



**FINANCE DEPARTMENT
MEMORANDUM**

To: The Honorable Mayor & Members of the City Commission
City of South Miami Residents and General Public

Via: Shari Kamali, ICMA-CM, City Manager

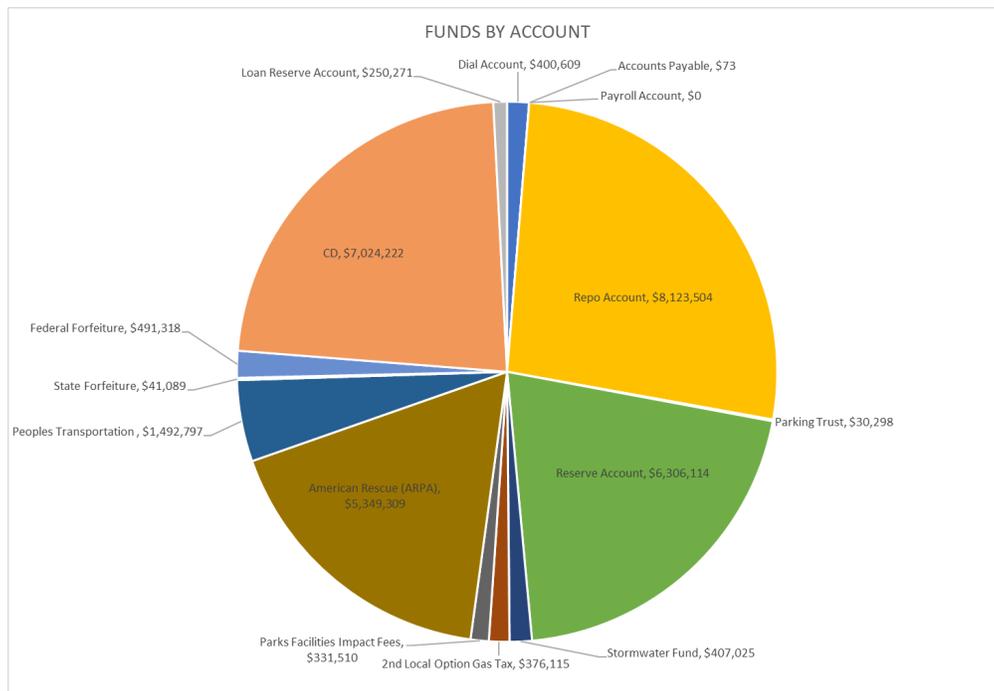
From: Alfredo Riverol, CPA, CGFM, CGMA, CRFAC, Chief Financial Officer

Date: October 26, 2022

Re: **4th Quarter of 2022 Investment Report**

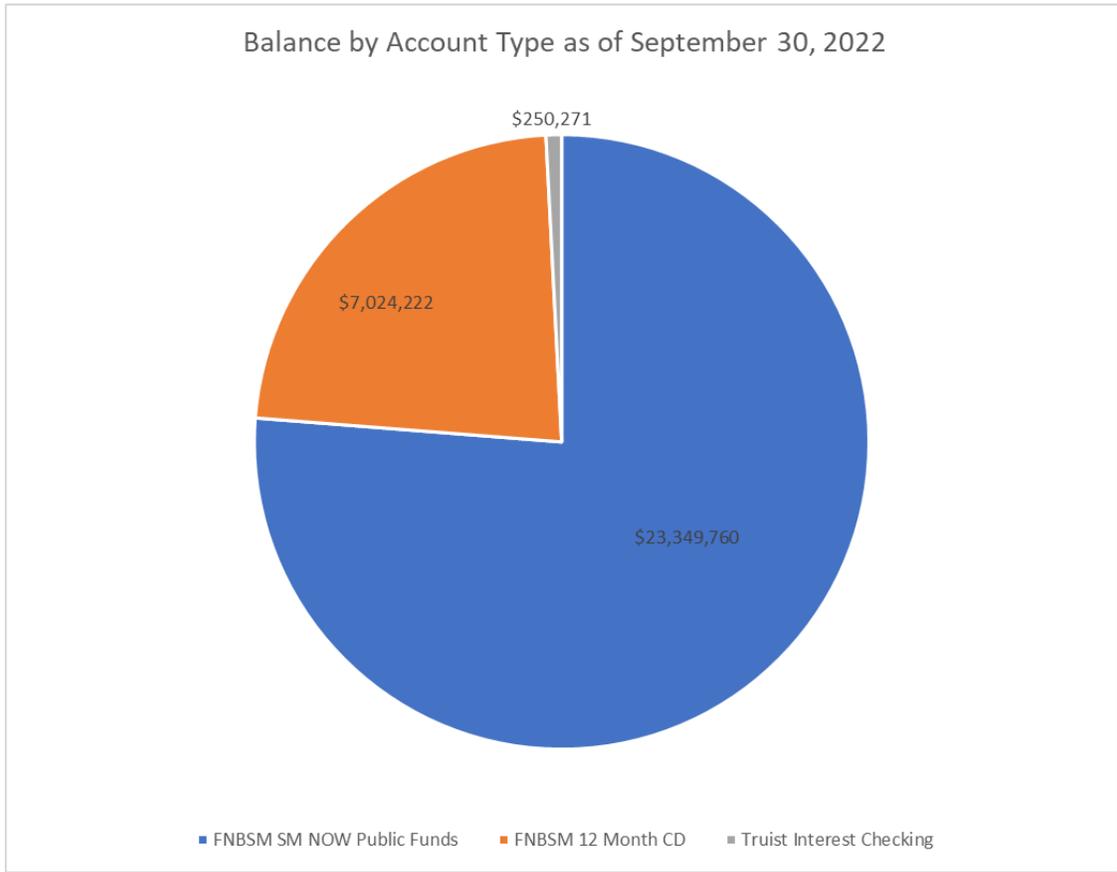
Below, please find the ending balance and yield earnings for the quarter.

Bank Name	Account Name	Type	Beginning Balance as of 7/1/2022	Ending Balance as of 9/30/2022	Interest Rate as of 9/30/2022	Yield Earned for Qtr. 7/1-9/30
FNBSM	Dial Account	SM NOW Public Funds	\$432,366	\$400,609	1.82%	1,528.71
FNBSM	Payroll Account	SM NOW Public Funds	\$6	\$0	1.85%	0.10
FNBSM	Accounts Payable	SM NOW Public Funds	\$48	\$73	1.83%	0.40
FNBSM	Repo Account	SM NOW Public Funds	\$14,935,663	\$8,123,504	1.82%	32,967.05
FNBSM	Parking Trust	SM NOW Public Funds	\$30,188	\$30,298	1.82%	110.80
FNBSM	Reserve Account	SM NOW Public Funds	\$6,283,054	\$6,306,114	1.82%	23,059.93
FNBSM	Stormwater Fund	SM NOW Public Funds	\$492,821	\$407,025	1.82%	1,601.95
FNBSM	2nd Local Option Gas Tax	SM NOW Public Funds	\$356,751	\$376,115	1.81%	1,347.31
FNBSM	Parks Facilities Impact Fees	SM NOW Public Funds	\$317,031	\$331,510	1.82%	1,197.85
FNBSM	American Rescue (ARPA)	SM NOW Public Funds	\$2,702,490	\$5,349,309	1.82%	15,390.24
FNBSM	Peoples Transportation	SM NOW Public Funds	\$1,235,601	\$1,492,797	1.82%	5,099.24
FNBSM	State Forfeiture	SM NOW Public Funds	\$40,939	\$41,089	1.82%	150.25
FNBSM	Federal Forfeiture	SM NOW Public Funds	\$969,582	\$491,318	1.82%	2,524.59
FNBSM	CD	12 Month CD	\$0	\$7,024,222	3.00%	24,221.71
Truist	Loan Reserve Account	Interest Checking	\$250,265	\$250,271	0.01%	6.32
FNBSM	Block Account	SM NOW Public Funds	\$467,436	\$0	1.21%	476.40
FNBSM	Debt Service	SM NOW Public Funds	\$424	\$0	1.20%	0.43
			\$28,514,666	\$30,624,253		109,683.28



