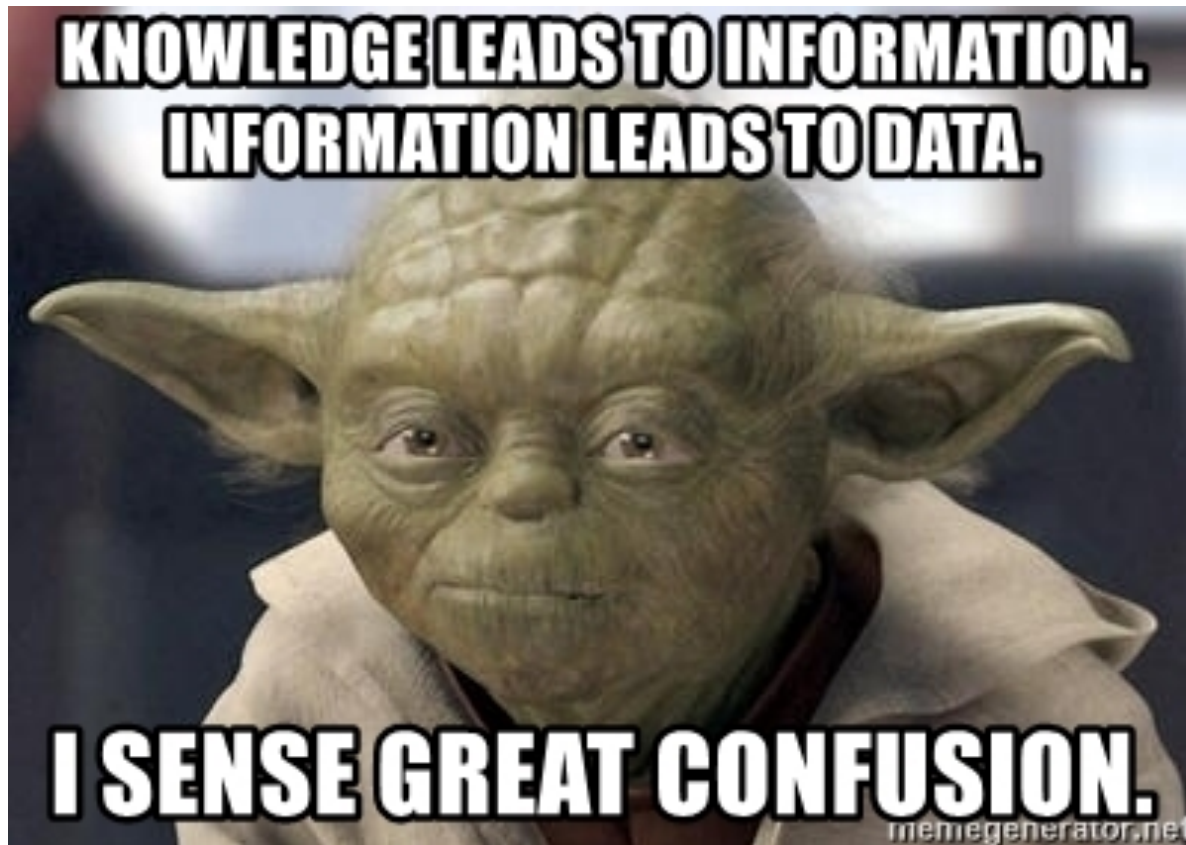




## Economic Indicators in Summary....



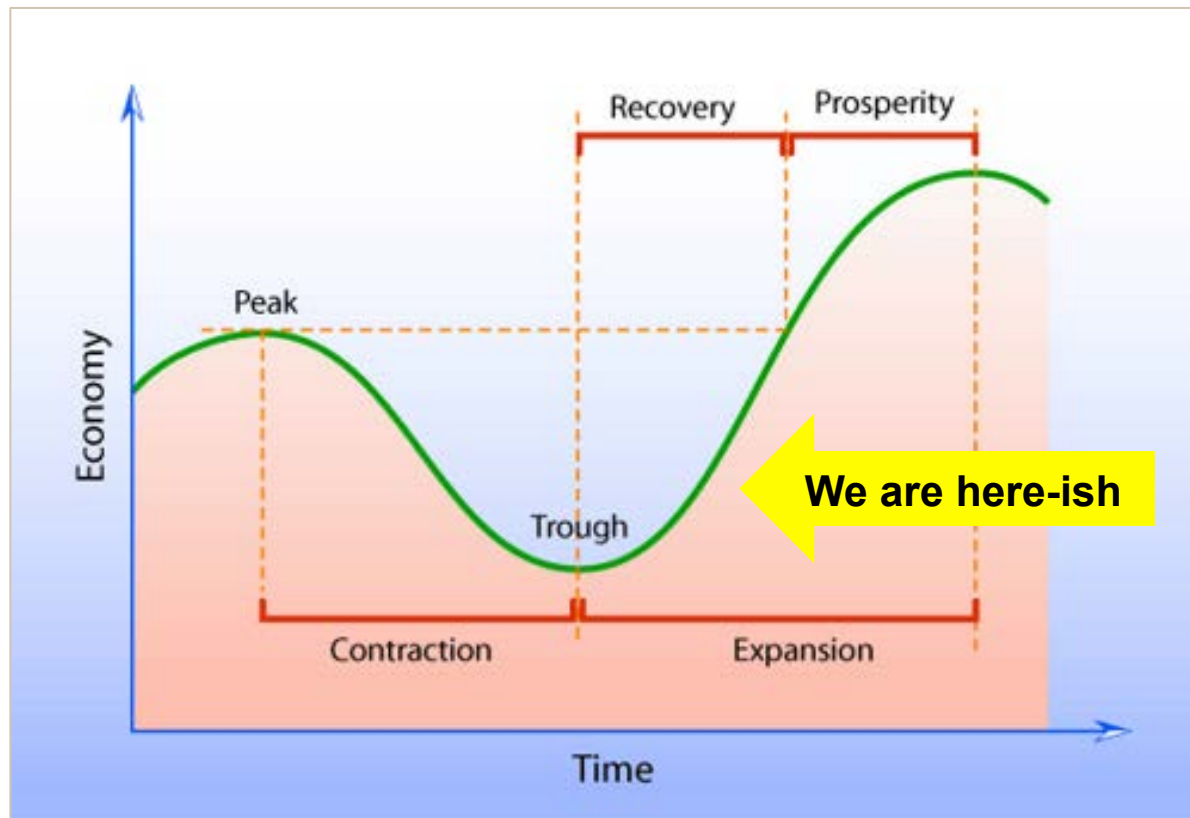


## What Do They Mean For 2021?



## Economy's Business Cycle Position Key for Financial Strategies

### Business Cycle





## Economic Indicators: Guide to Interpreting Business Cycle Position

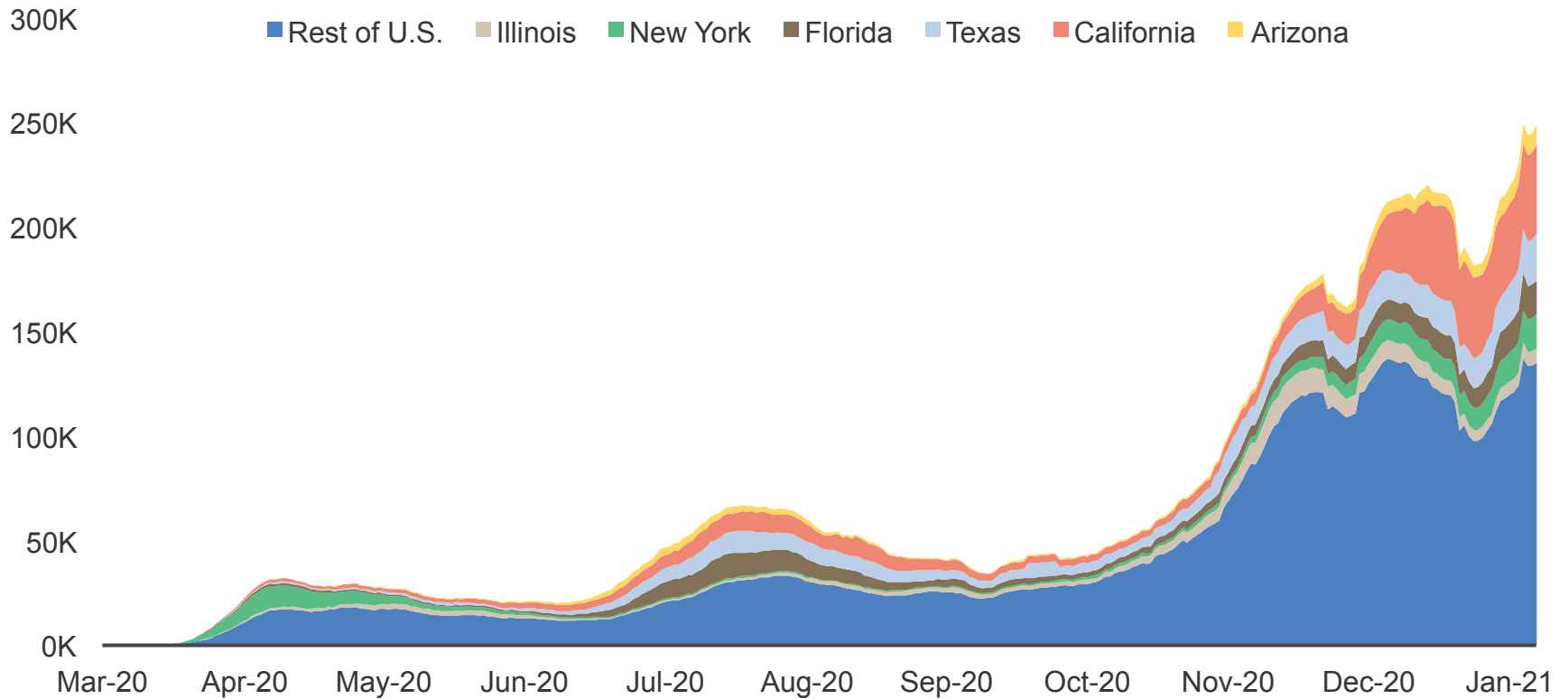
- ◆ **Economic indicator** is a piece of economic data that is used by investors to interpret current or future investment options and judge the overall health of an economy (Investopedia).
- ◆ Economic indicators can be classified into three categories:
  - **Leading indicators**
    - Change before the economy as a whole changes, useful as short-term predictors of the economy. (Consumer Confidence)
  - **Coincident indicators**
    - Change at approximately the same time as the whole economy, providing information about the current state of the economy (Gross Domestic Product)
  - **Lagging indicators**
    - Change after the economy as a whole does, typically the lag is a few quarters (Unemployment)





## Pandemic Indicator

**New Cases Reported Daily**  
7-Day Moving Average





# Leading Indicators



## Leading Indicator Overview

- ◆ Piece of economic data that corresponds with a future movement or change in some phenomenon of interest
- ◆ Can help to predict and forecast future events and trends in business, markets, and the economy
- ◆ Examples: consumer confidence index, purchasing managers' index, initial jobless claims, retail sales, average hours worked, and shape of the yield curve



## Leading Economic Indicator Index (LEI)

### ◆ The Conference Board Leading Economic Index (LEI):

- A composite average of 10 individual leading indicators.
- Cyclical turning points in LEI have occurred before those in aggregate economic activity.

