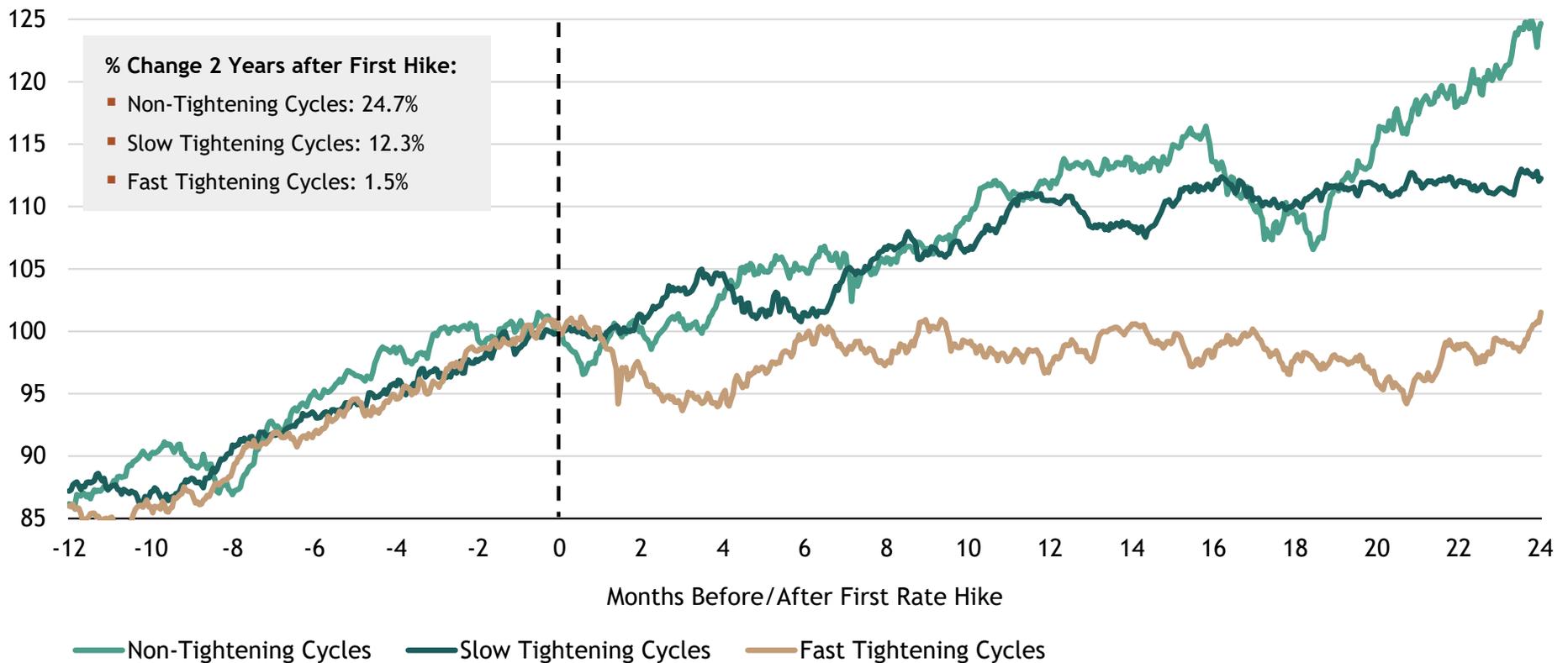
Source: Blackstone Investment Strategy, as of December 31, 2021.

(1) Assumes starting S&P 500 Earnings Per Share (EPS) of \$140.55, and that EPS start the period increasing / decreasing to level indicated in first column, before increasing / decreasing linearly over 2 years to a 4% nominal growth rate and remaining there in perpetuity. Further assumes dividend payout ratio remains at prior year's level of 41.94% and equity risk premium is a constant 4.15%.

