



Federal Home Loan Bank
NEW YORK

2022 Outlook

The Next Stage of the Cycle

Presented as part of the
Federal Home Loan Bank's
Webcast Series

For Public Use in the United States

US: Not a Deposit; Not FDIC Insured; Not Guaranteed by the Bank; May Lose Value; Not Insured by any Federal Government Agency

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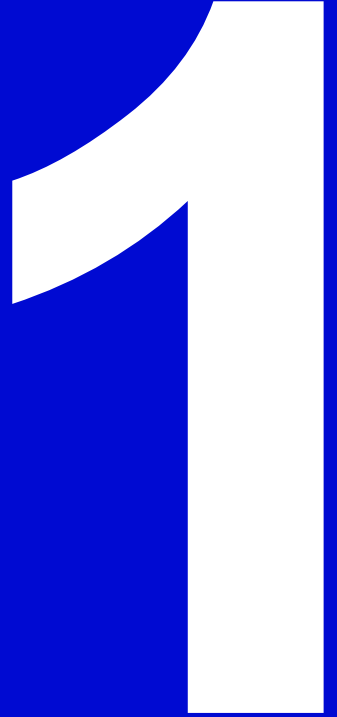
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Where are we in the cycle?

Historically 5-10 Years

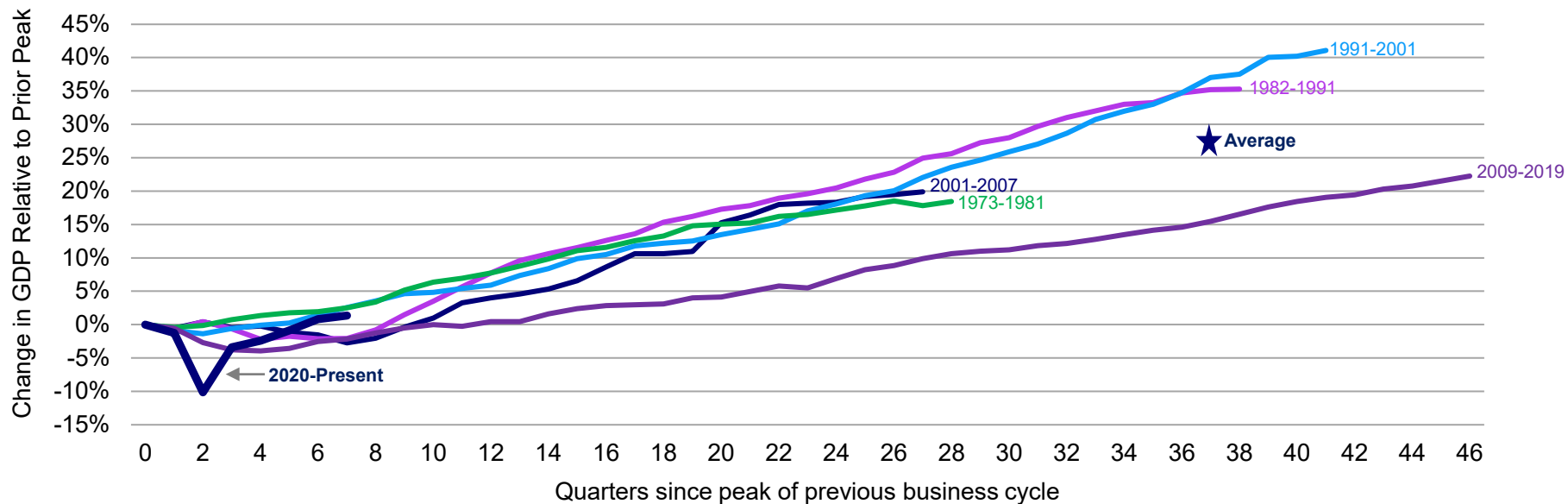




Cycles tend to end with excess,
inflation, and policy tightening

The cycle is young when measured in years, although the economy had recovered rapidly

US Business Cycles: Length of the cycles and the cumulative advance of real Gross Domestic Product



Sources: Bloomberg L.P. and US Bureau of Economic Analysis. As of September 30, 2021. Latest data available.

Where are we in the cycle?

Leverage

- Rises over the cycle

Policy Tightening

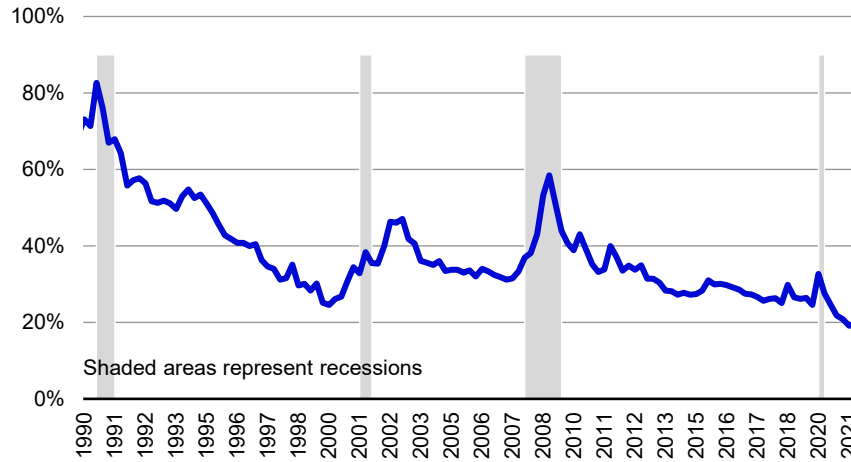
- US Federal Reserve (Fed) hikes rates to control inflation
- Economic growth slows due to tighter policy

Lending Slows

- Lending standards tighten due to credit concerns

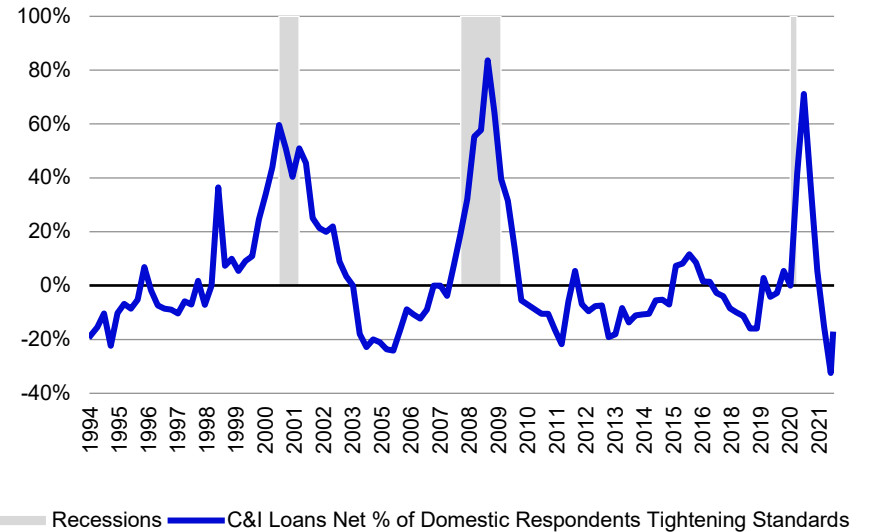
Leverage, on a relative basis, is low and lending standards are easy