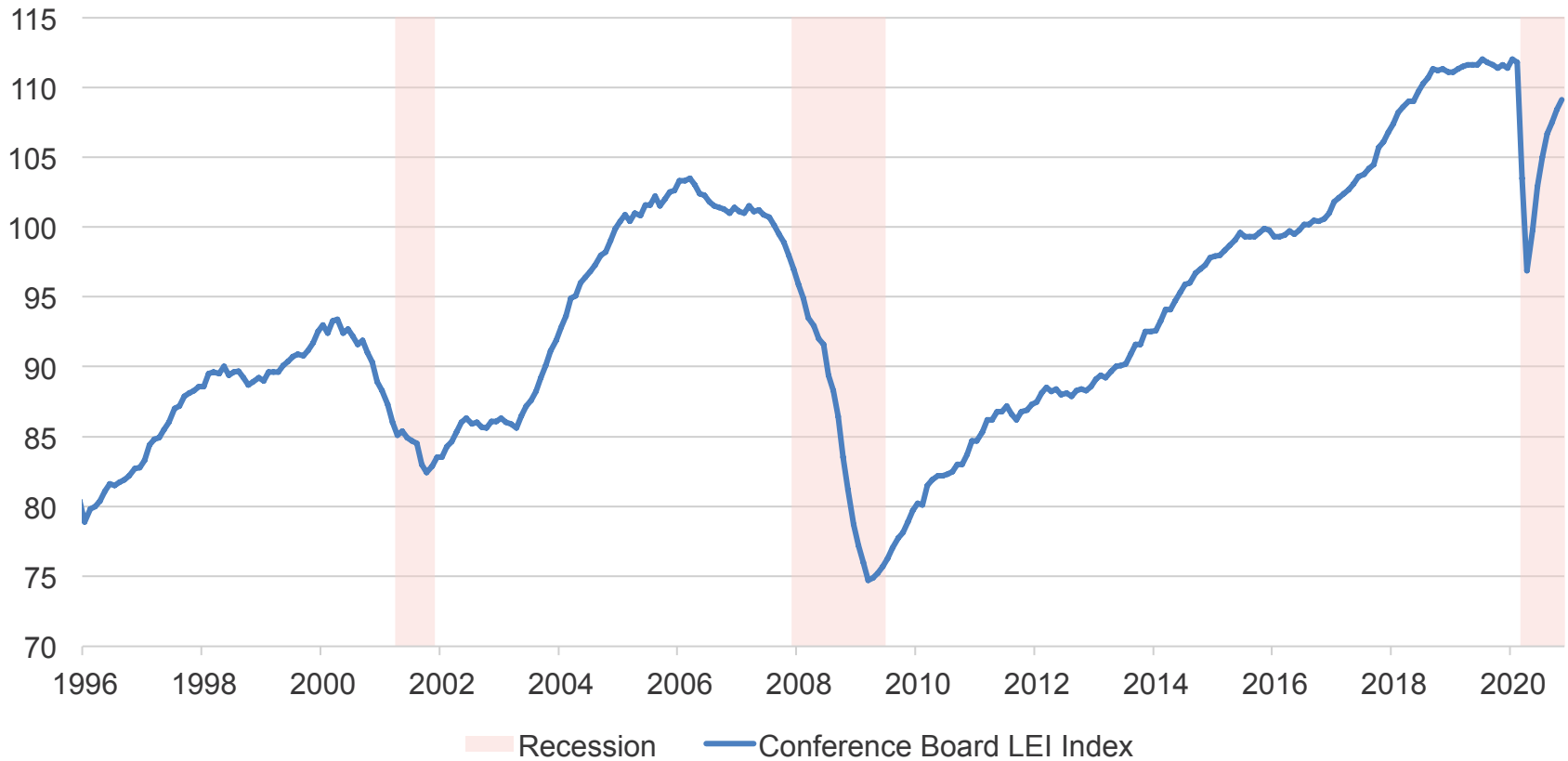
### ◆ The ten components of The Conference Board Leading Economic Index® include:

Employment	Orders and Supply Chain	Housing	Markets	Money Supply	Consumers
Average weekly hours worked by manufacturing workers	Manufacturers' new orders for consumer goods and materials	New building permits for residential buildings	S&P 500 stock index	Inflation-adjusted monetary supply (M2)	Consumer sentiment
Average number of initial applications for unemployment insurance	Speed of delivery of new merchandise to vendors from suppliers		Spread between long and short interest rates		
	New orders for capital goods unrelated to defense				



# Predictive Value of Leading Economic Indicators

## Conference Board LEI Index

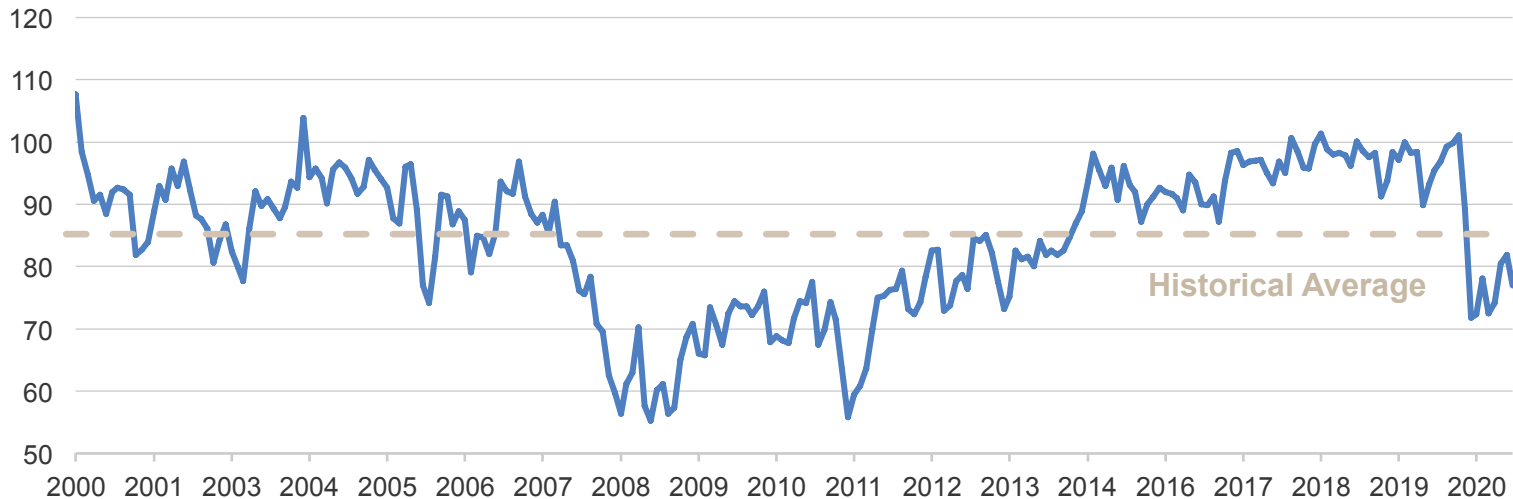




## Consumer Sentiment

- A confident consumer will borrow more and spend more, leading firms to hire more.
- A nervous consumer will save their money and economic activity will slow down; businesses will be less willing to spend for capital expenditures.
- Especially influential as a predictor for heavy retail seasons (back-to-school, holiday, etc.)