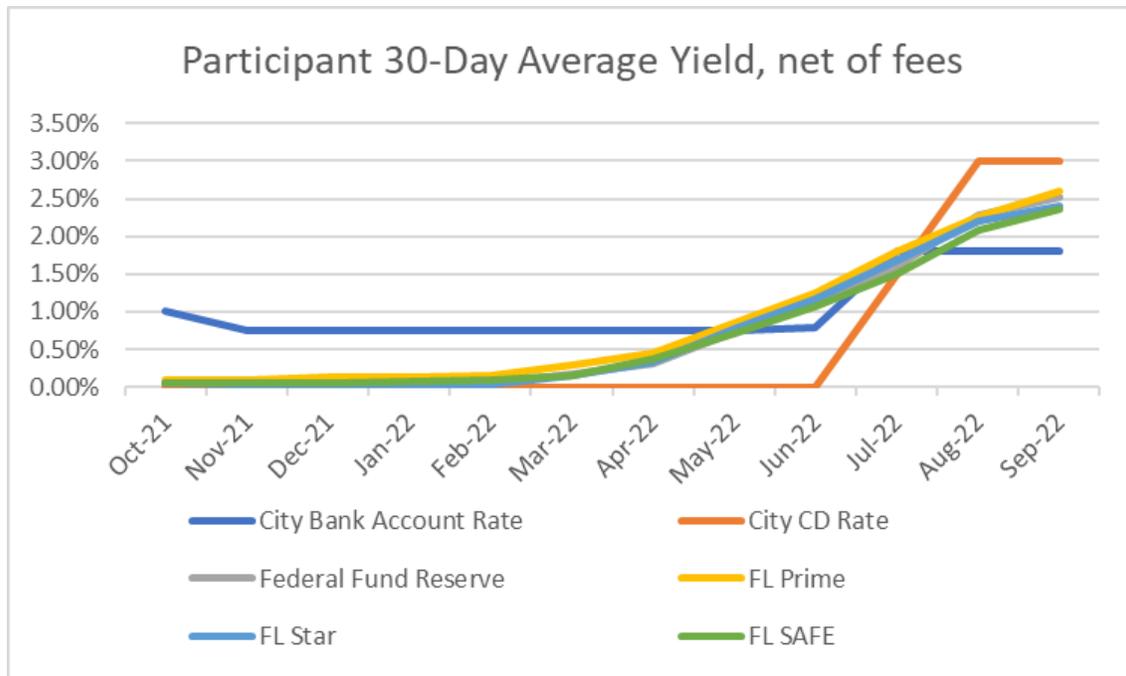
Below please find a portfolio detail of the City's assets as of the quarter end.

Portfolio Type	Balance as 9-30-22	%	Avg Return
FNBSM SM NOW Public Funds	\$23,349,760	76%	1.82%
FNBSM 12 Month CD	\$7,024,222	23%	3.00%
Truist Interest Checking	\$250,271	1%	0.01%
	<u>\$30,624,253</u>	100%	1.61%

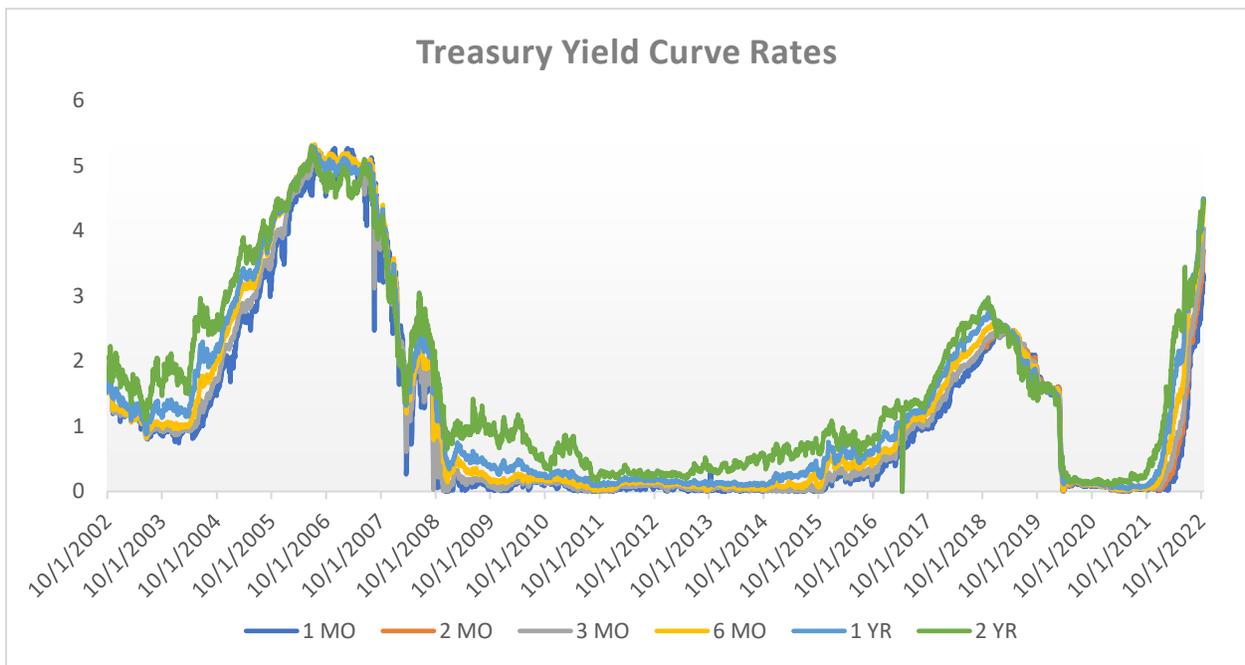


To provide a 12-month performance measure, please find below the rates for the City different classes as of the last day of the quarter and the Federal Fund Reserve average rate, along with multiple Intergovernmental Investment Pools average yield rate.

Participant 30-Day Average Yield, net of fees							
Month & Year	City Bank		Federal Fund				
	Account Rate	City CD Rate	Reserve	FL Prime	FL Star	FL SAFE	
Oct-21	1.00%	None	0.06%	0.09%	0.04%	0.06%	
Nov-21	0.75%	None	0.06%	0.10%	0.04%	0.06%	
Dec-21	0.75%	None	0.06%	0.13%	0.04%	0.06%	
Jan-22	0.75%	None	0.06%	0.14%	0.04%	0.08%	
Feb-22	0.75%	None	0.06%	0.15%	0.04%	0.09%	
Mar-22	0.75%	None	0.18%	0.29%	0.16%	0.16%	
Apr-22	0.75%	None	0.31%	0.45%	0.33%	0.36%	
May-22	0.75%	None	0.73%	0.85%	0.76%	0.70%	
Jun-22	0.79%	None	1.13%	1.25%	1.17%	1.07%	
Jul-22	1.80%	1.50%	1.61%	1.80%	1.68%	1.51%	
Aug-22	1.80%	3.00%	2.29%	2.26%	2.20%	2.08%	
Sep-22	1.80%	3.00%	2.53%	2.61%	2.41%	2.37%	



Date	1 MO	2 MO	3 MO	6 MO	1 YR	2 YR
10/18/2022	3.25	3.7	4.04	4.39	4.5	4.43
10/17/2022	3.3	3.66	3.97	4.38	4.5	4.45
10/14/2022	3.3	3.61	3.81	4.31	4.5	4.48
10/13/2022	3.35	3.6	3.79	4.3	4.46	4.47
10/12/2022	3.07	3.45	3.7	4.16	4.28	4.28
10/11/2022	3.07	3.43	3.67	4.17	4.28	4.3
10/7/2022	3.03	3.34	3.45	4.09	4.24	4.3
10/6/2022	3.05	3.34	3.46	4.04	4.19	4.23
10/5/2022	2.89	3.22	3.46	4	4.14	4.15
10/4/2022	2.91	3.23	3.45	3.98	4.15	4.1
10/3/2022	2.87	3.26	3.46	3.97	4.01	4.12
9/30/2022	2.79	3.2	3.33	3.92	4.05	4.22
9/29/2022	2.78	3.2	3.36	3.87	3.98	4.16
9/28/2022	2.63	3.14	3.4	3.87	3.99	4.07
9/27/2022	2.71	3.14	3.35	3.91	4.16	4.3
9/26/2022	2.73	3.14	3.39	3.95	4.17	4.27
9/23/2022	2.67	3.07	3.24	3.85	4.15	4.2
9/22/2022	2.73	3.09	3.29	3.87	4.08	4.11
9/21/2022	2.59	3.06	3.31	3.86	4.08	4.02
9/20/2022	2.57	3.05	3.35	3.86	4.03	3.96
9/19/2022	2.62	3.02	3.37	3.87	4.05	3.95



Attached: J.P. Morgan Economic and Market Update
Wells Fargo U.S. Economic Forecast