US Nonfinancial Corporate Debt as a Percentage of the Market Value of Corporate Equities



Senior Loan Officer Opinion Survey: Commercial & Industrial (C&I) Loans for Large/Medium Businesses

Net % of Domestic Respondents Tightening Standards

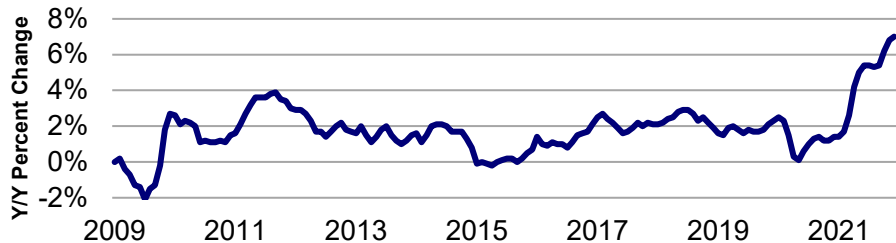


Sources: Board of Governors of the Federal Reserve System, 7/21 and Bloomberg, 10/21. Latest data available.

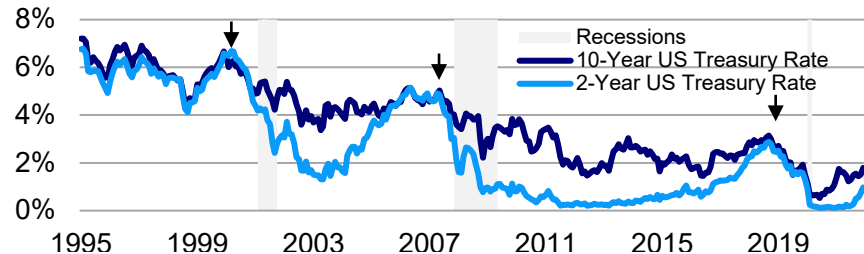
End of cycle dashboard

Inflation is elevated, but the other indicators are not flashing warning signs

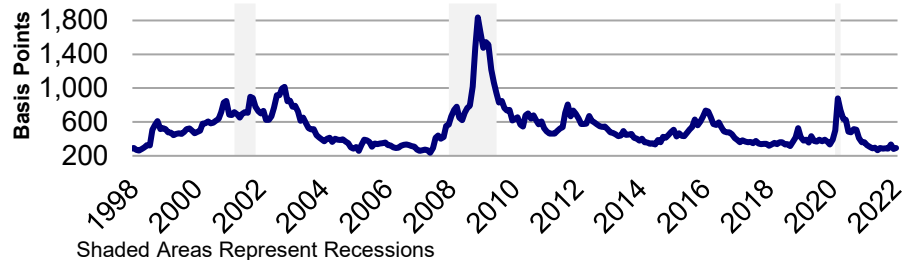
US Consumer Price Index



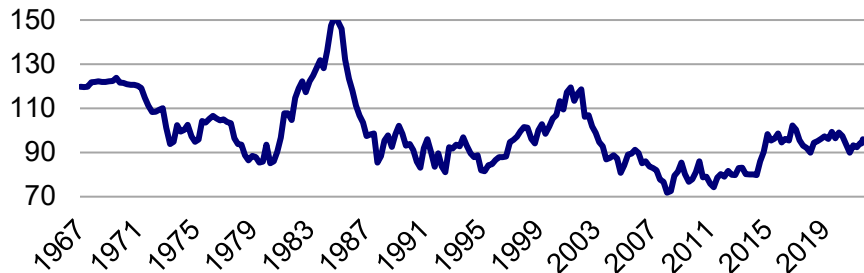
US Treasury Yield Curve (10-Year US Treasury Rate minus 2-Year US Treasury Rate)



US Corporate High Yield Bond Spreads



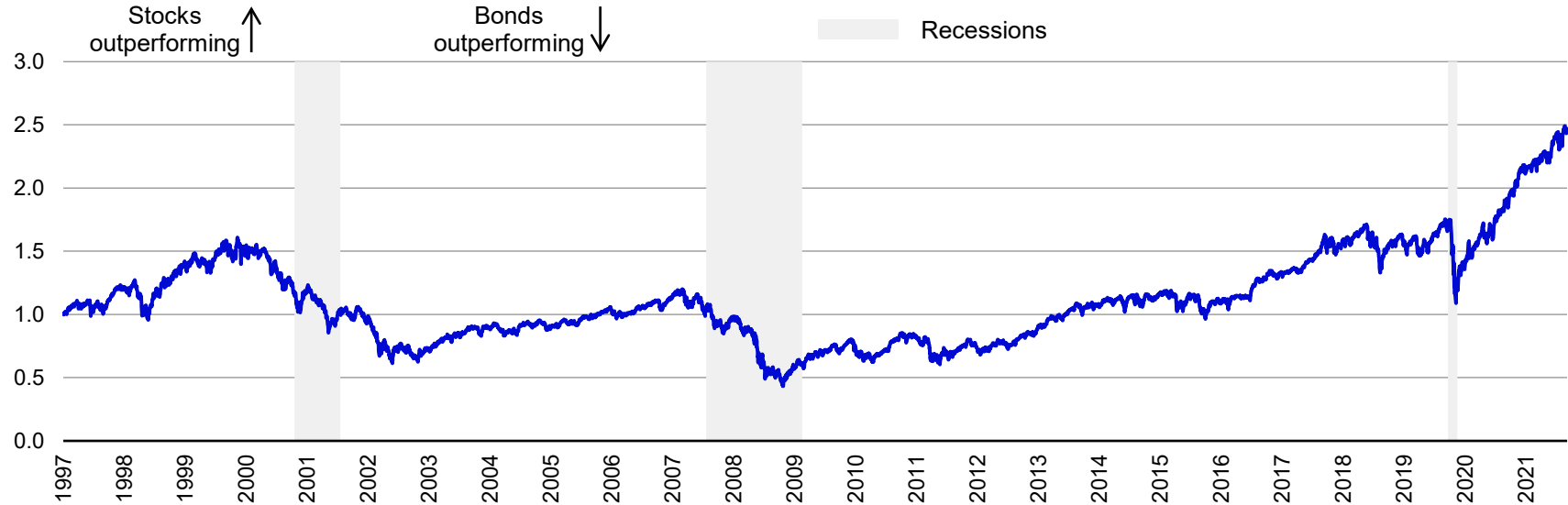
US Dollar Index (DXY)



Source: US Bureau of Labor Statistics, 12/31/21 and Bloomberg, 1/17/22. High Yield bond spreads are represented by the option-adjusted spread of the Bloomberg US Corporate Bond Index. The option-adjusted spread (OAS) is the measurement of the spread of a fixed-income security rate and the risk-free rate of return, which is then adjusted to account for an embedded option, such as calling back or redeeming the issue early. See appendix for index definitions. The yield curve plots interest rates, at a set point in time, of bonds having equal credit quality but differing maturity dates to project future interest rate changes and economic activity.