Market tends to underperform during first years of Fed tightening cycles, but especially during fast rate hikes

S&P 500 Performance around First Fed Rate Hikes

(indexed to 100 as of date of first rate hike)



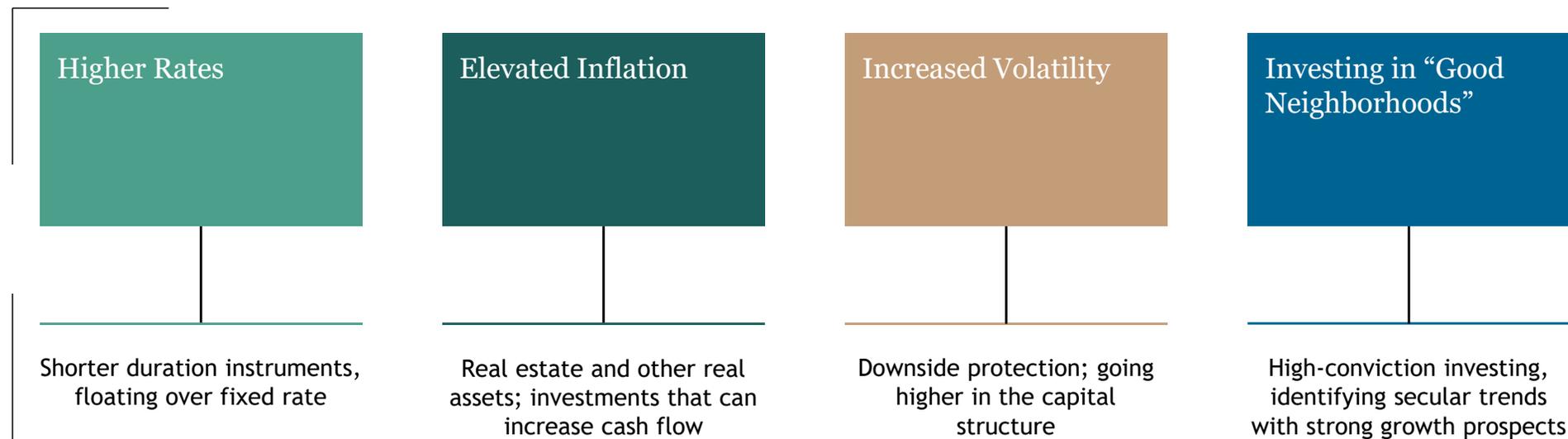
Source: S&P Dow Jones Indices, Ned Davis Research, and Blackstone Investment Strategy, as of December 1, 2021. Includes tightening cycles from 1946 onward. “Non-Tightening Cycles” are rate hikes that did not proceed to become a cycle of hikes. “Slow Tightening Cycles” are those in which the Fed waited (on average) at least one meeting in between hikes. “Fast Tightening Cycles” are those in which the Fed hiked at most meetings.

VI. Investing Mega-Trends

Investors should consider the portfolio implications of inflation, higher rates, and differentiated performance

- **Inflationary pressures to remain persistent:** Transitory forms of inflation due to commodity prices and supply chain congestion will give way to more persistent forms of inflation from wages and housing
- **Self-sustaining economic expansion:** Strong household balance sheets, ample savings, and low unemployment will drive this next phase of the US economic expansion
- **Higher rates on the horizon:** A strong economic environment with robust inflation will drive long-term interest rates higher as Federal Reserve tapering and a hiking cycle also push short-term rates higher