Economic and Market update

U.S. | 4Q 2022

As of September 30, 2022

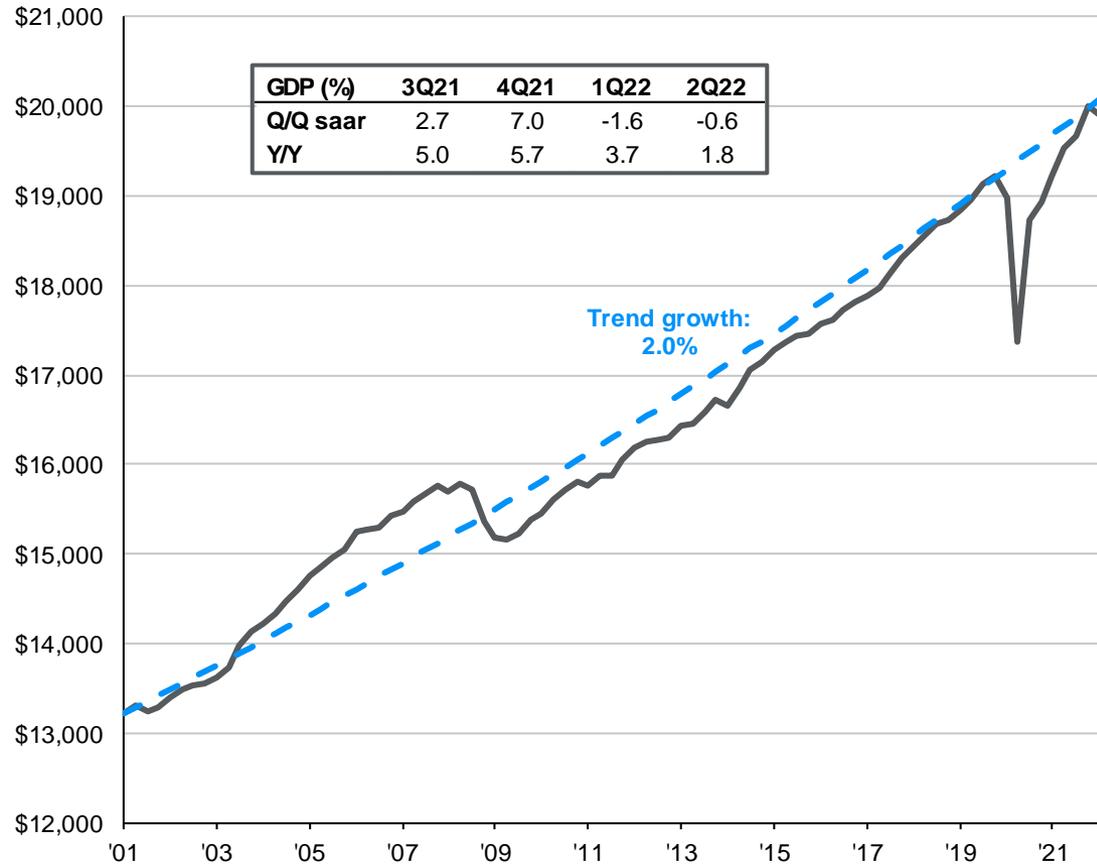




Economic growth and the composition of GDP

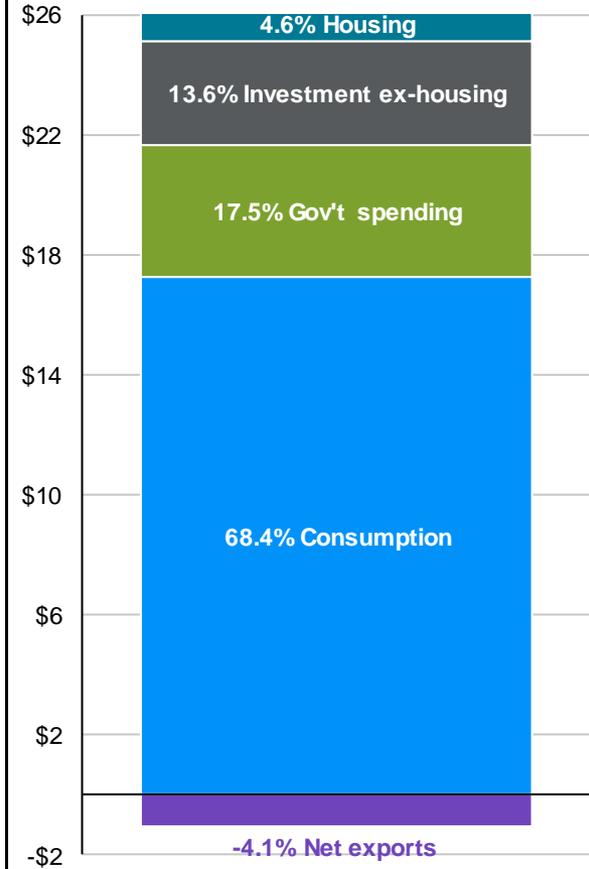
Real GDP

Billions of chained (2012) dollars, seasonally adjusted at annual rates



Components of GDP

2Q22 nominal GDP, USD trillions



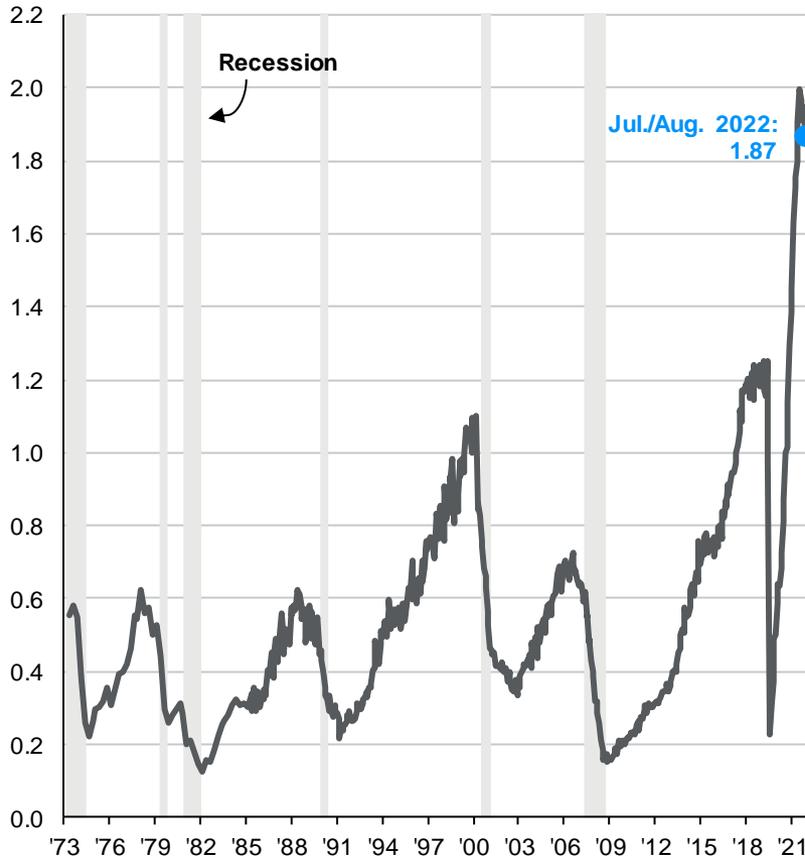
Source: BEA, FactSet, J.P. Morgan Asset Management. Values may not sum to 100% due to rounding. Trend growth is measured as the average annual growth rate from business cycle peak 1Q01 to business cycle peak 4Q19. Guide to the Markets – U.S. Data are as of September 30, 2022.



Labor demand

Ratio of job openings to job seekers

Job openings* lagged 1 month divided by unemployed persons, SA



JOLTS quits

Total nonfarm quits, thousands, seasonally adjusted



JOLTS layoffs

Total nonfarm layoffs, thousands, seasonally adjusted



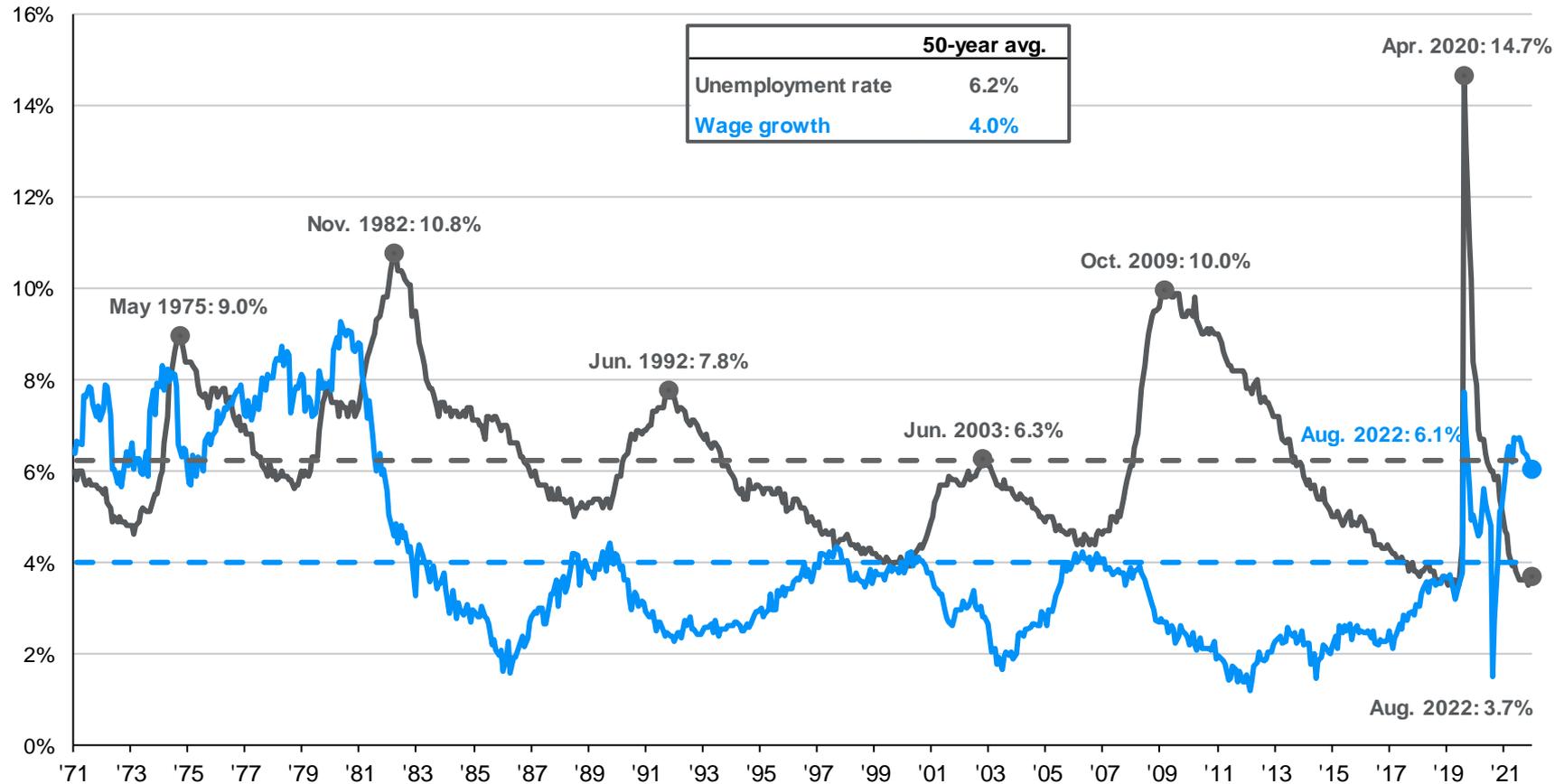
Source: U.S. Department of Labor, J.P. Morgan Asset Management. *JOLTS job openings from February 1974 to November 2000 are J.P. Morgan Asset Management estimates. Guide to the Markets – U.S. Data are as of September 30, 2022.