Historically stocks have outperformed bonds throughout much of the business cycle

Stock/Bond Ratio



Source: Bloomberg, 1/17/2022. Ratio of the S&P 500 Index level to the Bloomberg US Aggregate Bond Index as proxies for stocks and bonds, respectively. Index performance is shown for illustrative purposes only and does not depict or predict the performance of any investment. Index definitions are in the appendix. An investment cannot be made into an index. **Past performance is no guarantee of future results.**

What's the direction of the economy?

Recovery, Expansion, Slowdown, or Contraction

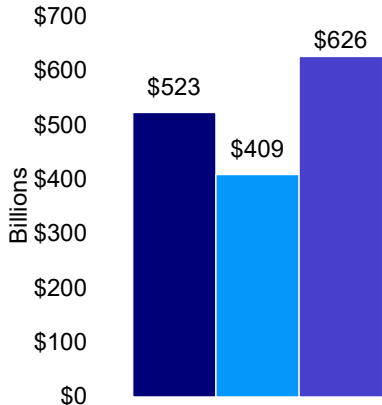
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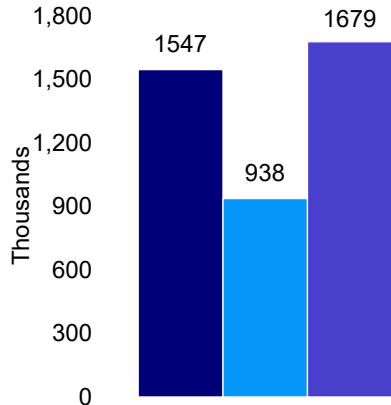
From Expansion to Slowdown

The economy, in most areas, has been booming

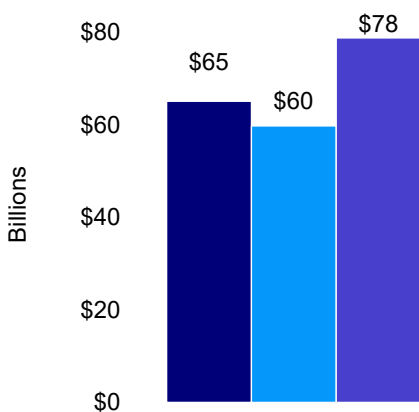
Consumption: US Retail Sales



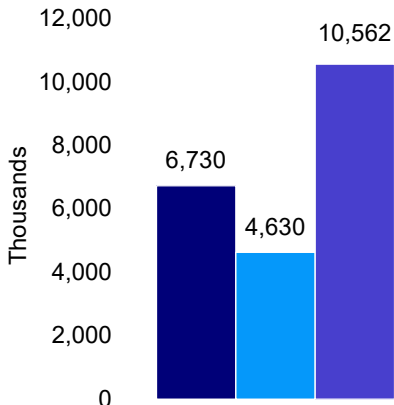
Housing: Building Permits New Private Housing Units



Business Investment: Capital Goods New Orders Nondefense



Employment: Job Openings



■ December 2019 ■ 2020 Low ■ Current

Source: Bloomberg, US Federal Reserve, US Census Bureau, Bureau of Labor Statistics 11/30/21. Latest data available.