Univ. of Michigan Consumer Sentiment

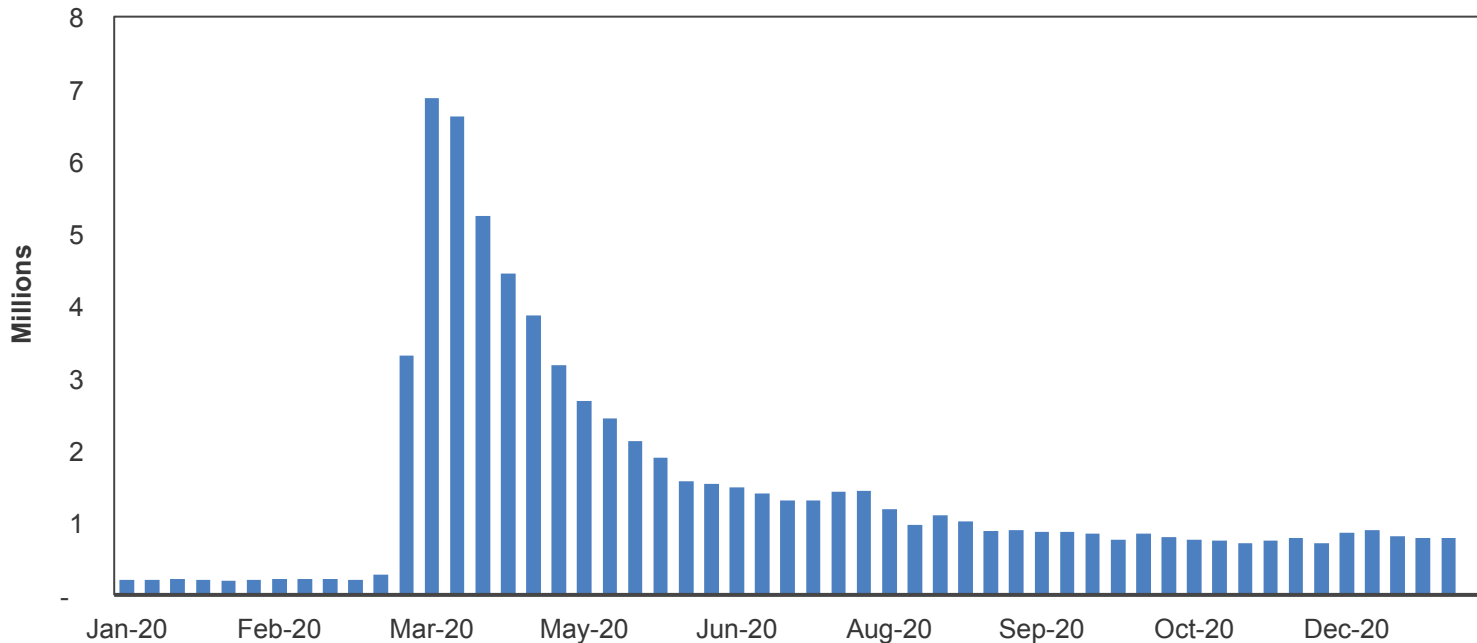




## Initial Jobless Claims

- Jobless claims are compiled each week as a measure of individuals who filed for unemployment insurance for the first time.
- The new jobless claims number is a way for investors to gauge strength in the jobs market.
- Investors can evaluate the stability of the job market, which can affect wage, price inflation, and bond yields.

**U.S. Initial Jobless Claims**





## New Building Permits for Residential Buildings

- ◆ New building permits data is the most “leading” of the many housing sector indicators.
- ◆ When permits start to fall, it's an early indication that demand for new housing is also down.
- ◆ New house commonly implies building/expanding a family—and so an increase can have a positive effect on other sectors of the economy.

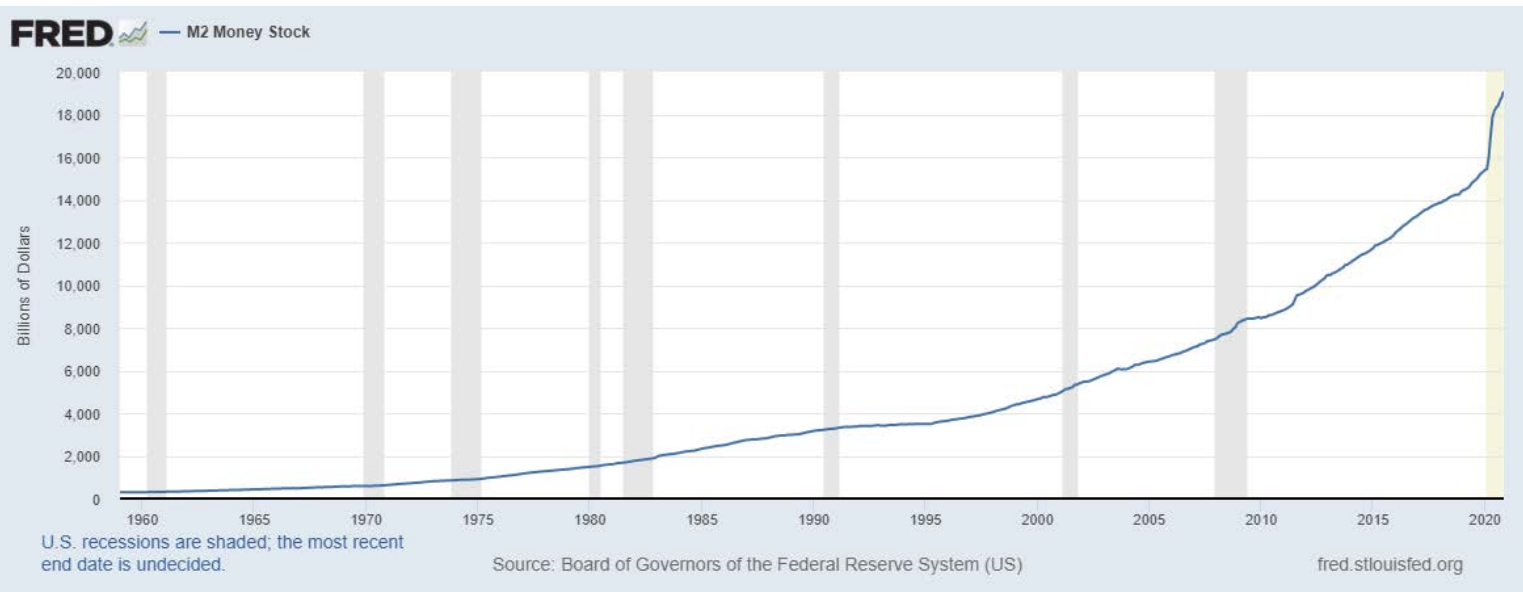


"OK, LET'S SEE YOUR BUILDING PERMIT"



## Inflation-Adjusted Monetary Supply (M2)

- ◆ Growth of the money supply is a good indicator of the amount of money changing hands in the economy.
- ◆ Historically, has closely paralleled the growth or contraction of the U.S. economy and overall changes in prices.
- ◆ Fed uses this data to assess current economic and financial conditions, and to help alter its monetary policy.
- ◆ Economists and others use data to predict cyclical economic recessions and recoveries and expected changes in stock prices





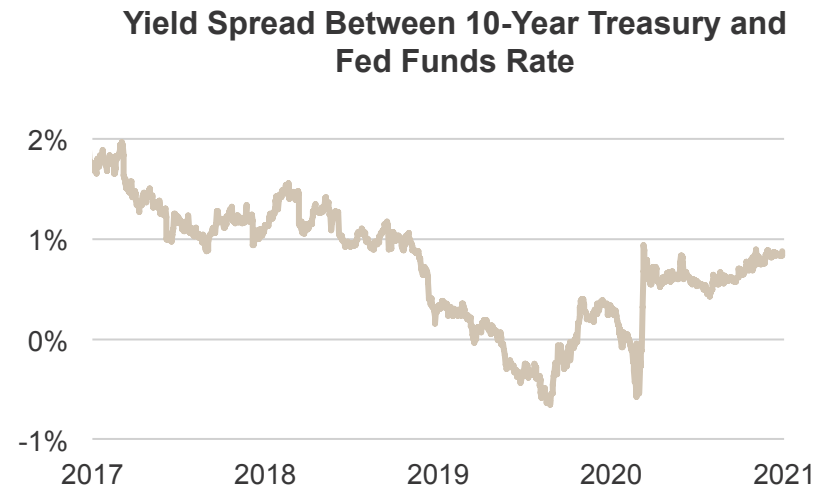
## The Markets: Stocks and Bonds

### S&P 500 stock index

- A rising stock market will lead consumers to feel safer and richer, which then leads to higher spending and increased economic growth.
- Comprises some of the biggest corporations and is an excellent indicator for the health of the U.S. financial sector.

### Spread between long and short interest rates

- Measures the long-term profitability of banks and financial corporations.
- Banking/financial sector increases profits by borrowing at a low price in the short-term market, and lending to businesses and consumers at a higher cost with a longer term.





## Yield Curve Shape



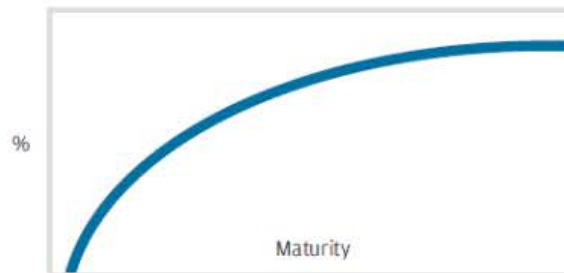
### **NORMAL**

The market expects the economy to function at normal rate of growth:  
No significant changes in inflation or available capital. So, investors who risk their money for longer periods expect higher yields.



### **INVERTED**

The market expects the economy to slow down and interest rates to drop in the future.  
Long term investors want to take the opportunity to lock in interest rates before they fall even further.



### **STEEP**

Long-term bond holders expect the economy to improve quickly in the future.  
Long-term investors fear being locked into low interest rates so therefore demand greater compensation more quickly than the more liquid short-term rate holders.