Unemployment and wages

Civilian unemployment rate and year-over-year wage growth

Private production and non-supervisory workers, seasonally adjusted, percent



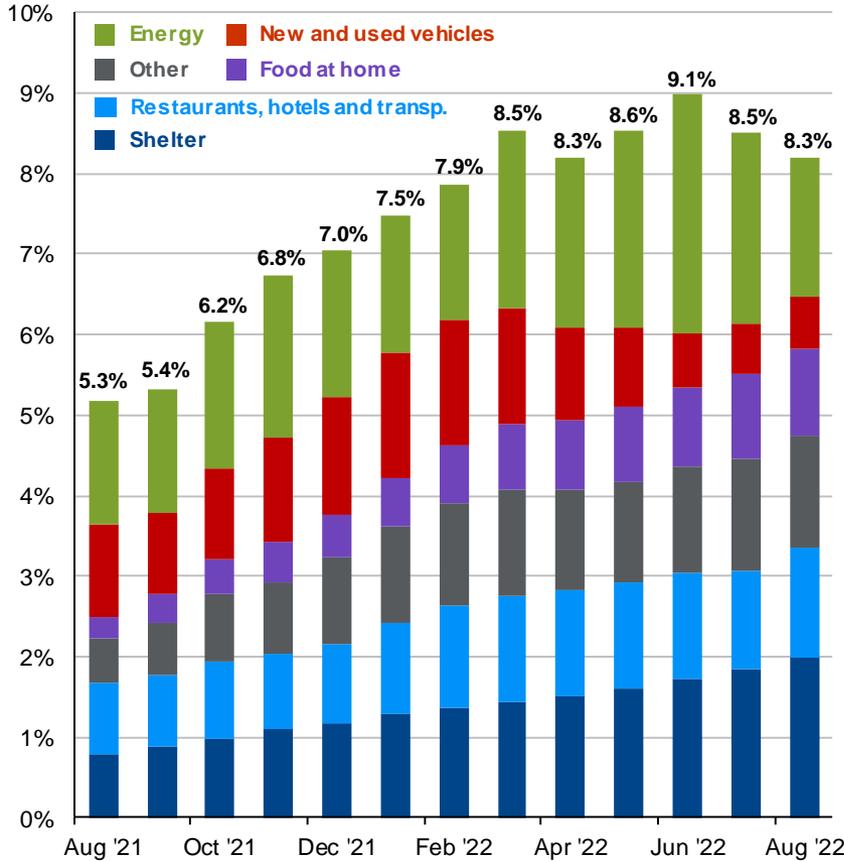
Source: BLS, FactSet, J.P. Morgan Asset Management. Guide to the Markets – U.S. Data are as of September 30, 2022.