A slowdown is likely in the offing

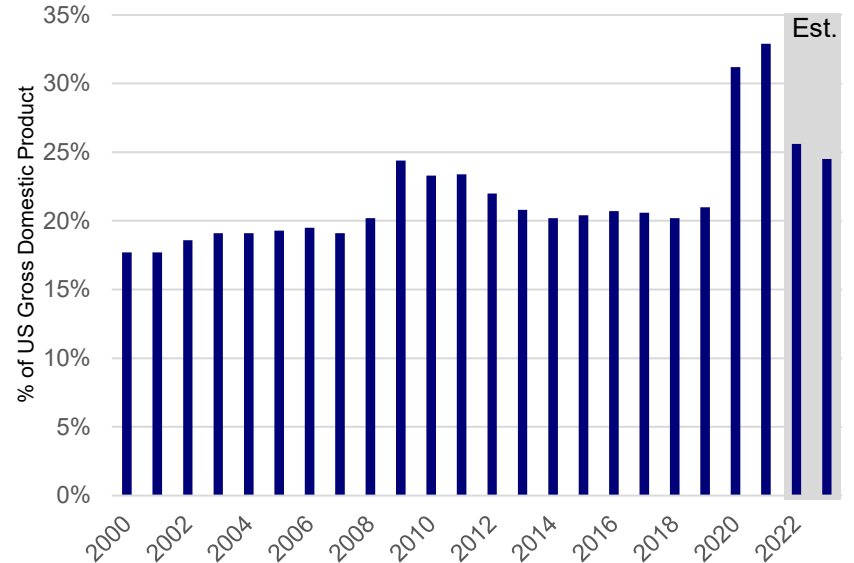
Household Savings Rate



US Real Wages



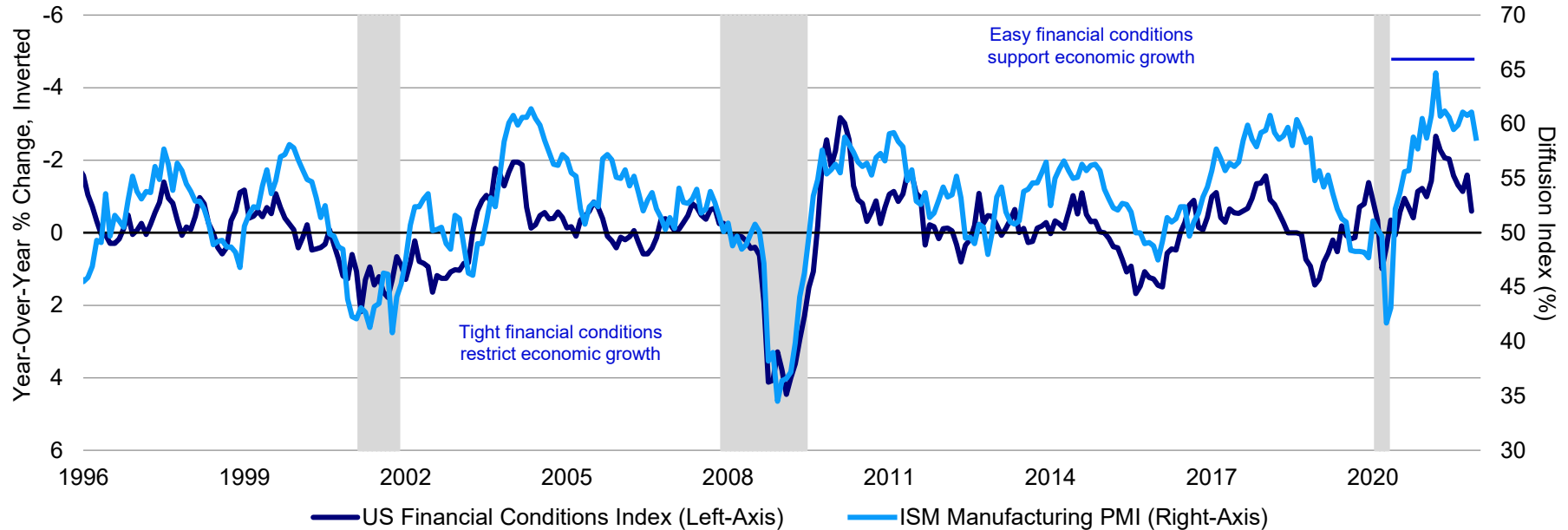
Fiscal Outlays



Sources: Bureau of Economic Analysis 11/30/21, Bureau of Labor Statistics 12/31/21, US Treasury, 9/30/21. Real average hourly earnings are derived by dividing the industry payroll by the corresponding paid hours and then adjusting for inflation, as measured by the US consumer price index.

Financial conditions are tightening, and leading indicators of the economy appear to be rolling

Financial Conditions and Institute for Supply Management (ISM) Manufacturing Purchasing Managers' Index



Sources: Bloomberg L.P., Goldman Sachs, Macrobond, 12/31/21. **Notes:** The US Financial Conditions Index includes the federal funds rate, 10-year Treasury bond yield, BBB corporate bond spread, S&P 500 and US dollar. PMI = Purchasing Managers Index. Shaded areas denote National Bureau of Economic Research-defined US recessions. An investment cannot be made in an index. See appendix for index definitions. **Past performance does not guarantee future results.**

What are the policy implications?

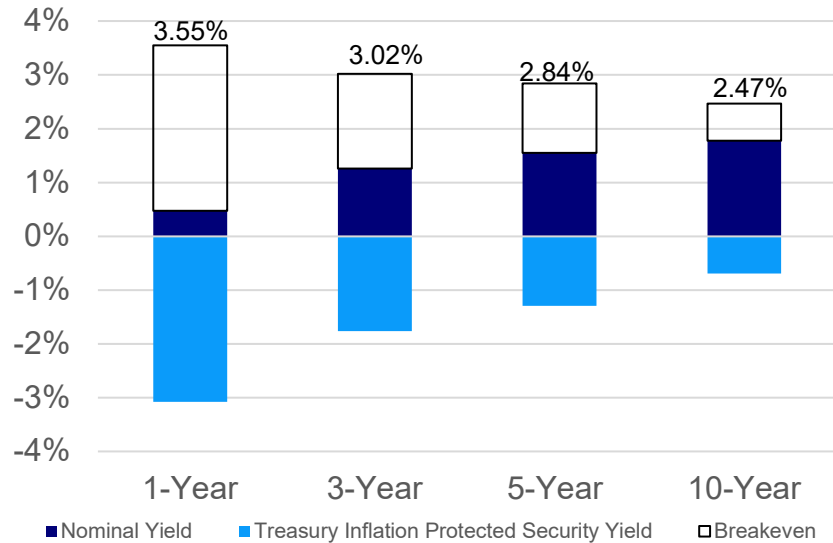
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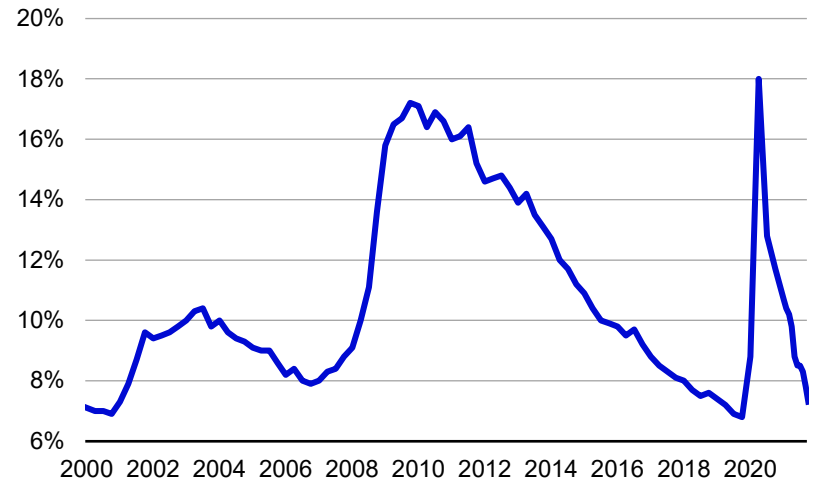
Tighter

Tighter policy is coming, as per the Fed's mandate of price stability and full employment

Inflation Breakeven



Unemployed, Part-Time, and Marginally Attached to the Labor Force, % of Total Labor Force



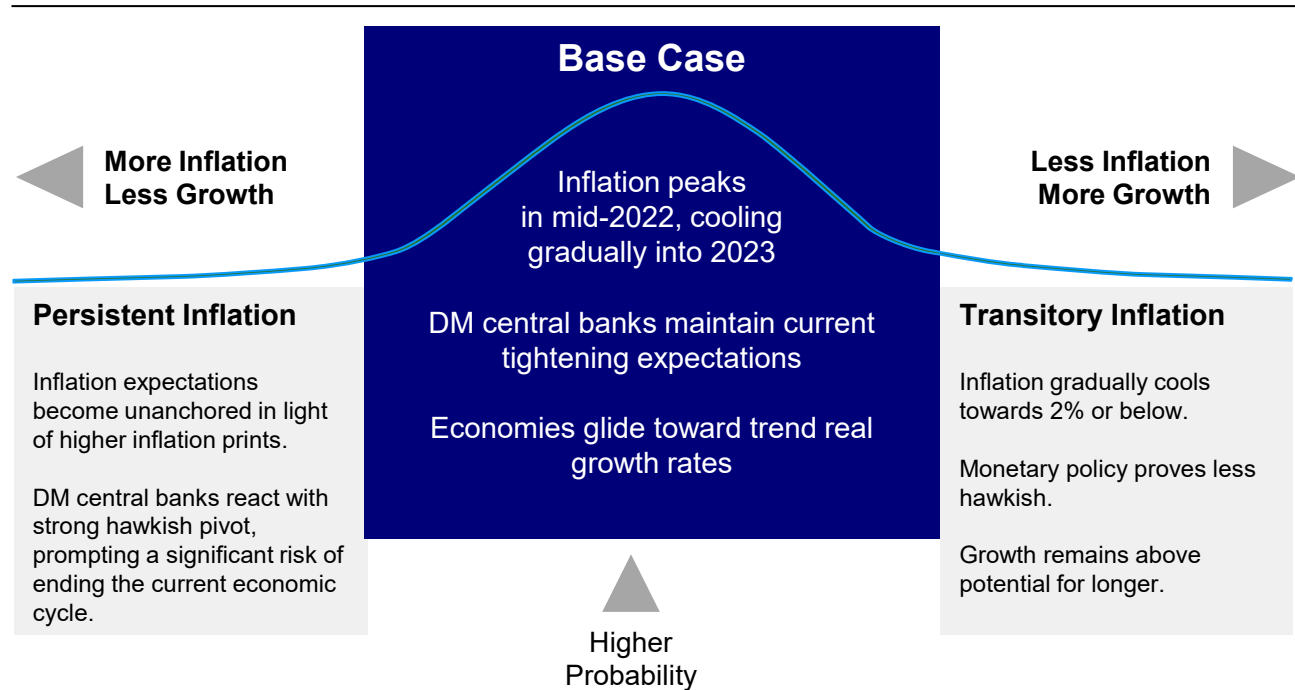
Sources: Bloomberg 1/17/22, Bureau of Labor Statistics, 12/31/21. The breakeven inflation rate is calculated by subtracting the yield of an inflation-protected bond from the yield of a nominal bond during the same time period.