MACRO CONVICTION

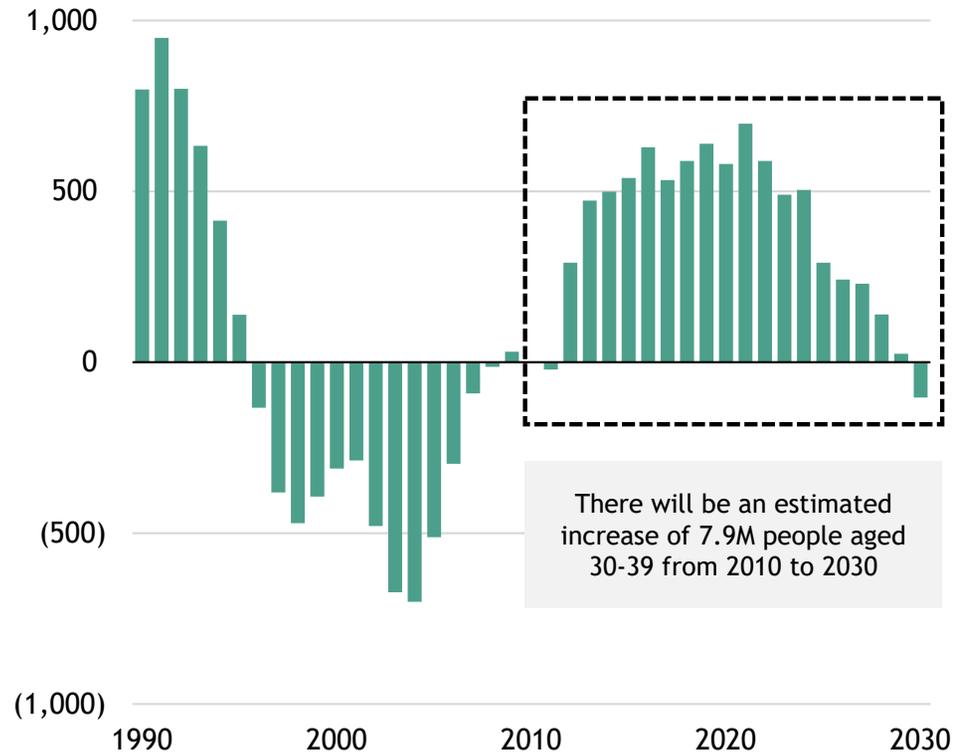


INVESTMENT OPPORTUNITY

Wave of millennials entering home-buying age, leaving parents' home should create strong demand for housing

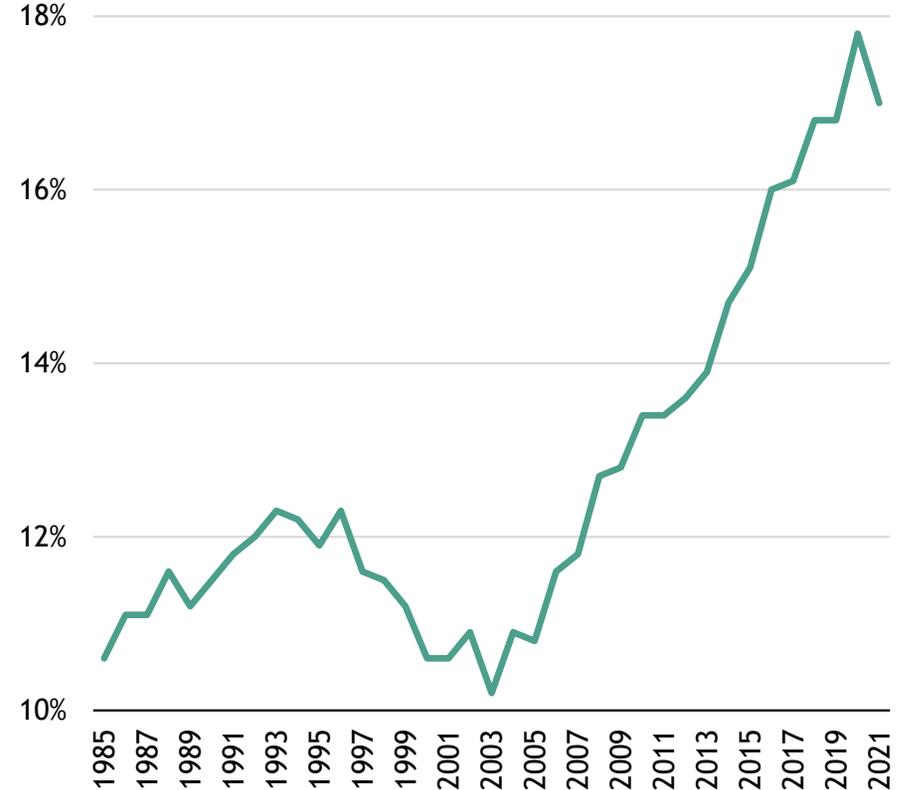
Annual Change in Number of US Residents Aged 30-39⁽¹⁾

(in thousands)



Share of Young Adults Living with Parents⁽²⁾

(share of people aged 25-34 years old)