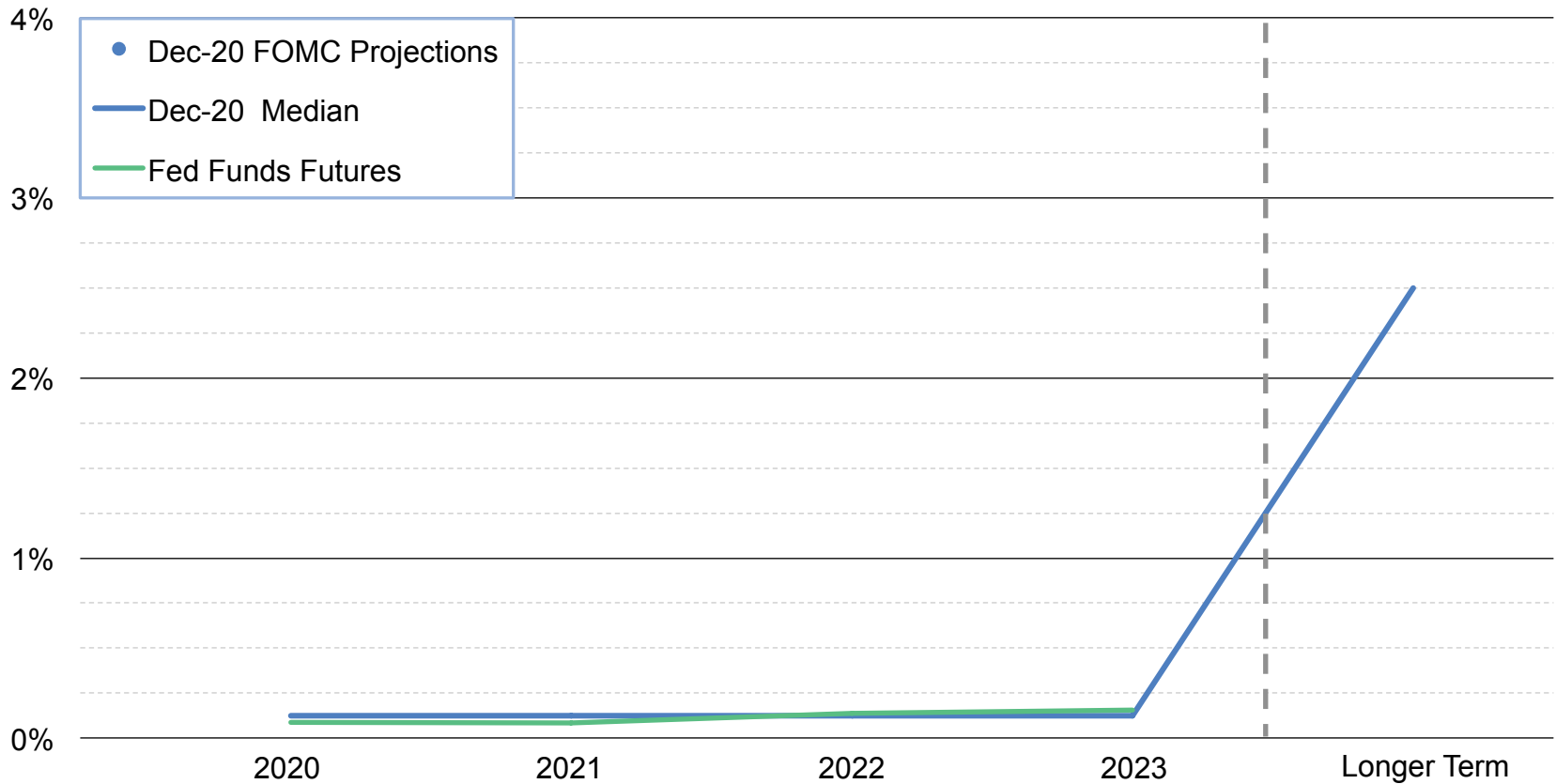
### **FLAT**

The market is at the point of inflection, preceding either a recession or an economic pick-up.



# FOMC Interest Rate Projections – December 2020

## Fed Participants' Assessments of 'Appropriate' Monetary Policy



Source: Federal Reserve and Bloomberg. Individual dots represent each Fed members' judgement of the midpoint of the appropriate target range for the federal funds rate at each year-end. Fed funds futures as of 12/16/20.



# Coincident Indicators



## Coincident Indicator Overview

- ◆ Metric that shows the current state of economic activity within a particular area
- ◆ Nearly a real-time assessment of how the economy is performing
- ◆ Examples: Gross domestic product, employment, real earnings, average weekly hours worked in manufacturing, personal income, and industrial production



## Coincident Economic Indicator Index (CEI)

### ◆ The Conference Board Coincident Economic Index (CEI):

- A composite average of 4 individual coincident indicators.
- Cyclical turning points in CEI have occurred at about the same time as those in aggregate economic activity.

### ◆ The four components of The Conference Board Coincident Economic Index® include:

Employment	Orders and Supply Chain
Employees on nonagricultural payrolls	Industrial production
Personal income less transfer payments	Manufacturing and trade sales



## Fed's Coincident Economic Activity Index

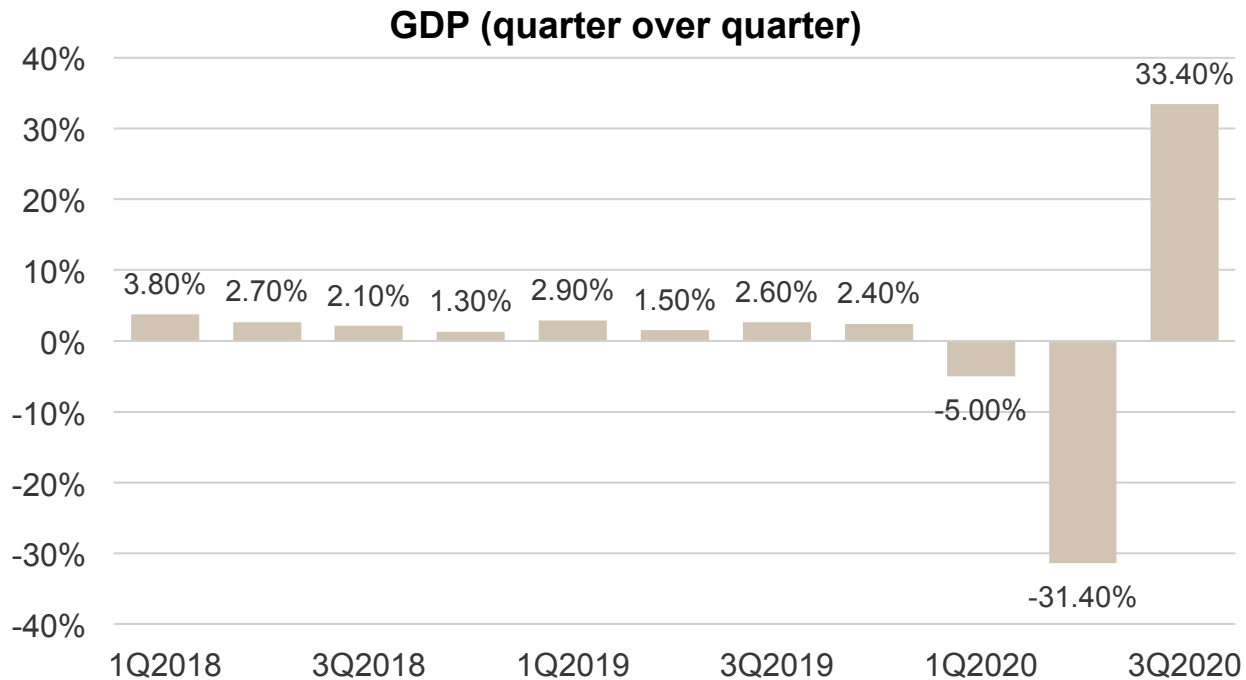
- ◆ Coincident Economic Activity Index includes four indicators: nonfarm payroll employment, the unemployment rate, average hours worked in manufacturing and wages and salaries. The trend for each state's index is set to match the trend for gross state product.





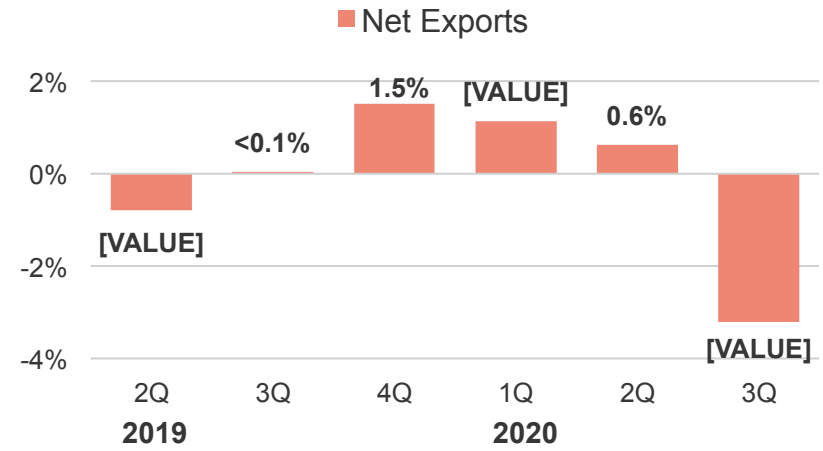
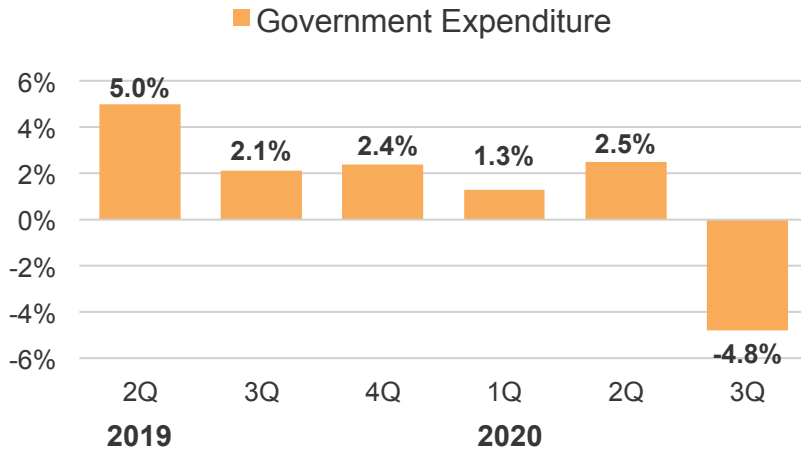
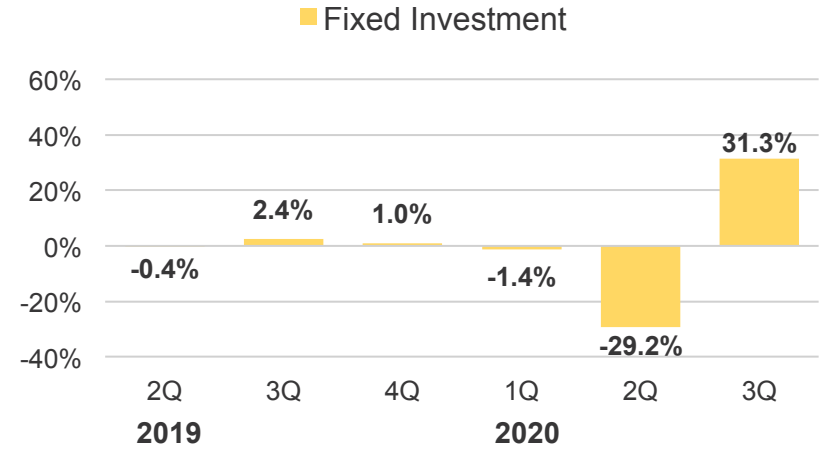
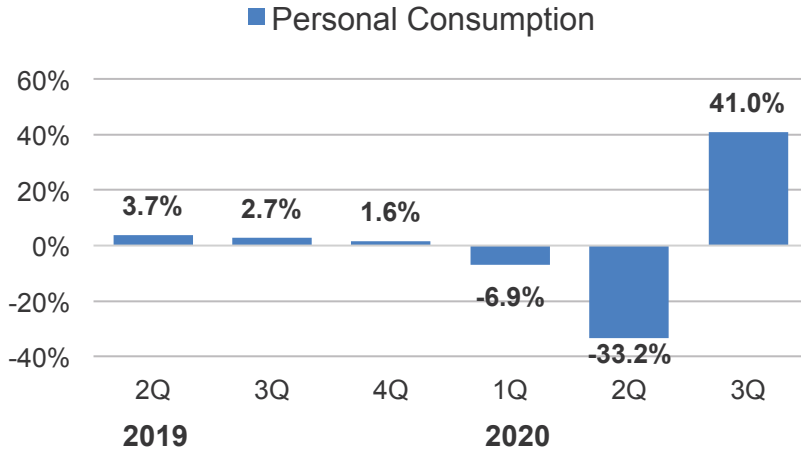
## Gross Domestic Product

<b>What it is</b>	The monetary value of all the finished goods and services produced within a country's borders in a specific time period.
<b>How it's gathered</b>	It includes all of private and public consumption, government outlays, investments and exports less imports that occur within a defined territory.
<b>Why it matters to investors</b>	Commonly used as an indicator of the economic health of a country, as well as to gauge a country's standard of living.