What are the risks to the outlook?

4

We See Inflation Peaking in Mid-2022 and a Return Towards Trend Growth

With inflation effectively baked in, we turn our attention to policymakers' response

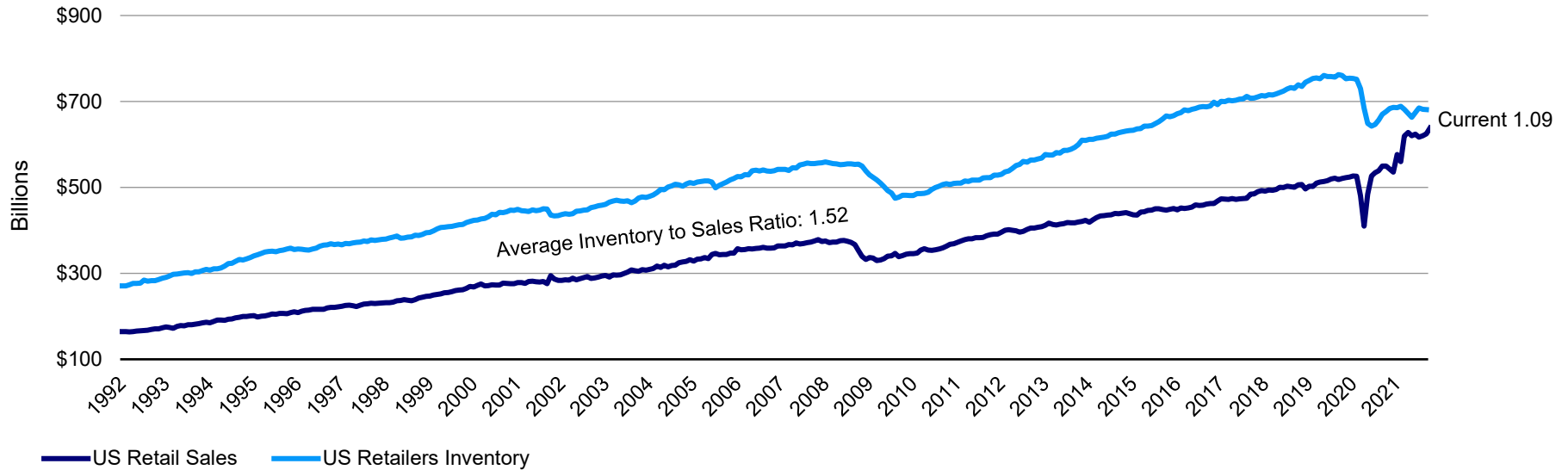


- Following a period of enormous policy actions to address the coronavirus pandemic, we find economies in a period of transition.
- While there are a variety of upside and downside risks, we view inflation as the distinguishing characteristic among our scenarios.

Source: Invesco. For illustrative purposes only.

Risk: Inflation

Inventory to Sales Ratio: Retail



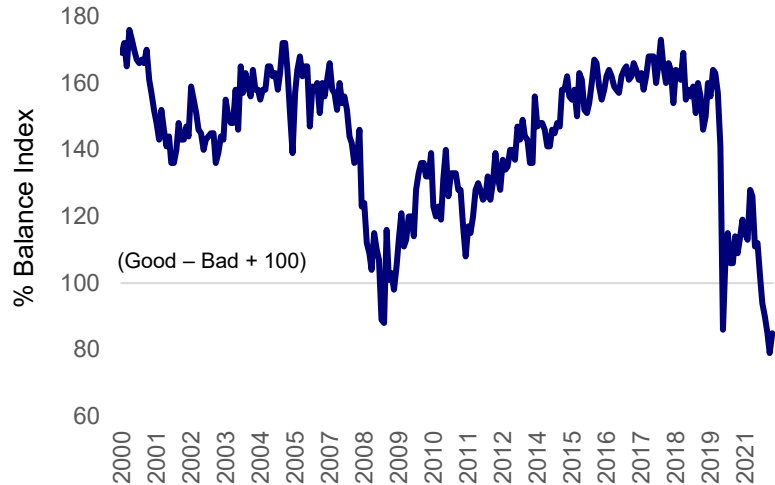
Source: US Census Bureau, 10/31/21. Latest data available. The inventory to sales ratio represents the relationship between the inventory value at US retailers and the total sales of US retailers.

Traditionally, consumers in inflationary environments, buy now expecting prices to rise in the future. Currently, consumers appear poised to wait.

University of Michigan Buying Conditions for Large Household Durables

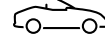


Do you think now is a good or bad time for people to buy major household items such as furniture, refrigerators, stoves, televisions, and other household items like that?

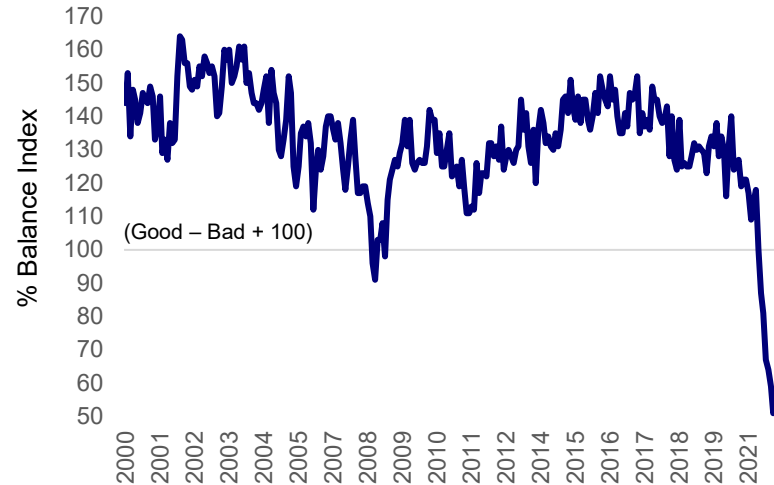


Source: University of Michigan, 12/21.