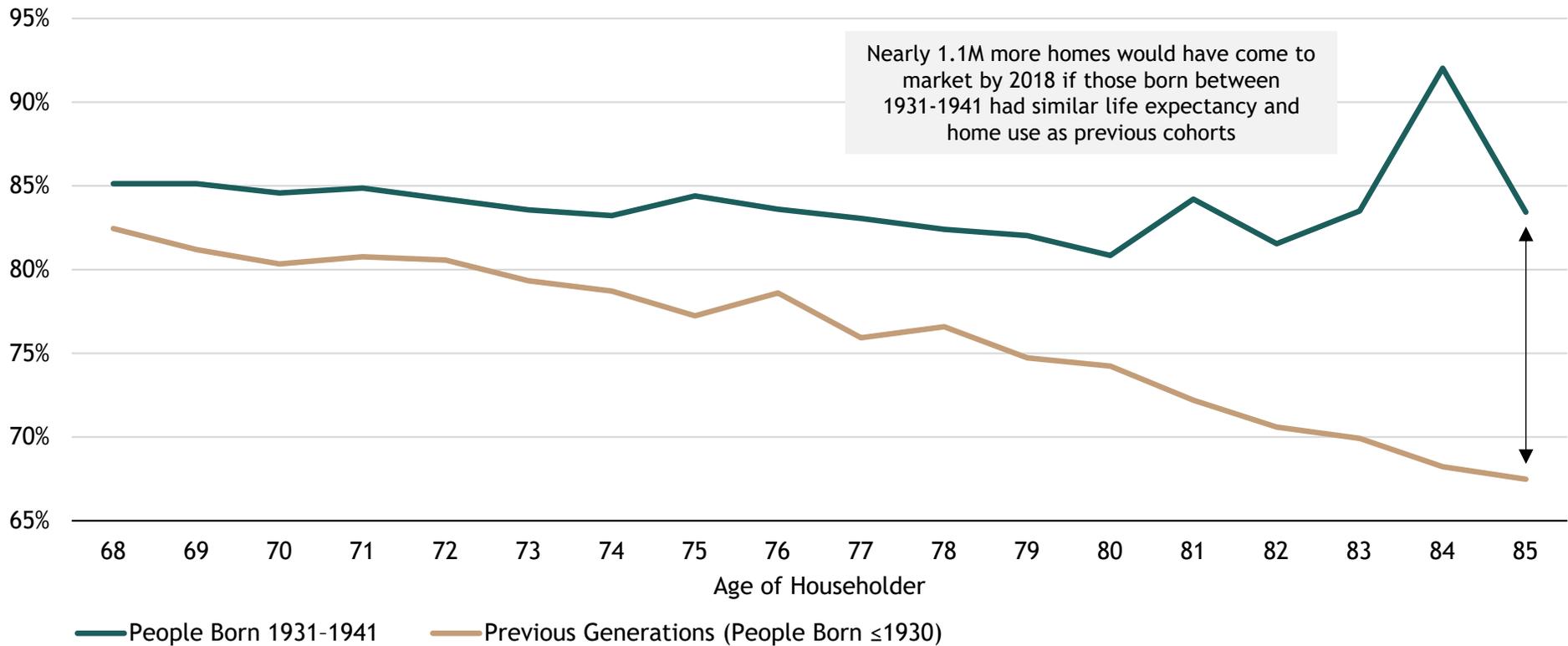
(1) Source: Blackstone Investment Strategy, Census Bureau projections, and Haver Analytics. Actual data as of 2017; data for 2018 and beyond represent Census Bureau projections.

(2) Source: Blackstone Investment Strategy, Census Bureau, and Haver Analytics, as of December 31, 2021.

Older Americans are living longer and aging in place, reducing housing turnover, supply for first-time buyers

Historical Homeownership Rates for Households Aged 67-85

(current cohort vs. previous generations)