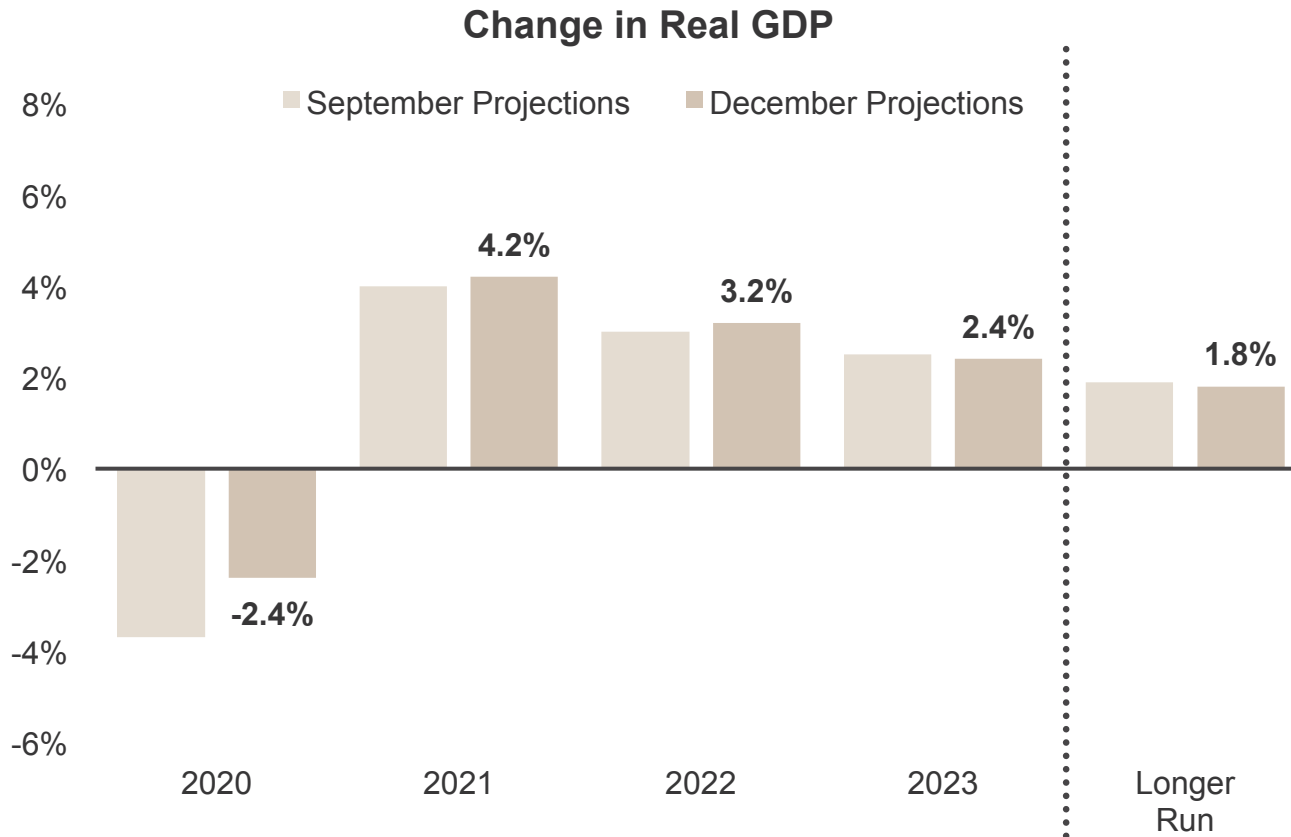


# GDP Components





## Fed's December 2020 GDP Projections

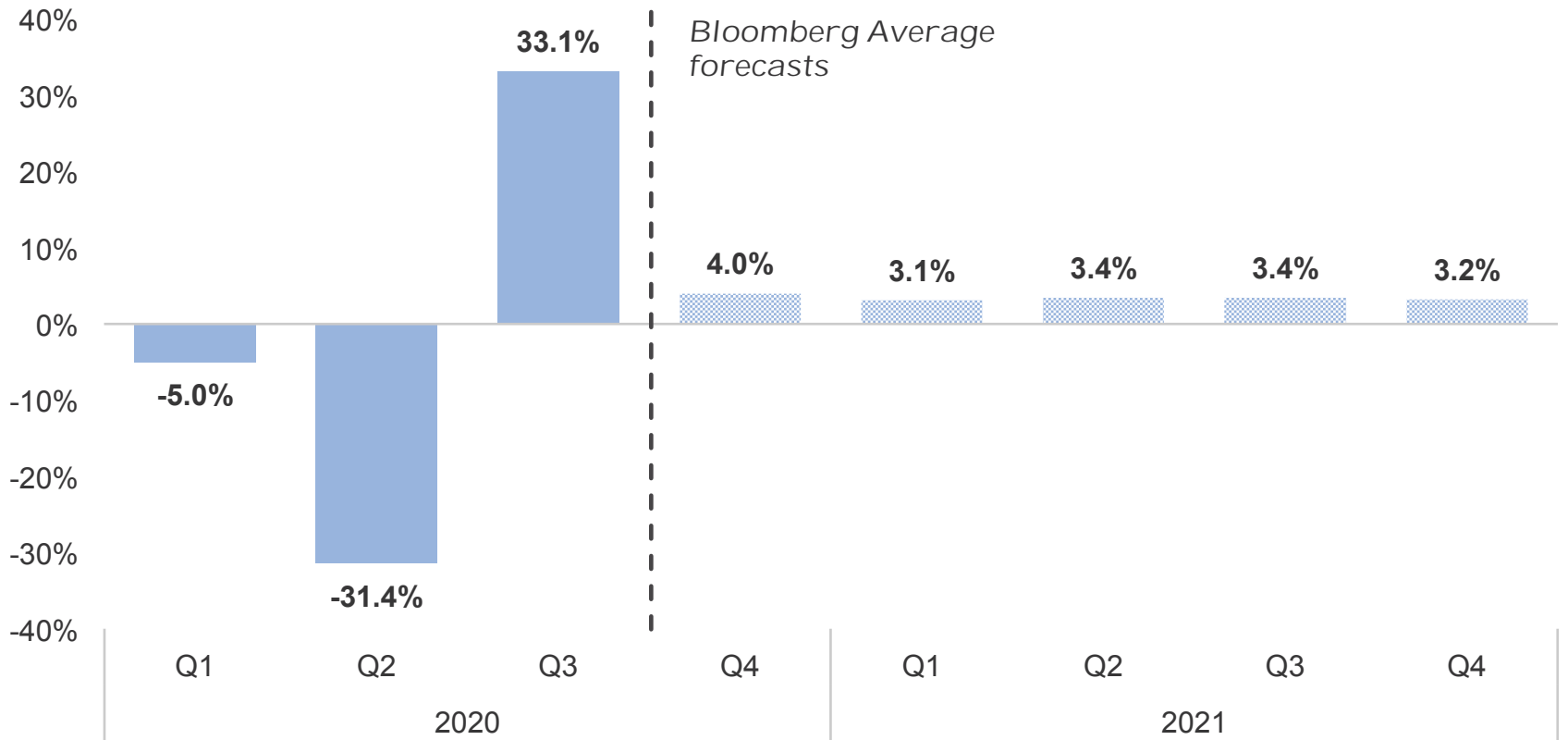




# Economists' GDP Projections

## U.S. GDP Forecasts

Annualized Rate





# Lagging Indicators



## Lagging Indicator Overview

- ◆ Observable or measurable factor that changes some time after the economic, financial, or business variable it is correlated with changes
- ◆ Can confirm trends and changes in trends
- ◆ Examples: the consumer price index (CPI), home sales, unemployment rate, corporate profits, labor cost per unit of output, and the balance of trade



## Lagging Economic Indicator Index (LAG)

- ◆ The Conference Board Lagging Economic Index (LAG):
  - A composite average of 7 individual lagging indicators.
  - Cyclical turning points in LAG have occurred after those in aggregate economic activity.
- ◆ The seven components of The Conference Board Lagging Economic Index® include:

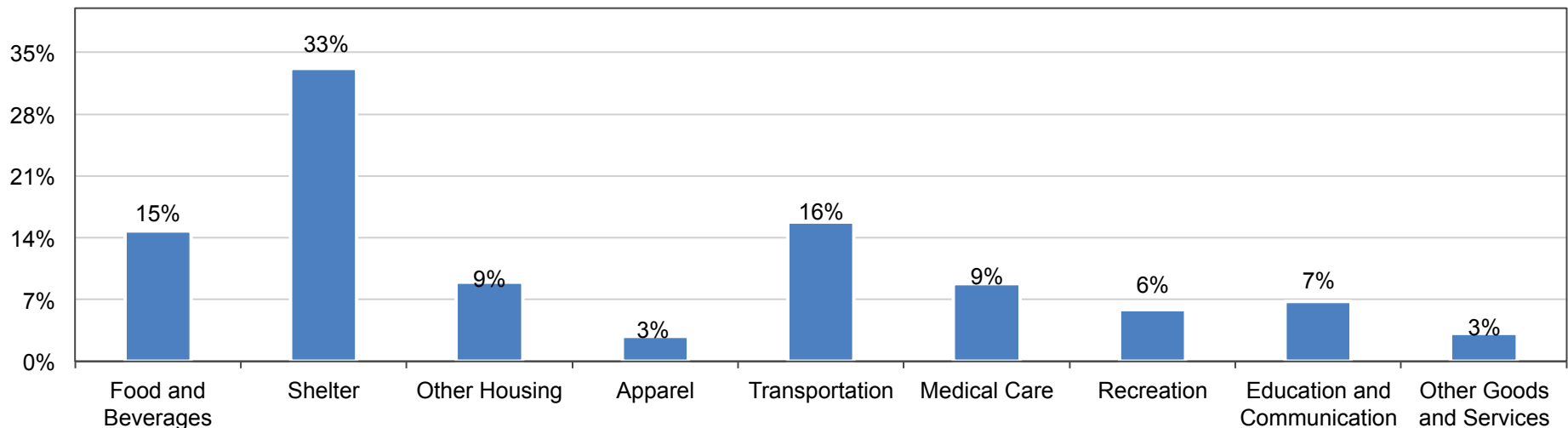
Employment	Orders and Supply Chain	Housing	Consumers
Average duration of unemployment	Inventories to sales ratio, manufacturing and trade  Labor cost per unit of output, manufacturing	Average prime rate  Commercial and industrial loans	Consumer installment credit to personal income ratio  Consumer price index for services



## Consumer Price Index

<b>What it is</b>	<b>The benchmark inflation guide for the U.S. economy</b>
How it's gathered	The CPI represents all goods and services purchased for consumption by the reference population BLS has classified all expenditure items into more than 200 categories, arranged into eight major groups.
Food and energy	Both measurements have two releases, one including food and energy (headline) and one excluding food and energy (core).
Why it matters to investors	Will often move both equity and fixed-income markets. Gives most insight into future Fed rate moves.

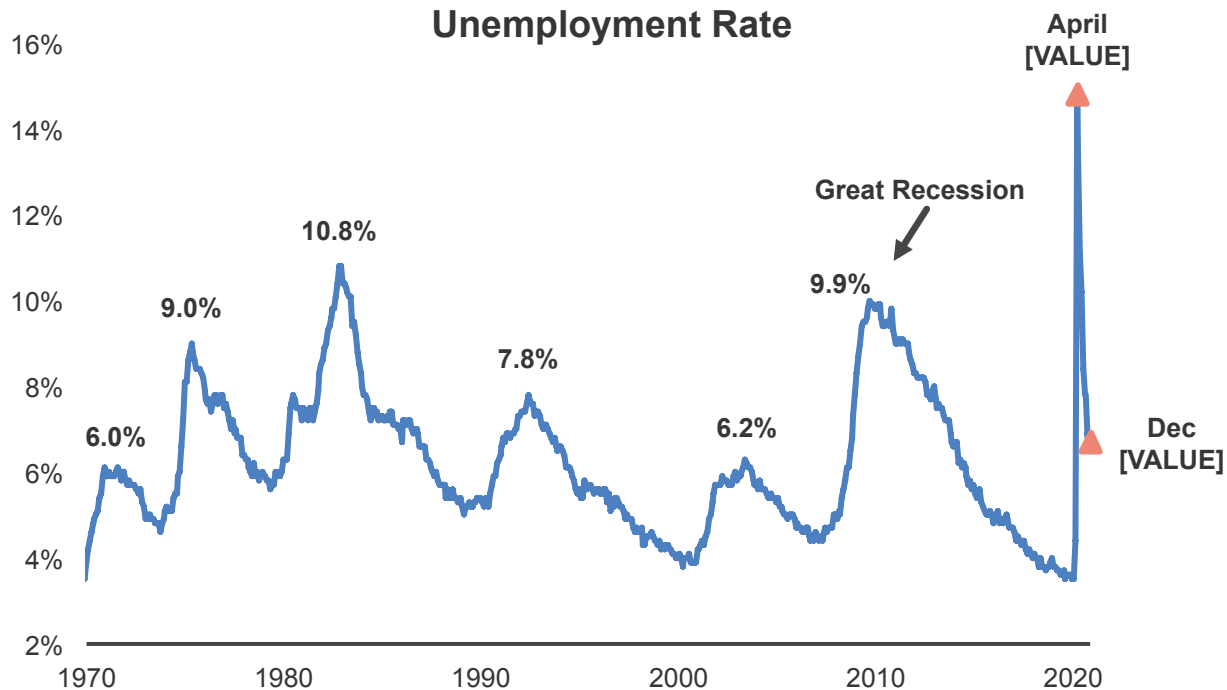
### CPI Weighting





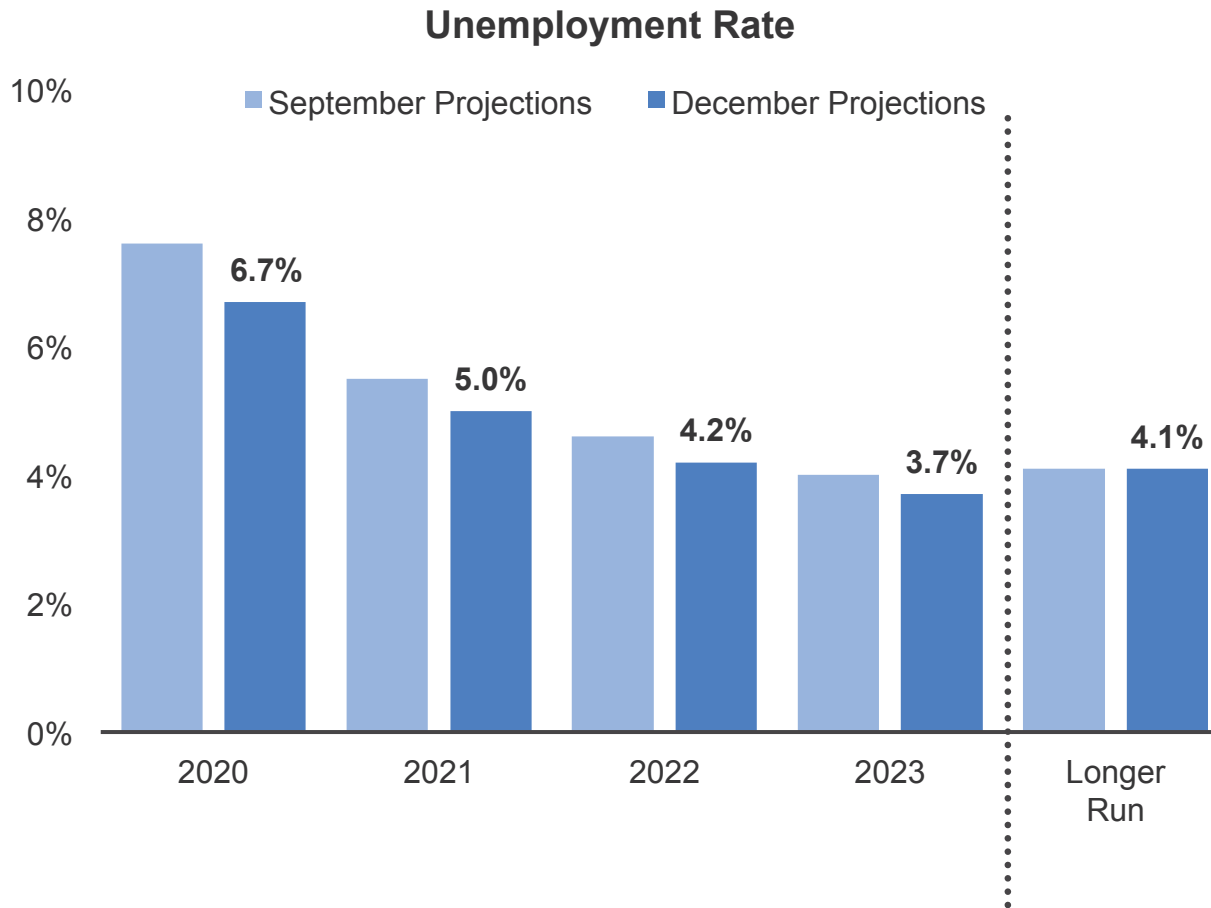
# Unemployment Rate

<b>What it is</b>	The number of unemployed persons divided by the total number of persons in the labor force.
<b>How it's gathered</b>	Rate comes from a survey of 60,000 households called the household survey.
<b>Why it matters to investors</b>	The employment situation is the primary monthly indicator of aggregate economic activity.