Inflation drivers and expectations

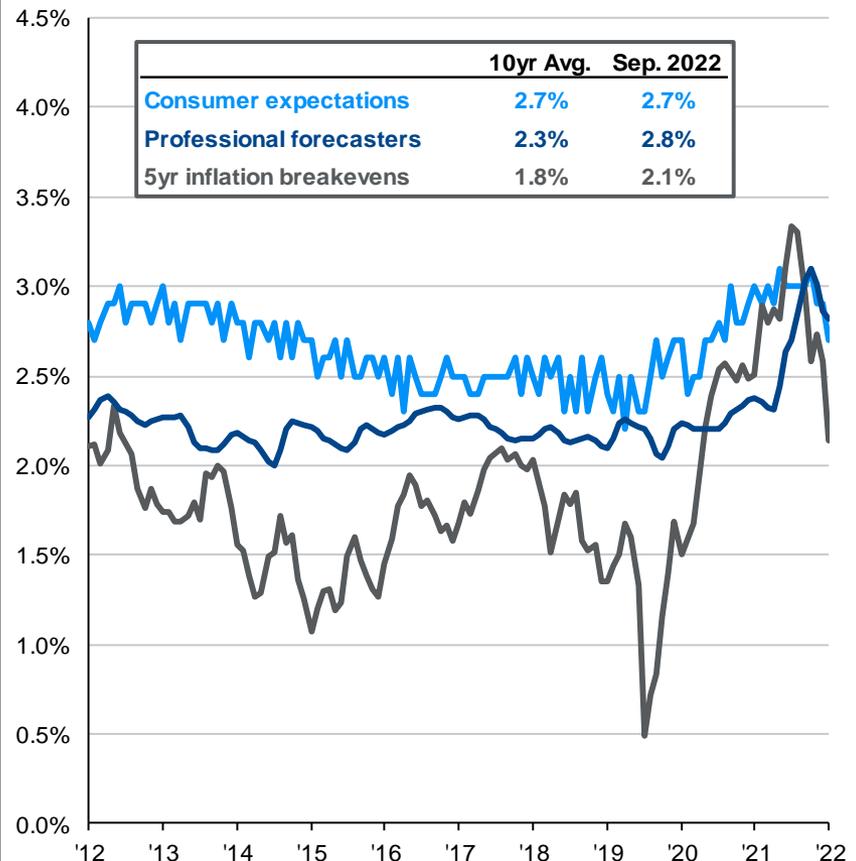
Contributors to headline inflation

Contribution to y/y % change in CPI, not seasonally adjusted



Inflation expectations, next 5 years

% change vs. prior year, non-seasonally adjusted

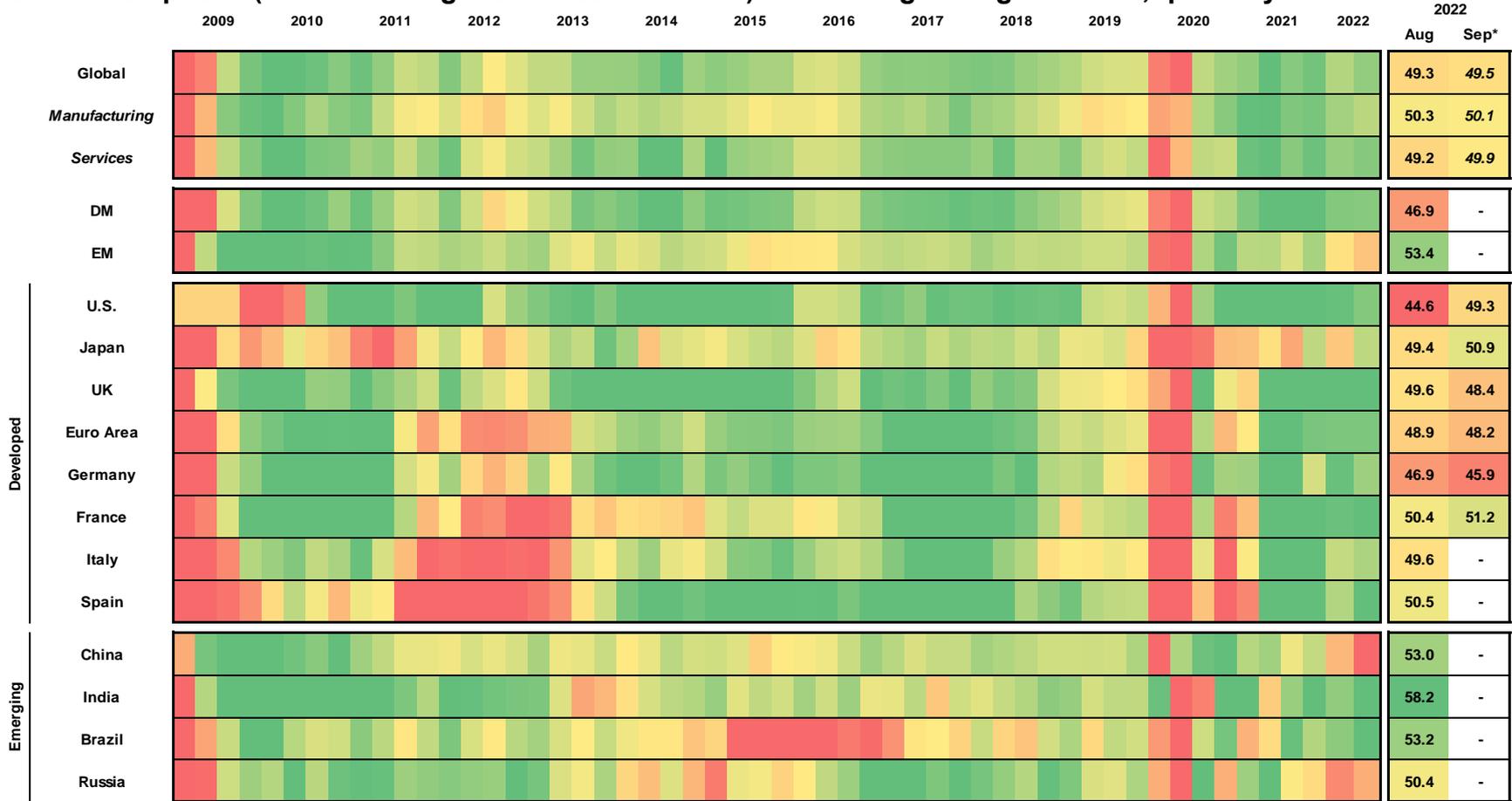


Source: Bureau of Labor Statistics, FactSet, Federal Reserve Bank of Philadelphia, University of Michigan, J.P. Morgan Asset Management. Contributions mirror the BLS methodology on Table 7 of the CPI report. Values may not sum to headline CPI figures due to rounding and underlying calculations. "Shelter" includes owners equivalent rent and rent of primary residence. "Other" primarily reflects household furnishings, apparel, education and communication services, medical care services and other personal services. Professional forecasters reflects the latest quarterly Survey of Professional Forecasters on a 1-month lag. The Survey of Professional Forecasters is conducted by the Federal Reserve Bank of Philadelphia and reflects the median estimate by professional forecasters of average CPI inflation over the next 5 years. *Guide to the Markets - U.S.* Data are as of September 30, 2022.



Global economic activity momentum

Global Composite (manufacturing & services combined) Purchasing Managers' Index, quarterly



International

Developed

Emerging

Source: Standard & Poor's, J.P. Morgan Asset Management.
 The Composite PMI includes both manufacturing and services sub-indices. Heatmap colors are based on PMI relative to the 50 level, which indicates acceleration or deceleration of the sector, for the time period shown. Heatmap is based on quarterly averages, with the exception of the two most recent figures, which are single month readings. Data for the U.S. are back-tested and filled in from December 2007 to September 2009 due to lack of existing PMI figures. DM and EM represent developed markets and emerging markets, respectively. *September Global Composite, Manufacturing and Services PMIs are J.P. Morgan Asset Management estimates.
 Guide to the Markets – U.S. Data are as of September 30, 2022.



Dollar drivers

Economy

The U.S. dollar

U.S. Dollar Index



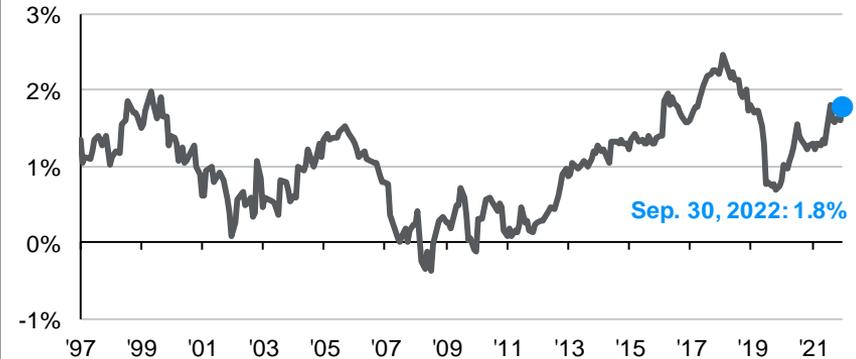
The U.S. trade balance

Current account balance, % of GDP



Developed markets interest rate differentials

Difference between U.S. and international 10-year yields*



Source: J.P. Morgan Asset Management; (Left) FactSet, ICE; (Top right) Bureau of Economic Analysis, FactSet; (Bottom right) Tullett Prebon. Currencies in the DXY Index are: British pound, Canadian dollar, euro, Japanese yen, Swedish krona and Swiss franc. *Interest rate differential is the difference between the 10-year U.S. Treasury yield and a basket of the 10-year yields of each major trading partner (Australia, Canada, Europe, Japan, Sweden, Switzerland and UK). Weights in the basket are calculated using the 10-year average of total government bonds outstanding in each region. Europe is defined as the 19 countries in the euro area. *Guide to the Markets – U.S.* Data are as of September 30, 2022.

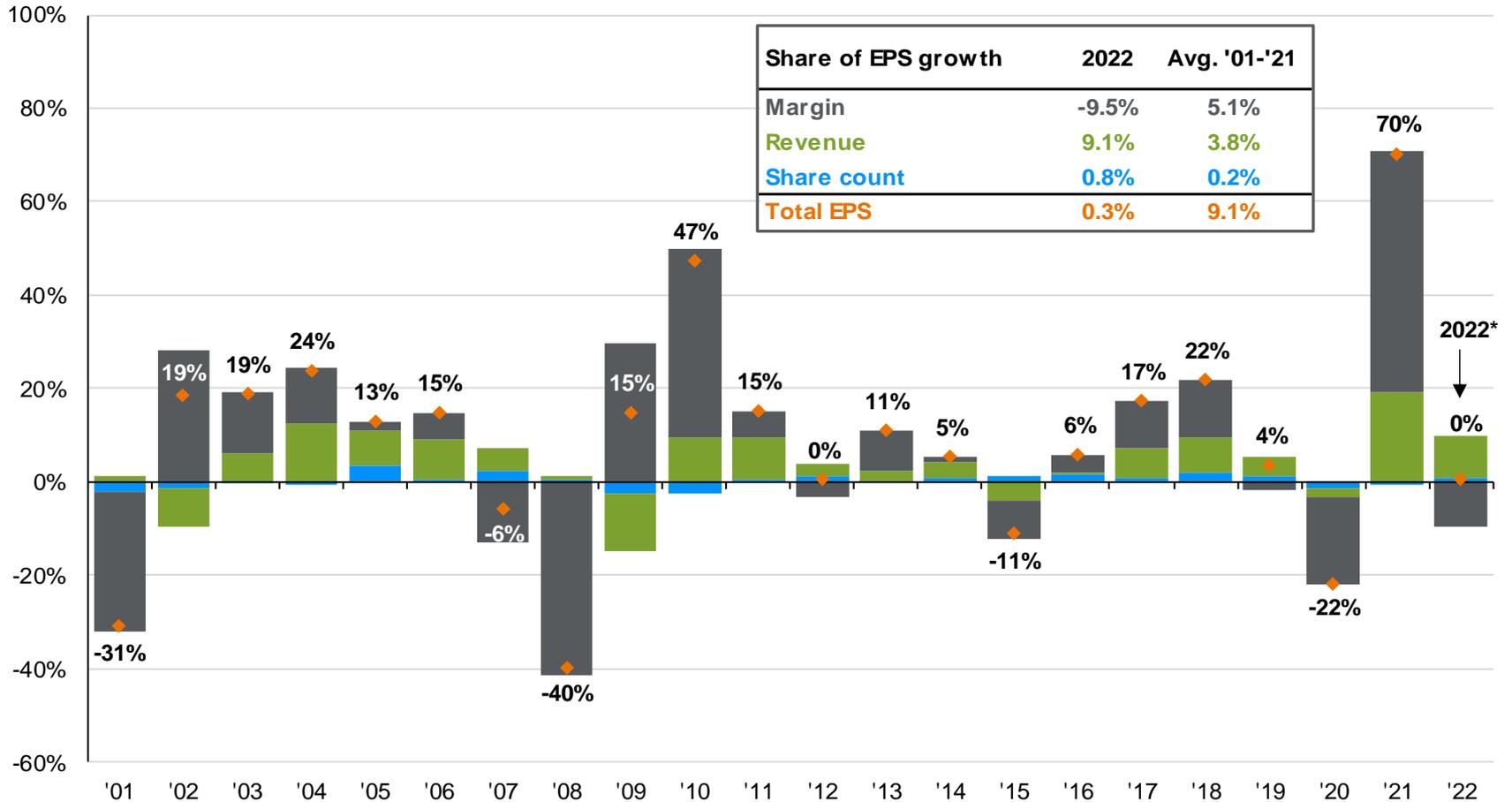


Sources of earnings per share growth

Equities

S&P 500 year-over-year operating EPS growth

Annual growth broken into revenue, changes in profit margin & changes in share count



Source: Compustat, FactSet, Standard & Poor's, J.P. Morgan Asset Management.
 EPS levels are based on annual operating earnings per share. *2022 earnings figures are based on weekly operating earnings estimates from Standard & Poor's. Percentages may not sum due to rounding. Past performance is not indicative of future returns.
 Guide to the Markets – U.S. Data are as of September 30, 2022.