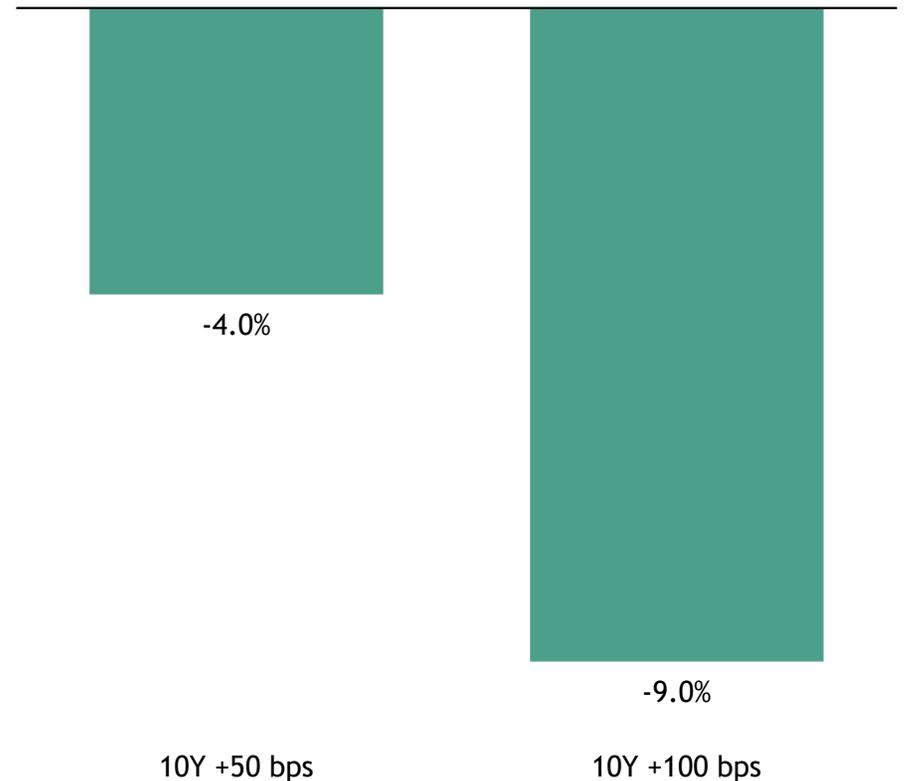
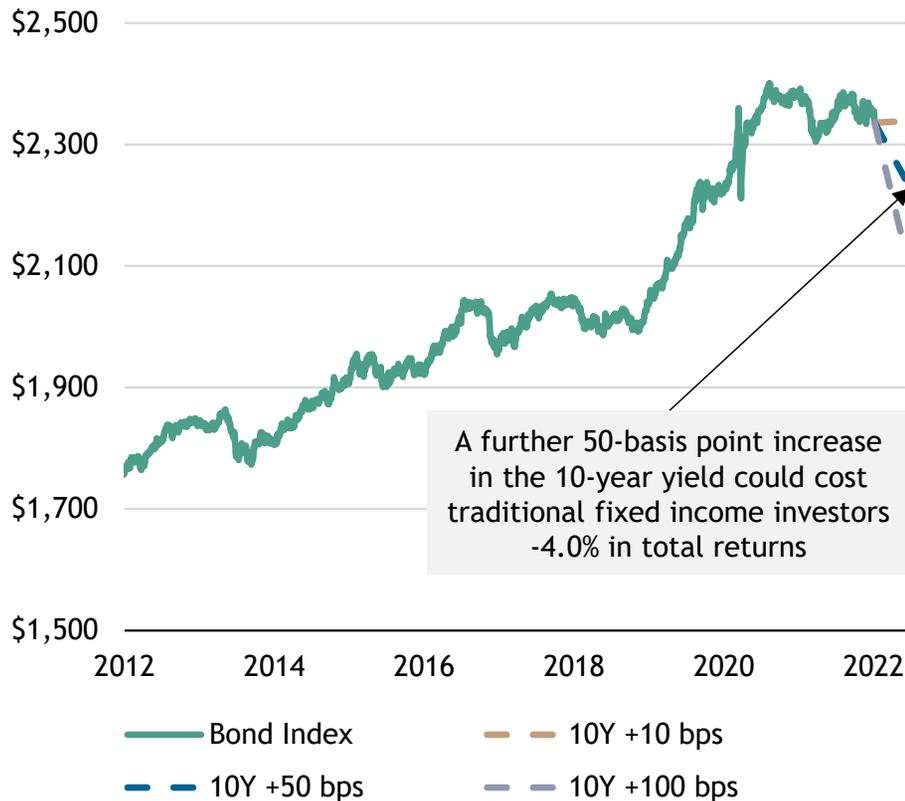
Source: Blackstone Investment Strategy, Freddie Mac, and the Health and Retirement Survey, as of February 2019. Note: The Health and Retirement Survey is a national longitudinal dataset funded by the National Institute of Aging and the Social Security Administration that samples households with initial respondents over the age of 50, starting in 1992. The generation is defined by the age of the initial respondent.

Long duration in traditional fixed income could damage investor returns as Fed policy begins to tighten

Projected Impact of Rising 10-Year US Treasury Yield on Traditional Fixed Income

(based on bond prices and Treasury yields as of 1/3/22)

(loss to fixed income)



Source: Bloomberg and Blackstone Investment Strategy, as of January 3, 2022. Projections based on a linear model that decomposes the price of the Bloomberg Barclays US Aggregate Bond Index on the index's average duration of underlying securities and on the 10-year Treasury yield's level and 30-day percentage change, based on daily data from January 3, 1989 to March 25, 2021.

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