University of Michigan Buying Conditions for Vehicles



Do you think the next 12 months or so will be a good time or a bad time to buy a vehicle?



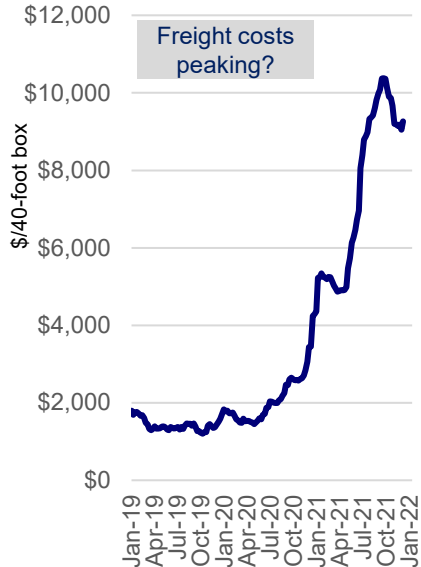
Supply chain challenges

Signs of hope?

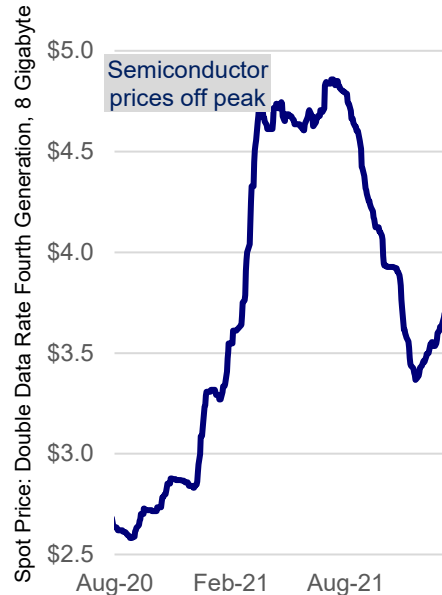
**Institute for Supply Management
Manufacturing Report on Business
Supplier Deliveries (% Slower)**



**World Container Index
Composite Container Freight
Index Benchmark Rate**



Semiconductor Price



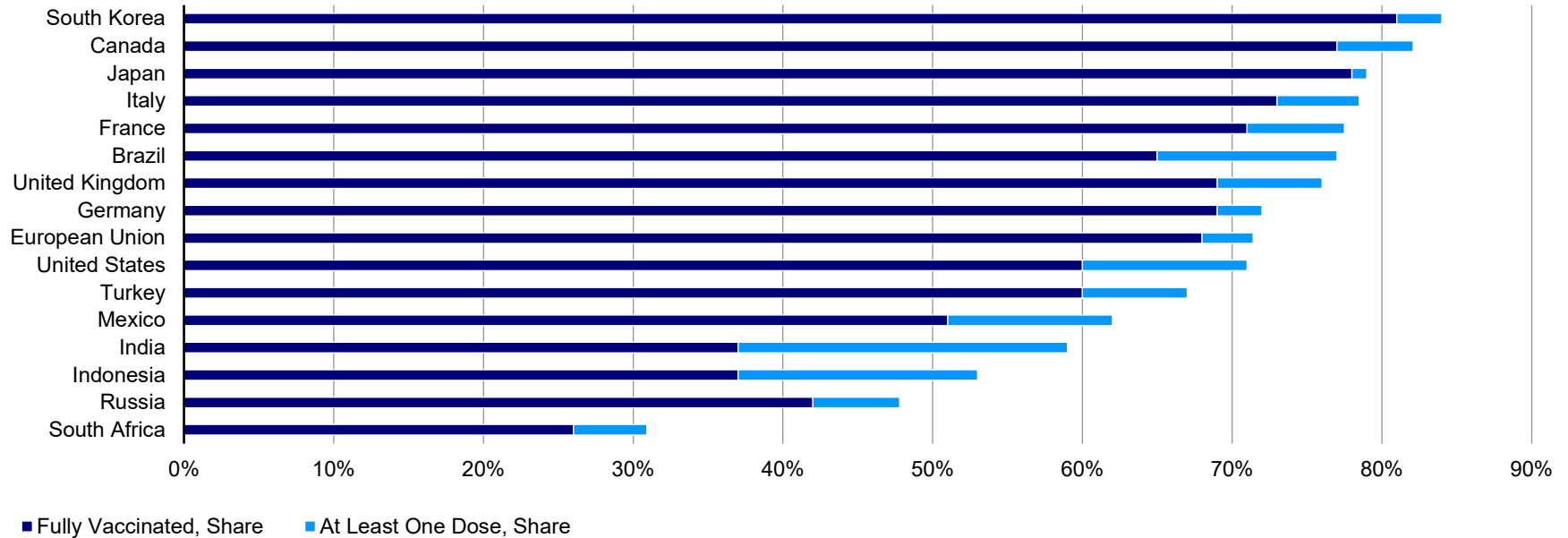
**Nonfarm Payrolls: Truck
Transportation**



Source: Institute for Supply Management, World Container Index, inSpectrum Tech, and Bureau of Labor Statistics, 12/31/21.