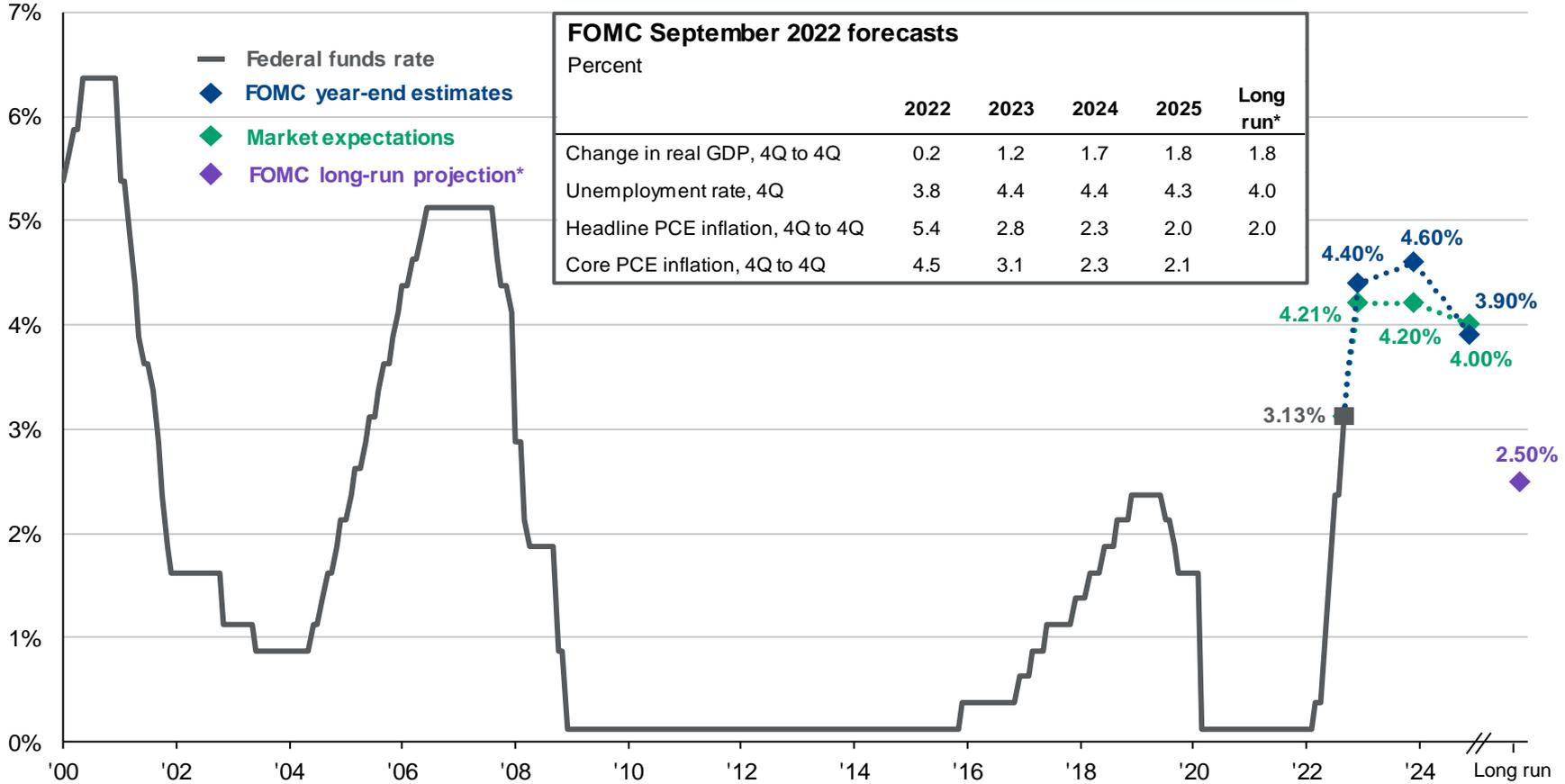


The Fed and interest rates

Fixed Income

Federal funds rate expectations

FOMC and market expectations for the federal funds rate



Source: Bloomberg, FactSet, Federal Reserve, J.P. Morgan Asset Management.

Market expectations are based off of the respective Federal Funds Futures contracts for December expiry. *Long-run projections are the rates of growth, unemployment and inflation to which a policymaker expects the economy to converge over the next five to six years in absence of further shocks and under appropriate monetary policy. Forecasts are not a reliable indicator of future performance. Forecasts, projections and other forward-looking statements are based upon current beliefs and expectations. They are for illustrative purposes only and serve as an indication of what may occur. Given the inherent uncertainties and risks associated with forecasts, projections or other forward-looking statements, actual events, results or performance may differ materially from those reflected or contemplated.

Guide to the Markets – U.S. Data are as of September 30, 2022.



Fixed income market dynamics

GTM

U.S.

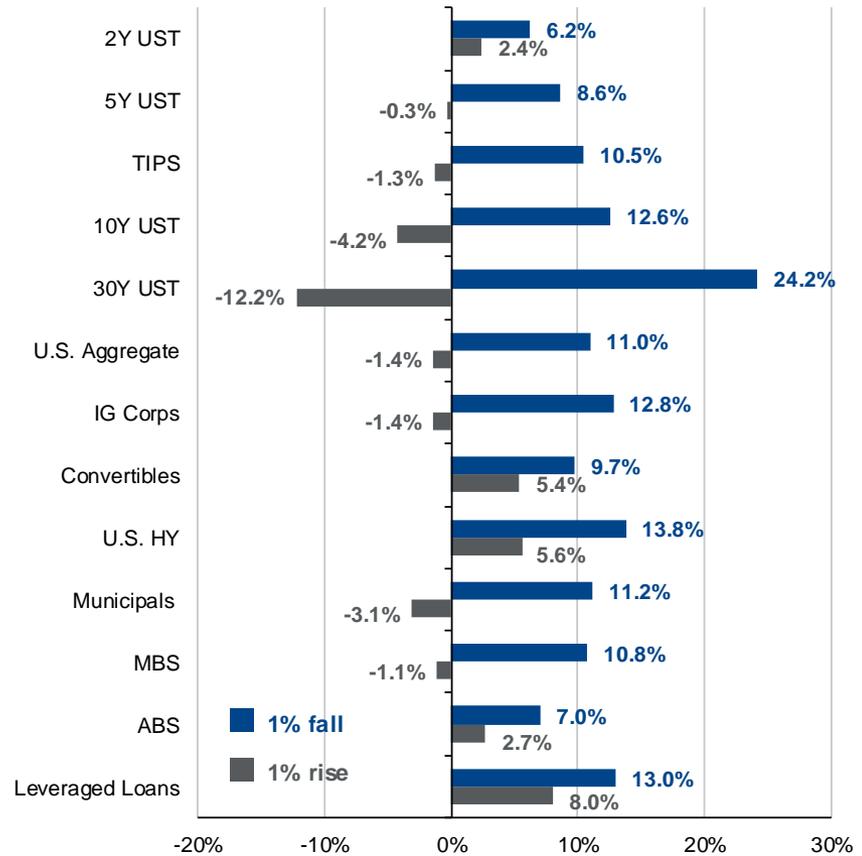
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Fixed Income

U.S. Treasuries	Yield		Return			
	9/30/2022	12/31/2021	2022 YTD	Avg. Maturity	Correlation to 10-year	Correlation to S&P 500
2-Year	4.22%	0.73%	-4.59%	2 years	0.71	-0.25
5-Year	4.06%	1.26%	-10.79%	5	0.93	-0.21
TIPS	1.68%	-1.04%	-13.61%	10	0.61	0.30
10-Year	3.83%	1.52%	-16.85%	10	1.00	-0.19
30-Year	3.79%	1.90%	-31.49%	30	0.93	-0.20
Sector						
U.S. Aggregate	4.75%	1.75%	-14.61%	8.5	0.85	0.18
IG Corps	5.69%	2.33%	-18.72%	11.0	0.50	0.46
Convertibles	7.14%	3.66%	-19.85%	-	-0.20	0.87
U.S. HY	9.68%	4.21%	-14.74%	5.7	-0.14	0.75
Municipals	4.04%	1.11%	-12.13%	12.8	0.47	0.20
MBS	4.83%	1.98%	-13.66%	8.1	0.78	0.09
ABS	5.50%	1.96%	-3.66%	2.3	0.11	-0.03
Leveraged Loans	10.52%	4.60%	-2.66%	2.5	-0.04	0.24

Impact of a 1% rise or fall in interest rates

Total return, assumes a parallel shift in the yield curve



Source: Bloomberg, FactSet, Standard & Poor's, U.S. Treasury, J.P. Morgan Asset Management. Sectors shown above are provided by Bloomberg unless otherwise noted and are represented by – U.S. Aggregate; MBS: U.S. Aggregate Securitized - MBS; ABS: J.P. Morgan ABS Index; Corporates: U.S. Corporates; Municipals: Muni Bond; High Yield: Corporate High Yield; Leveraged Loans: J.P. Morgan Leveraged Loan Index; TIPS: Treasury Inflation-Protected Securities; Convertibles: U.S. Convertibles Composite. Convertibles yield is as of most recent month end and is based on U.S. portion of Bloomberg Global Convertibles Index. Yield and return information based on bellwethers for Treasury securities. Sector yields reflect yield-to-worst. Convertibles yield is based on U.S. portion of Bloomberg Global Convertibles. Correlations are based on 15-years of monthly returns for all sectors. Past performance is not indicative of future results. *Guide to the Markets* – U.S. Data as of September 30, 2022.