## The Fed's December 2020 Unemployment Rate Projections

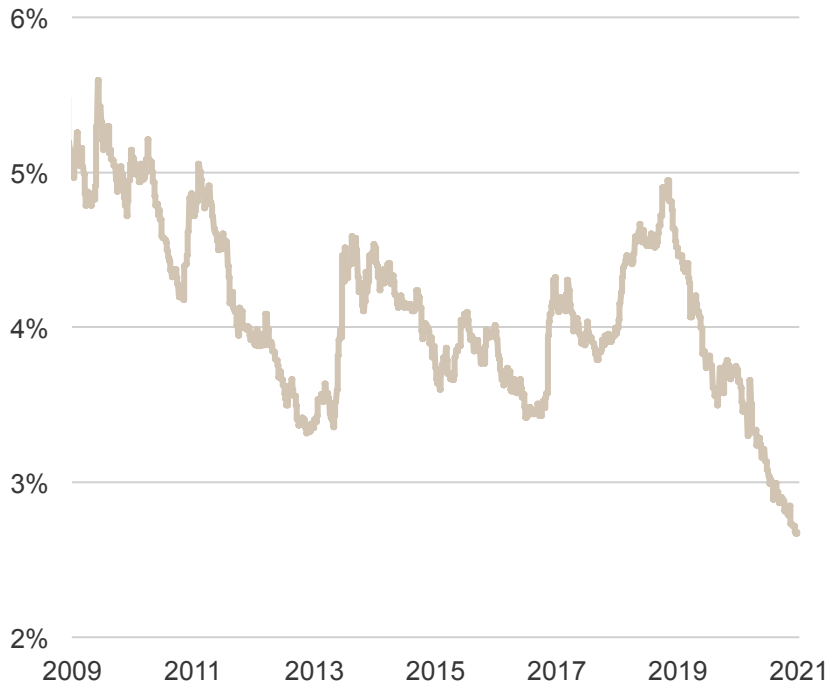




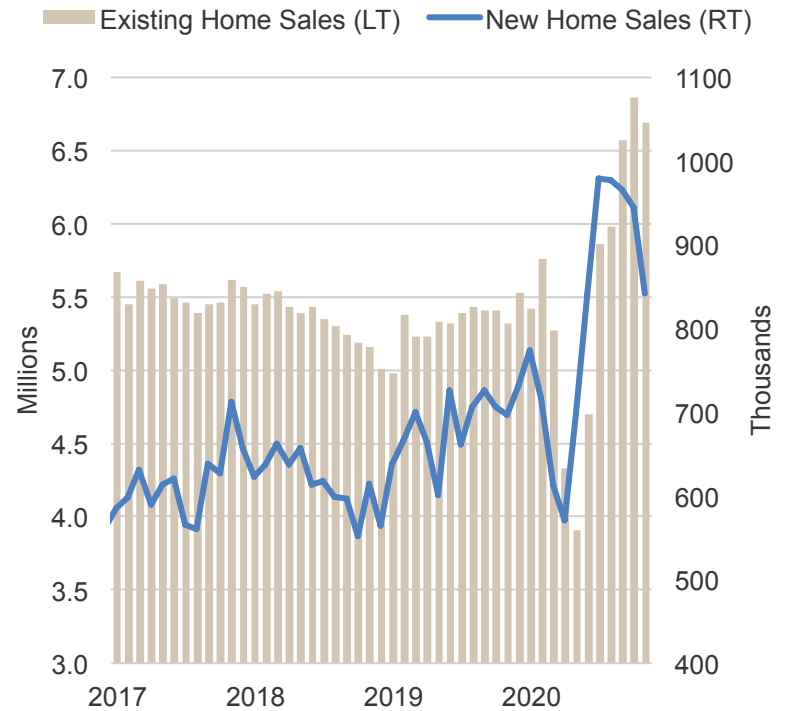
# Home Sales and Mortgage Rates

- ◆ Lower mortgage rates positively benefit home affordability.

### Freddie Mac US Mortgage 30-Year Commitment Rates



### Housing Sales





## Arizona Economic Indicators and Forecasts

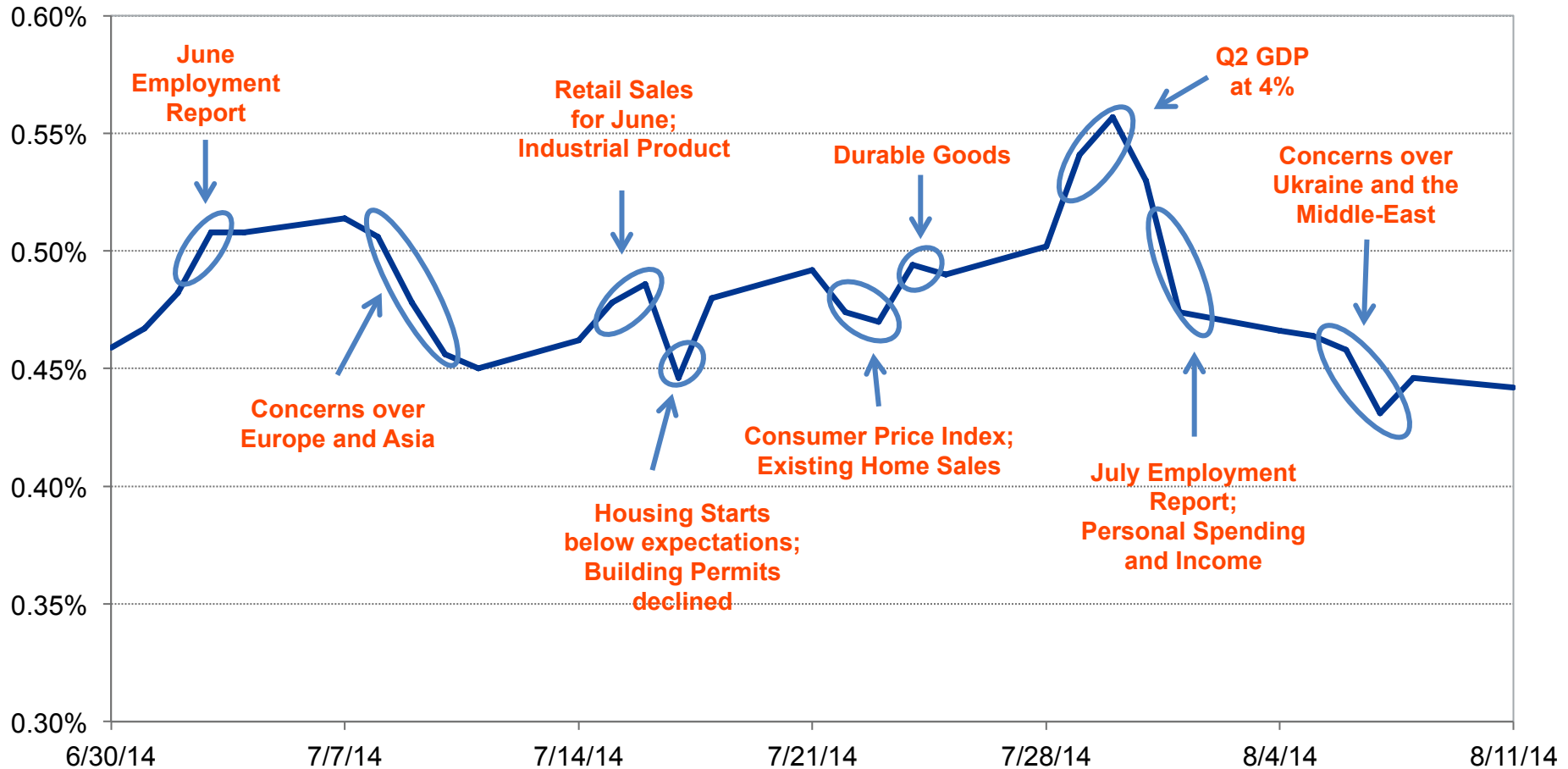


Arizona	2020	2021	2022	2023	2024
Personal Income (\$ mil)	356,812	359,965	380,751	401,227	422,303
% Chg from Year Ago	6.4%	0.9%	5.8%	5.4%	5.3%
Retail Sales (\$mil)	119,528	128,953	134,238	140,018	146,378
% Chg from Year Ago	4.4%	7.9%	4.1%	4.3%	4.5%
Total Nonfarm Employment (000s)	2,878.5	3,002.0	3,099.1	3,165.8	3,229.1
% Chg from Year Ago	-2.0%	4.3%	3.2%	2.2%	2.0%
Population (000s), July 1st estimates	7,285.0	7,397.0	7,510.0	7,615.0	7,717.0
% Chg from Year Ago	1.4%	1.5%	1.5%	1.4%	1.3%
Residential Building Permits (units)	53,526	49,884	46,880	44,538	43,593
% Chg from Year Ago	14.9%	-6.8%	-6.0%	-5.0%	-2.1%



## Economic Indicators Move the Market

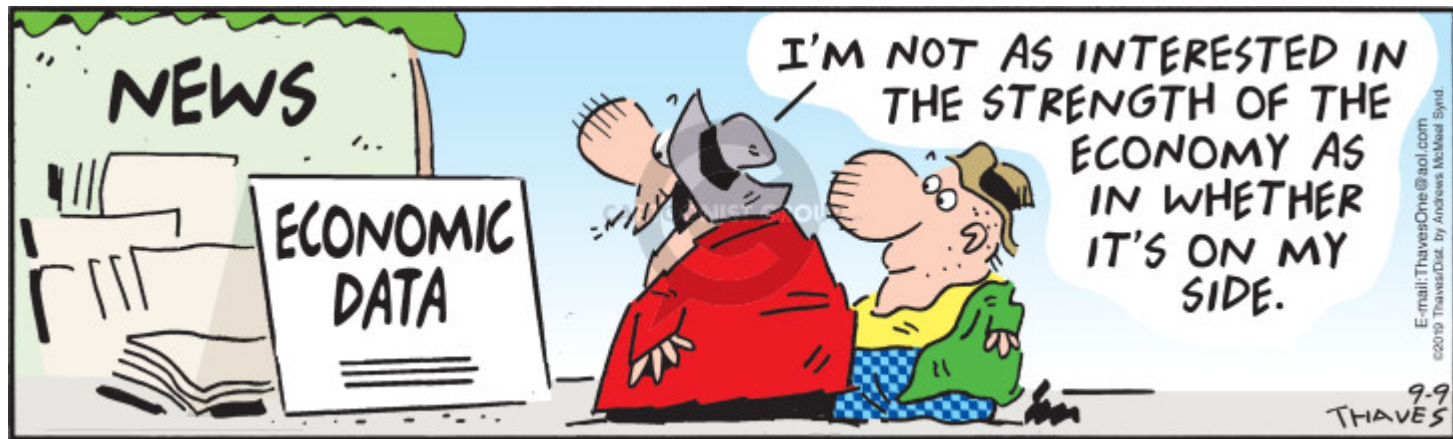
**2-Year U.S. Treasury Yields**  
June 30, 2014 – Aug 11, 2014





## What Economic Indicators Mean for Local Governments

- Don't rely on individual indicators to make decisions. Instead, look at the indicators over time in conjunction with future expectations for change in the indicators.
- Assumptions about economic growth, inflation, and other key elements of the economy should inform decisions on the appropriate portfolio duration and allocation among types of permitted investments.
- Financial strategies should be developed with a view of the current market and economic conditions and the outlook for changes in these conditions over the next three to twelve months.



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# Questions?