Risk: COVID-19

Share of Population Vaccinated Against COVID-19 – Select G20 Countries



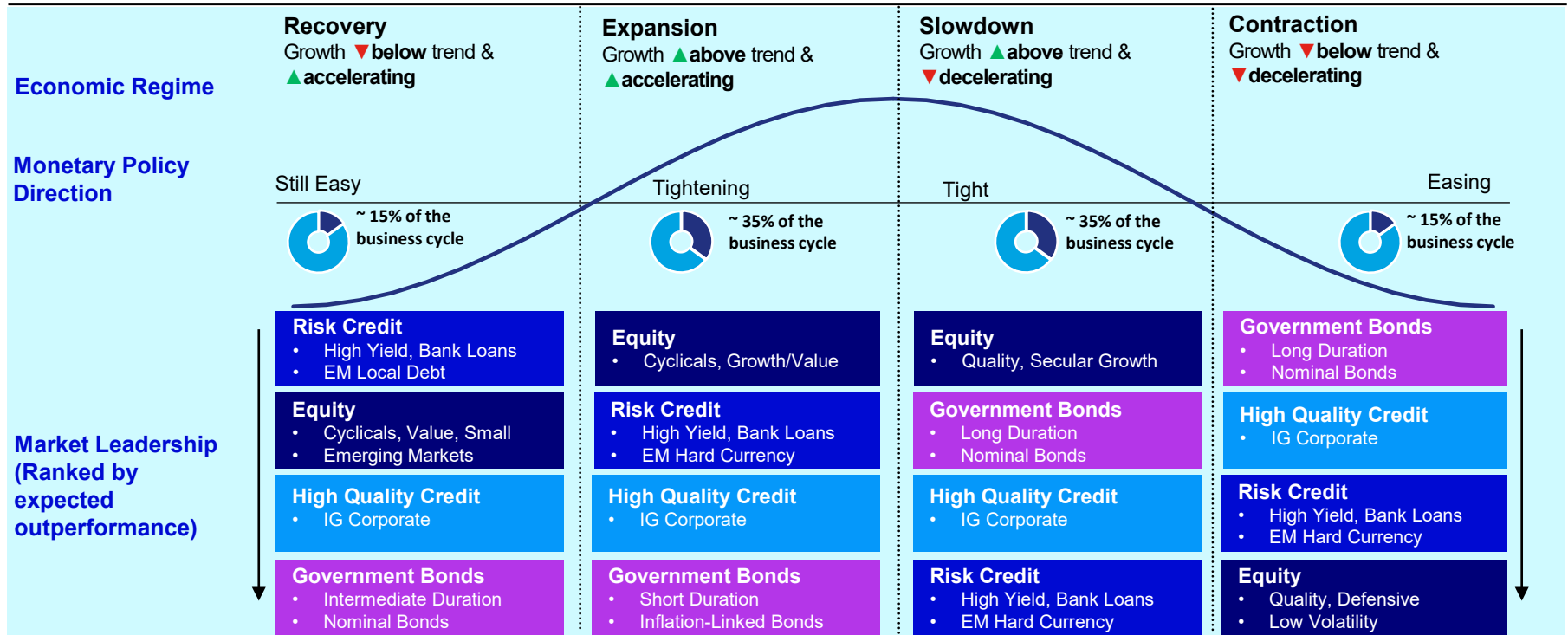
Sources: World Health Organization, Our World in Data, 12/10/21.

What are asset class implications?

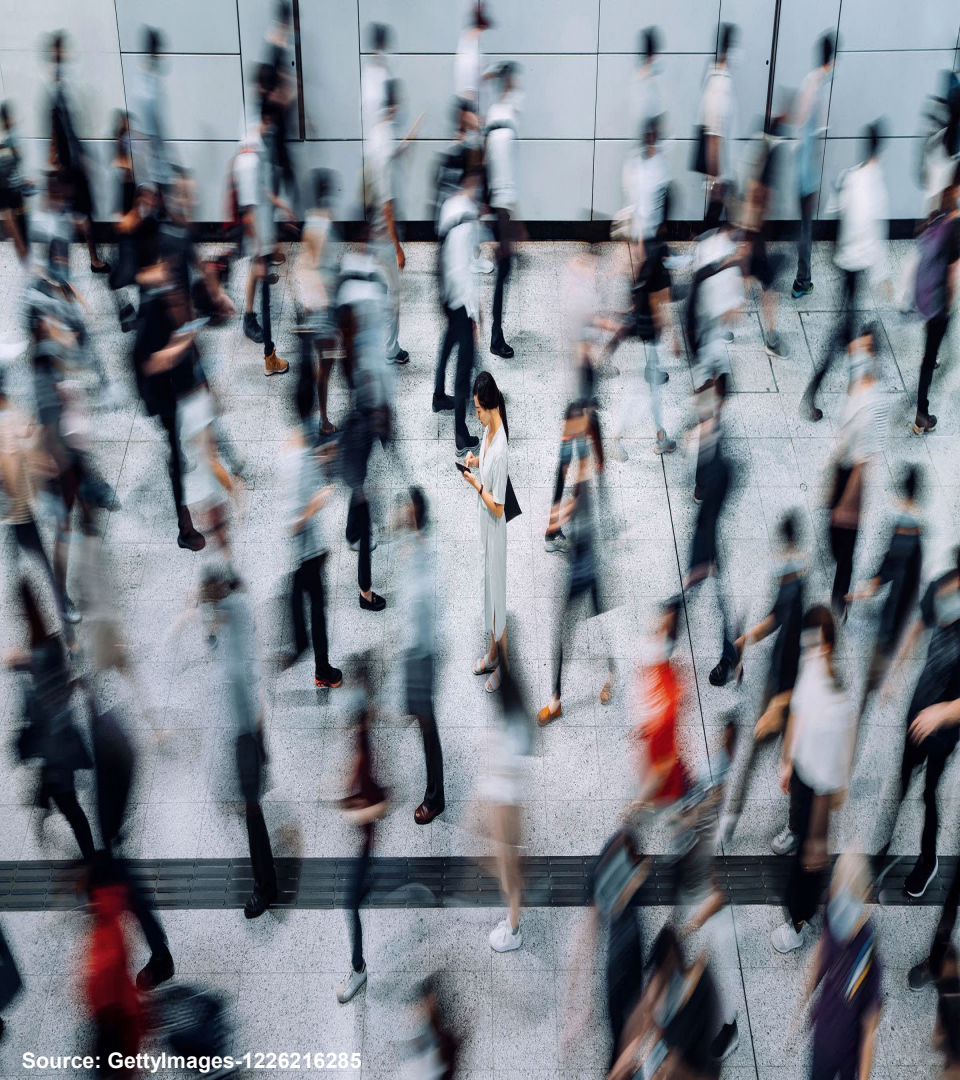
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Tactical Asset Allocation: Macro Framework

Note: Economies can move backwards and forwards in this framework.



For illustrative purposes only. We define policy easing as the US Federal Reserve lowering interest rates and/or expanding their balance sheet. Still easy suggests that the US Federal Reserve is maintaining the lower interest rate policy and/or continuing their bond-buying program. Tightening suggests that the US Federal Reserve is tapering asset purchases and/or beginning to raise interest rates. Tight policy suggests that the US Federal Reserve is raising rates in an effort to ease inflation concerns.



2022 Outlook

The cycle is still likely relatively young

The business cycle is progressing faster than in past cycles but is likely to have substantial room to run

The economy appears to be slowing

Growth rates are likely to moderate from unsustainable levels resulting in moderating inflationary pressures

Risk assets still likely to outperform

The backdrop is still conducive for risk assets, although we would expect leadership to shift away from the so-called “recovery trade”

Important information

The opinions expressed are those of the author, are based on current market conditions and are subject to change without notice. These opinions may differ from those of other Invesco investment professionals. These comments should not be construed as recommendations, but as an illustration of broader themes. Forward-looking statements are not guarantee of future results. They involve risks, uncertainties and assumptions; there can be no assurance that actual results will not differ materially from expectations. This does not constitute a recommendation of any investment strategy or product for a particular investor. Investors should consult a financial professional before making any investment decisions.