S&P 500 valuation measures

Equities

S&P 500 Index: Forward P/E ratio



Source: FactSet, FRB, Refinitiv Datastream, Robert Shiller, Standard & Poor's, Thomson Reuters, J.P. Morgan Asset Management. Price-to-earnings is price divided by consensus analyst estimates of earnings per share for the next 12 months as provided by IBES since August 1997 and by FactSet since January 2022. Current next 12-months consensus earnings estimates are \$241. Average P/E and standard deviations are calculated using 25 years of history. Shiller's P/E uses trailing 10-years of inflation-adjusted earnings as reported by companies. Dividend yield is calculated as the next 12-months consensus dividend divided by most recent price. Price-to-book ratio is the price divided by book value per share. Price-to-cash flow is price divided by NTM cash flow. EY minus Baa yield is the forward earnings yield (consensus analyst estimates of EPS over the next 12 months divided by price) minus the Moody's Baa seasoned corporate bond yield. Std. dev. over-/under-valued is calculated using the average and standard deviation over 25 years for each measure. *P/CF is a 20-year average due to cash flow availability. Guide to the Markets - U.S. Data are as of September 30, 2022.

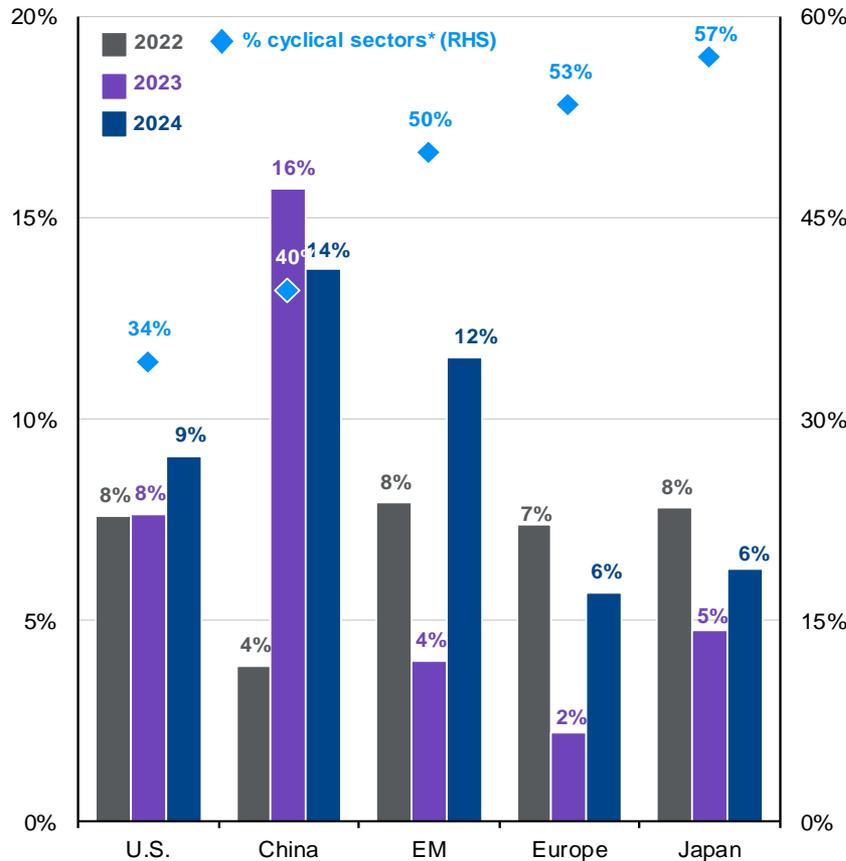


International equity earnings and valuations

International

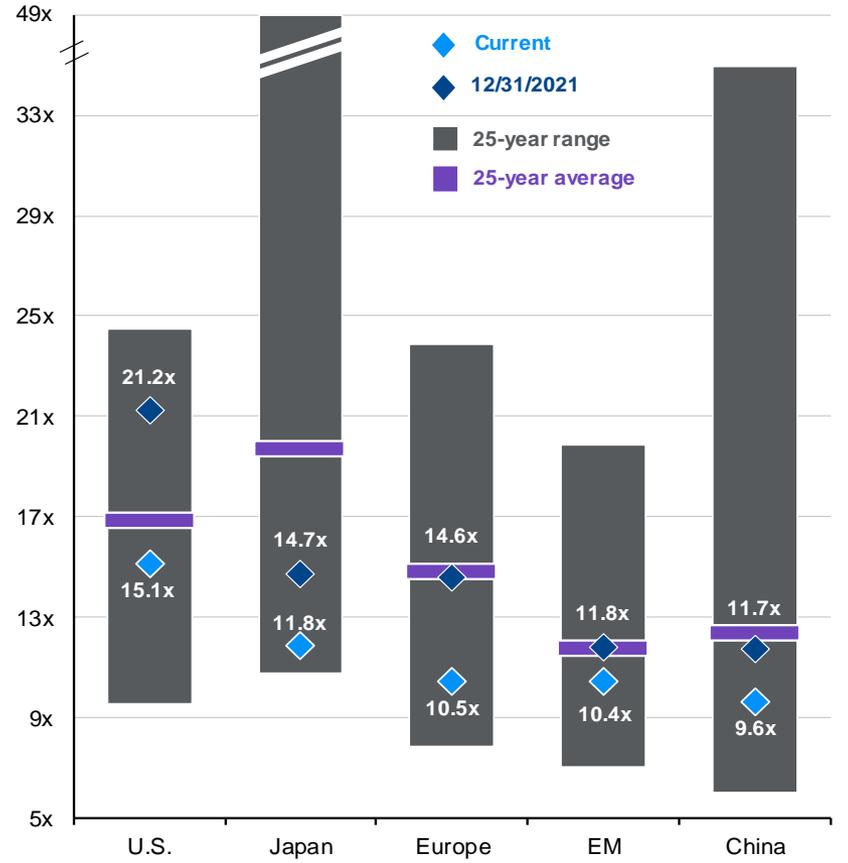
Global earnings growth

Calendar year consensus estimates



Global valuations

Current and 25-year next 12 months price-to-earnings ratio



Source: FactSet, MSCI, Standard & Poor's, Thomson Reuters, J.P. Morgan Asset Management.