## Disclosures

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# Appendix



## Components of Conference Board LEI Index 1/3

- **BCI-01 Average weekly hours, manufacturing**

The average hours worked per week by production workers in manufacturing industries tend to lead the business cycle because employers usually adjust work hours before increasing or decreasing their workforce.

- **BCI-05 Average weekly initial claims for unemployment insurance**

The number of new claims filed for unemployment insurance are typically more sensitive than either total employment or unemployment to overall business conditions, and this series tends to lead the business cycle. It is inverted when included in the leading index; the signs of the month-to-month changes are reversed, because initial claims increase when employment conditions worsen (i.e., layoffs rise and new hirings fall).

- **BCI-08 Manufacturers' new orders, consumer goods and materials (in 1982 \$)**

These goods are primarily used by consumers. The inflation-adjusted value of new orders leads actual production because new orders directly affect the level of both unfilled orders and inventories that firms monitor when making production decisions. The Conference Board deflates the current dollar orders data using price indexes constructed from various sources at the industry level and a chain-weighted aggregate price index formula.

- **BCI-130 ISM new order index**

This index reflects the levels of new orders from customers. As a diffusion index, its value reflects the number of participants reporting increased orders during the previous month compared to the number reporting decreased orders, and this series tends to lead the business cycle. When the index has a reading of greater than 50 it is an indication that orders have increased during the past month. This index, therefore, tends to lead the business cycle. ISM new orders is based on a monthly survey conducted by Institution for Supply Management (formerly known as National Association of Purchasing Management). The Conference Board takes normalized value of this index as a measure of its contribution to LEI.



## Components of Conference Board LEI Index 2/3

- **BCI-33 Manufacturers' new orders, non-defense capital goods excl. aircraft (in 1982 \$)**

This index, combining with orders from aircraft (in inflation-adjusted dollars) are the producers' counterpart to BCI-08.

- **BCI-29 Building permits, new private housing units**

The number of residential building permits issued is an indicator of construction activity, which typically leads most other types of economic production.

- **BCI-19 Stock prices, 500 common stocks**

The Standard & Poor's 500 stock index reflects the price movements of a broad selection of common stocks traded on the New York Stock Exchange. Increases (decreases) of the stock index can reflect both the general sentiments of investors and the movements of interest rates, which is usually another good indicator for future economic activity.

- **BCI-107 Leading Credit Index™**

This index is consisted of six financial indicators: 2-years Swap Spread (real time), LIBOR 3 month less 3 month Treasury-Bill yield spread (real time), Debit balances at margin account at broker dealer (monthly), AAI Investors Sentiment Bullish (%) less Bearish (%) (weekly), Senior Loan Officers C&I loan survey – Bank tightening Credit to Large and Medium Firms (quarterly), and Security Repurchases (quarterly) from the Total Finance-Liabilities section of Federal Reserve's flow of fund report. Because of these financial indicators' forward looking content, LCI leads economic activities.



## Components of Conference Board LEI Index 3/3

- **BCI-129 Interest rate spread, 10-year Treasury bonds less federal funds**

The spread or difference between long and short rates is often called the yield curve. This series is constructed using the 10-year Treasury bond rate and the federal funds rate, an overnight interbank borrowing rate. It is felt to be an indicator of the stance of monetary policy and general financial conditions because it rises (falls) when short rates are relatively low (high). When it becomes negative (i.e., short rates are higher than long rates and the yield curve inverts) its record as an indicator of recessions is particularly strong.

- **BCI-125 Avg. Consumer Expectations for Business and Economic Conditions**

This index reflects changes in consumer attitudes concerning future economic conditions and, therefore, is the only indicator in the leading index that is completely expectations-based. It is an equally weighted average of consumer expectations of business and economic conditions using two questions, Consumer Expectations for Economic Conditions 12-months ahead from Surveys of Consumers conducted by Reuters/University of Michigan, and Consumer Expectations for Business Conditions 6-months ahead from Consumer Confidence Survey by The Conference Board. Responses to the questions concerning various business and economic conditions are classified as positive, negative, or unchanged



## Components of Conference Board CEI Index 1/1

### ● **BCI-41 Employees on nonagricultural payrolls**

This series from the Bureau of Labor Statistics is often referred to as "payroll employment." It includes full-time and part-time workers and does not distinguish between permanent and temporary employees. Because the changes in this series reflect the actual net hiring and firing of all but agricultural establishments and the smallest businesses in the nation, it is one of the most closely watched series for gauging the health of the economy.

### ● **BCI-51 Personal income less transfer payments (in 1996 \$)**

The value of the income received from all sources is stated in inflation-adjusted dollars to measure the real salaries and other earnings of all persons. This series excludes government transfers such as Social Security payments and includes an adjustment for wage accruals less disbursements (WALD) that smooth bonus payments (to more accurately reflect the level of income that wage earners would use to base their consumption decisions upon). Income levels are important because they help determine both aggregate spending and the general health of the economy.

### ● **BCI-47 Index of industrial production**

This index is based on value-added concepts and covers the physical output of all stages of production in the manufacturing, mining, and gas and electric utility industries. It is constructed from numerous sources that measure physical product counts, values of shipments, and employment levels. Although the value-added of the industrial sector is only a fraction of the total economy, this index has historically captured a majority of the fluctuations in total output.

### ● **BCI-57 Manufacturing and trade sales (in 1996 \$)**

Sales at the manufacturing, wholesale, and retail levels are invariably procyclical. This series is inflation-adjusted to represent real total spending. The data for this series are collected as part of the National Income and Product Account calculations, and the level of aggregate sales is always larger than GDP when annualized because some products and services are counted more than once (e.g. as intermediate goods or temporary additions to wholesale inventories and a retail sale).



## Components of Conference Board LAG Index 1/2

- **BCI-91 Average duration of unemployment**

This series measures the average duration (in weeks) that individuals counted as unemployed have been out of work. Because this series tends to be higher during recessions and lower during expansions, it is inverted when it is included in the lagging index (i.e., the signs of the month-to-month changes are reversed). Decreases in the average duration of unemployment invariably occur after an expansion gains strength and the sharpest increases tend to occur after a recession has begun.

- **BCI-77 Ratio, manufacturing and trade inventories to sales (in 1996 \$)**

The ratio of inventories to sales is a popular gauge of business conditions for individual firms, entire industries, and the whole economy. This series is calculated by the Bureau of Economic Analysis using inventory and sales data for manufacturing, wholesale, and retail businesses (in inflation- and seasonally-adjusted form) based on data collected by the Bureau of the Census. Because inventories tend to increase when the economy slows and sales fail to meet projections, the ratio typically reaches its cyclical peaks in the middle of a recession. It also tends to decline at the beginning of an expansion as firms meet their sales demand from excess inventories.

- **BCI- 62 Change in labor cost per unit of output, manufacturing**

This series measures the rate of change in an index that rises when labor costs for manufacturing firms rise faster than their production (and vice-versa). The index is constructed by The Conference Board from various components, including seasonally adjusted data on employee compensation in manufacturing (wages and salaries plus supplements) from the BEA, and seasonally adjusted data on industrial production in manufacturing from the Board of Governors of the Federal Reserve System. Because monthly percent changes in this series are extremely erratic, percent changes in labor costs are calculated over a six-month span. Cyclical peaks in the six-month annualized rate of change typically occur during recessions, as output declines faster than labor costs despite layoffs of production workers. Troughs in the series are much more difficult to determine and characterize.



## Components of Conference Board LAG Index 2/2

- **BCI-109 Average prime rate charged by banks**

Although the prime rate is considered the benchmark that banks use to establish their interest rates for different types of loans, changes tend to lag behind the movements of general economic activities. The monthly data are compiled by the Board of Governors of the Federal Reserve System.

- **BCI-101 Commercial and industrial loans outstanding (in 1996 \$)**

This series measures the volume of business loans held by banks and commercial paper issued by nonfinancial companies. The underlying data are compiled by the Board of Governors of the Federal Reserve System. The Conference Board makes price level adjustments using the same deflator (based on Personal Consumption Expenditures data) used to deflate the money supply series in the leading index. The series tends to peak after an expansion peaks because declining profits usually increase the demand for loans. Troughs are typically seen more than a year after the recession ends. (Users should note that there is a major discontinuity in January 1988, due to a change in the source data; the composite index calculations are adjusted for this fact.)

- **BCI-95 Ratio, consumer installment credit outstanding to personal income**

This series measures the relationship between consumer debt and income. Consumer installment credit outstanding is compiled by the Board of Governors of the Federal Reserve System and personal income data is from the Bureau of Economic Analysis. Because consumers tend to hold off personal borrowing until months after a recession ends, this ratio typically shows a trough after personal income has risen for a year or longer. Lags between peaks in the ratio and peaks in the general economy are much more variable.


- **BCI-120 Change in Consumer Price Index for services.**

This series is compiled by the Bureau of Labor Statistics, and it measures the rates of change in the services component of the Consumer Price Index. It is probable that because of recognition lags and other market rigidities, service sector inflation tends to increase in the initial months of a recession and to decrease in the initial months of an expansion.



## Examples of Economic Indicators

Report	Released by	Frequency of release
Producer Price Index	Bureau of Labor Statistics	Monthly
Consumer Price Index	Bureau of Labor Statistics	Monthly
Employment Situation	Bureau of Labor Statistics	Monthly - First Friday
Productivity and Costs	Bureau of Labor Statistics	Quarterly
Real Earnings	Bureau of Labor Statistics	Monthly
Housing	U.S. Census Bureau	Monthly
GDP	Bureau of Economic Analysis	Quarterly
Durable Goods Orders	U.S. Census Bureau	Monthly
Index of Leading Economic Indicators	Confidence Board	Monthly
Retail Sales	U.S. Census Bureau	Monthly
ISM Manufacturing	Institute for Supply Management	Monthly
FOMC Meeting Minutes	FOMC	Varies
Consumer Spending	Bureau of Economic Analysis	Monthly
Personal Income and Outlays	Bureau of Economic Analysis	Monthly
Jobless Claims (Continuing and Initial)	Department of Labor	Weekly

 Indicators that currently have a bigger impact on the market than others. Changes depending on market conditions and state of economy.