In general, stock values fluctuate, sometimes widely, in response to activities specific to the company as well as general market, economic and political conditions, currencies, political and economic instability, and foreign taxation issues.

Larger, more established companies may be unable to respond quickly to new competitive challenges such as changes in consumer tastes or innovative smaller competitors. Returns on investments in large capitalization companies could trail the returns on investments in smaller companies.

Stocks of small-sized companies tend to be more vulnerable to adverse developments, may be more volatile, and may be illiquid or restricted as to resale.

Fixed-income investments are subject to credit risk of the issuer and the effects of changing interest rates. Interest rate risk refers to the risk that bond prices generally fall as interest rates rise and vice versa. An issuer may be unable to meet interest and/or principal payments, thereby causing its instruments to decrease in value and lowering the issuer's credit rating.

There is a risk that the value of the collateral required on investments in senior secured floating rate loans and debt securities may not be sufficient to cover the amount owed, may be found invalid, may be used to pay other outstanding obligations of the borrower or

may be difficult to liquidate.

Junk bonds involve a greater risk of default or price changes due to changes in the issuer's credit quality. The values of junk bonds fluctuate more than those of high quality bonds and can decline significantly over short time periods.

Municipal securities are subject to the risk that legislative or economic conditions could affect an issuer's ability to make payments of principal and/ or interest.

The risks of investing in securities of foreign issuers, including emerging market issuers, can include fluctuations in foreign currencies, political and economic instability, and foreign taxation issues.

Investments in financial institutions may be subject to certain risks, including the risk of regulatory actions, changes in interest rates and concentration of loan portfolios in an industry or sector.

Investments in real estate related instruments may be affected by economic, legal, or environmental factors that affect property values, rents or occupancies of real estate. Real estate companies, including REITs or similar structures, tend to be small and mid-cap companies and their shares may be more volatile and less liquid.

Index Definitions

Gross Domestic Product (GDP) is a measure of all of the goods and services produced within an economy during a year.

Consumer Price Index (CPI) program produces monthly data on changes in the prices paid by urban consumers for a representative basket of goods and services.

The Goldman Sachs US Financial Conditions Index is a weighted average of riskless interest rates, the exchange rate, equity valuations, and credit spreads, with weights that correspond to the direct impact of each variable on GDP.

The S&P 500 Index is a market-capitalization-weighted index of the 500 largest domestic US stocks.

The Russell 1000 Growth Index measures the performance of those Russell 1000 companies with higher price-to-book ratios and higher forecasted growth values.

The Russell 1000 Value Index measures the performance of those Russell 1000 companies with lower price-to-book ratios and lower forecasted growth values.

The Russell 2000 Index measures the performance of small-capitalization stocks.

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The Russell 2000 Value Index measures the performance of those Russell 2000 companies with lower price-to-book ratios and lower forecasted growth values.

The Russell Midcap Index measures the performance of mid-capitalization stocks.

The Russell Midcap Growth Index measures the performance of those Russell Midcap companies with higher price-to-book ratios and higher forecasted growth values.

The Russell Midcap Value Index measures the performance of those Russell Midcap companies with lower price-to-book ratios and lower forecasted growth values.

Institute for Supply Management (ISM) Manufacturing Index is an index measures manufacturing activity based on a monthly survey, conducted by ISM, of purchasing managers at more than 300 manufacturing firms.

The Bloomberg U.S. Aggregate Bond Index is designed to measure the performance of investment grade bonds in the United States.

The Bloomberg US Corporate High Yield Bond Index tracks the performance of below-investment-grade, US-dollar-denominated corporate bonds publicly issued in the US domestic market.

MSCI ACWI Index is an unmanaged index considered representative of stocks of developed and emerging market countries. The index is computed using the net return, which withholds applicable taxes for nonresident investors.

The World Container Index reports actual spot container freight rates for major East West trade routes, consisting of 8 route-specific indices representing individual shipping routes and a composite index. All indices are reported in USD per Forty Foot Container.

The U.S. Dollar Index (USDX) indicates the general international value of the US dollar. The U.S. Dollar Index does this by averaging the exchange rates between the US dollar and major world currencies.

The Credit Suisse Leveraged Loan Index is a composite index of senior loan returns representing an unleveraged investment in senior loans that is broadly based across the spectrum of senior bank loans and includes reinvestment of income.

The Bloomberg Aggregate Corporate Bond Index represents primarily investment-grade corporate bonds within the Bloomberg Aggregate Bond Index.

The Bloomberg US Treasury: 7-10 Year Index measures US dollar-denominated, fixed-rate, nominal debt issued by the US Treasury with 7-9 years to maturity.

Polyethylene spot price represents the price in US dollars of polyethylene.

Semiconductor spot price represents the price in US dollars of Double Data Rate Fourth Generation, 8 Gigabyte semiconductors.

US Employees on Nonfarm Payrolls-Trucking Transportation represents the number of people on business payrolls employed by trucking transportation businesses.

Indexes are unmanaged and cannot be purchased directly by investors. Index performance is shown for illustrative purposes only and does not predict or depict the performance of any investment. Past performance does not guarantee future results.

Index Definitions

The Credit Suisse Leveraged Loan Index is designed to measure the performance of leveraged loans in the United States

Bloomberg Barclays EM Hard Currency Aggregate Index is designed to measure the US dollar performance of emerging market bonds

The Bloomberg Barclays US High Yield Bond Index is designed to measure the performance of US corporate high yield bonds

The Bloomberg Barclays 1-3 Year US Treasury Index is designed to measure the performance of US Treasury bonds with maturities of 1-year up to (but not including) 3-years

The Bloomberg Barclays 7-10 Year US Treasury Index is designed to measure the performance of US Treasury bonds with maturities of 7-years up to (but not including) 10-years

The FTSE NAREIT All Equity REITs Index is a free-float adjusted market capitalization-weighted index that includes all tax qualified REITs listed in the NYSE, AMEX, and NASDAQ National Market.

The Bloomberg Barclays High Yield Municipal Bond Index measures the non-investment-grade and nonrated U.S. dollar-denominated, fixed-rate, tax-exempt bond market within the 50 United States and four other qualifying regions (Washington, D.C.; Puerto Rico; Guam; and the Virgin Islands).

The Bloomberg US Corporate Bond Index measures the investment grade, fixed-rate, taxable corporate bond market. It includes USD denominated securities publicly issued by US and non-US industrial, utility and financial issuers.

The Bloomberg Commodity Index tracks the performance of a diversified basket of global commodities.

Gold spot price tracks the price of gold in US dollars.

Bloomberg US Treasury Inflation-Linked Bond Index tracks the performance of Treasury bonds indexed to inflation to protect investors against a decline in purchasing power.

Bloomberg Intermediate US Government/Credit Bond index is a broad-based benchmark that measures the non-securitized component of the US Aggregate Bond Index with less than 10 years to maturity. The index is comprised of the Intermediate and US Agency indices.

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Disclosures

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