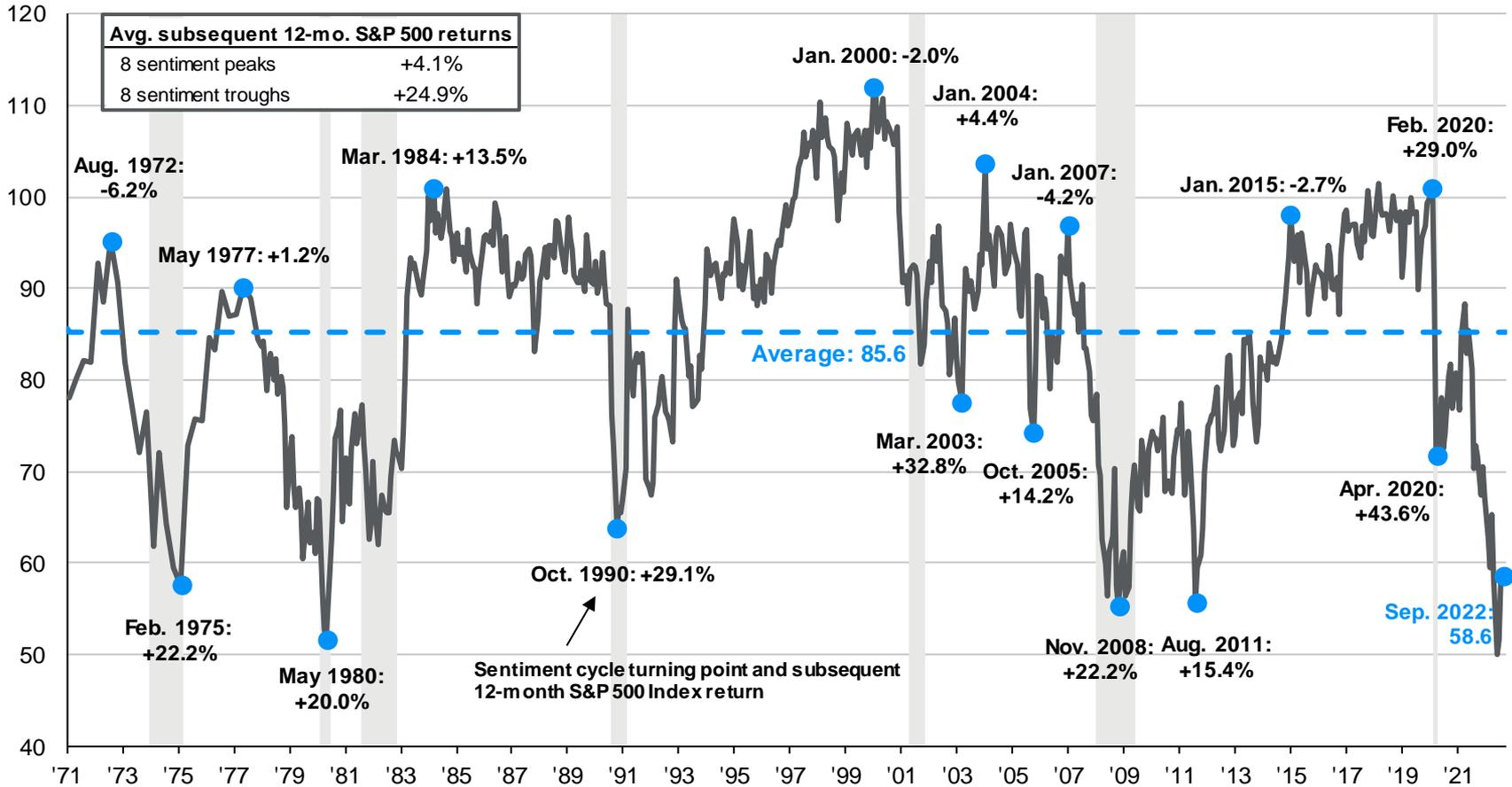
*Cyclical sectors include consumer discretionary, financials, industrials, energy and materials. The Internet and direct marketing subsector has been removed from the cyclicals calculation. In our judgement, companies in this space do not yet fit into the cyclical category, as they are still in a transitional growth phase and are not being directly impacted by the business cycle. Valuation and earnings charts use MSCI indices for all regions/countries, except for the U.S., which is the S&P 500. All indices use IBES aggregate earnings estimates, which may differ from earnings estimates used elsewhere in the book. MSCI Europe includes the eurozone as well as countries not in the currency bloc, such as Norway, Sweden, Switzerland and the UK (which collectively make up 44% of the overall index). Past performance is not a reliable indicator of current and future results.

Guide to the Markets – U.S. Data are as of September 30, 2022.



Consumer confidence and the stock market

Consumer Sentiment Index and subsequent 12-month S&P 500 returns



Source: FactSet, Standard & Poor's, University of Michigan, J.P. Morgan Asset Management. Peak is defined as the highest index value before a series of lower lows, while a trough is defined as the lowest index value before a series of higher highs. Subsequent 12-month S&P 500 returns are price returns only, which excludes dividends. Past performance is not a reliable indicator of current and future results. *Guide to the Markets – U.S.* Data are as of September 30, 2022.



J.P. Morgan Asset Management – Index definitions

GTM

U.S.

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All indexes are unmanaged and an individual cannot invest directly in an index. Index returns do not include fees or expenses.

Equities:

The **Dow Jones Industrial Average** is a price-weighted average of 30 actively traded blue-chip U.S. stocks.

The **MSCI ACWI (All Country World Index)** is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets.

The **MSCI EAFE Index (Europe, Australasia, Far East)** is a free float-adjusted market capitalization index that is designed to measure the equity market performance of developed markets, excluding the US & Canada.

The **MSCI Emerging Markets Index** is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets.

The **MSCI Europe Index** is a free float-adjusted market capitalization index that is designed to measure developed market equity performance in Europe.

The **MSCI Pacific Index** is a free float-adjusted market capitalization index that is designed to measure equity market performance in the Pacific region.

The **Russell 1000 Index**® measures the performance of the 1,000 largest companies in the Russell 3000.

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 the 2,000 smallest companies in the Russell 3000 Index.

The **Russell 2000 Growth Index**® measures the performance of those Russell 2000 companies with higher price-to-book ratios and higher forecasted growth values.

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 3000 Index**® measures the performance of the 3,000 largest U.S. companies based on total market capitalization.

The **Russell Midcap Index**® measures the performance of the 800 smallest companies in the Russell 1000 Index.

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 stocks are also members of the Russell 1000 Growth index.

The **Russell Midcap Value Index**® measures the performance of those Russell Midcap companies with lower price-to-book ratios and lower forecasted growth values. The stocks are also members of the Russell 1000 Value index.

The **S&P 500 Index** is widely regarded as the best single gauge of the U.S. equities market. The index includes a representative sample of 500 leading companies in leading industries of the U.S. economy. The **S&P 500 Index** focuses on the large-cap segment of the market; however, since it includes a significant portion of the total value of the market, it also represents the market.

Fixed income:

The **Bloomberg 1-3 Month U.S. Treasury Bill Index** includes all publicly issued zero-coupon US Treasury Bills that have a remaining maturity of less than 3 months and more than 1 month, are rated investment grade, and have \$250 million or more of outstanding face value. In addition, the securities must be denominated in U.S. dollars and must be fixed rate and non convertible.

The **Bloomberg Global High Yield Index** is a multi-currency flagship measure of the global high yield debt market. The index represents the union of the US High Yield, the Pan-European High Yield, and Emerging Markets (EM) Hard Currency High Yield Indices. The high yield and emerging markets sub-components are mutually exclusive. Until January 1, 2011, the index also included CMBS high yield securities.

The **Bloomberg Municipal Index**: consists of a broad selection of investment-grade general obligation and revenue bonds of maturities ranging from one year to 30 years. It is an unmanaged index representative of the tax-exempt bond market.

The **Bloomberg US Dollar Floating Rate Note (FRN) Index** provides a measure of the U.S. dollar denominated floating rate note market.

The **Bloomberg US Corporate Investment Grade Index** is an unmanaged index consisting of publicly issued US Corporate and specified foreign debentures and secured notes that are rated investment grade (Baa3/BBB or higher) by at least two ratings agencies, have at least one year to final maturity and have at least \$250 million par amount outstanding. To qualify, bonds must be SEC-registered.

The **Bloomberg US High Yield Index** covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets (sovereign rating of Baa1/BBB-/BBB+ and below using the middle of Moody's, S&P, and Fitch) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included.

The **Bloomberg US Mortgage Backed Securities Index** is an unmanaged index that measures the performance of investment grade fixed-rate mortgage backed pass-through securities of GNMA, FNMA and FHLMC.

The **Bloomberg US TIPS Index** consists of Inflation-Protection securities issued by the U.S. Treasury.

The **J.P. Morgan Emerging Market Bond Global Index (EMBI)** includes U.S. dollar denominated Brady bonds, Eurobonds, traded loans and local market debt instruments issued by sovereign and quasi-sovereign entities.

The **J.P. Morgan Domestic High Yield Index** is designed to mirror the investable universe of the U.S. dollar domestic high yield corporate debt market.

The **J.P. Morgan Corporate Emerging Markets Bond Index Broad Diversified (CEMBI Broad Diversified)** is an expansion of the **J.P. Morgan Corporate Emerging Markets Bond Index (CEMBI)**. The CEMBI is a market capitalization weighted index consisting of U.S. dollar denominated emerging market corporate bonds.

The **J.P. Morgan Emerging Markets Bond Index Global Diversified (EMBI Global Diversified)** tracks total returns for U.S. dollar-denominated debt instruments issued by emerging market sovereign and quasi-sovereign entities: Brady bonds, loans, Eurobonds. The index limits the exposure of some of the larger countries.

The **J.P. Morgan GBI EM Global Diversified** tracks the performance of local currency debt issued by emerging market governments, whose debt is accessible by most of the international investor base.

The **U.S. Treasury Index** is a component of the U.S. Government index.



J.P. Morgan Asset Management – Definitions

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Other asset classes:

The **Alerian MLP Index** is a composite of the 50 most prominent energy Master Limited Partnerships (MLPs) that provides investors with an unbiased, comprehensive benchmark for the asset class.

The **Bloomberg Commodity Index** and related sub-indices are composed of futures contracts on physical commodities and represents twenty two separate commodities traded on U.S. exchanges, with the exception of aluminum, nickel, and zinc

The **Cambridge Associates U.S. Global Buyout and Growth Index®** is based on data compiled from 1,768 global (U.S. & ex-U.S.) buyout and growth equity funds, including fully liquidated partnerships, formed between 1986 and 2013.

The **CS/Tremont Hedge Fund Index** is compiled by Credit Suisse Tremont Index, LLC. It is an asset-weighted hedge fund index and includes only funds, as opposed to separate accounts. The Index uses the Credit Suisse/Tremont database, which tracks over 4500 funds, and consists only of funds with a minimum of US\$50 million under management, a 12-month track record, and audited financial statements. It is calculated and rebalanced on a monthly basis, and shown net of all performance fees and expenses. It is the exclusive property of Credit Suisse Tremont Index, LLC.

The **HFRI Monthly Indices (HFRI)** are equally weighted performance indexes, utilized by numerous hedge fund managers as a benchmark for their own hedge funds. The HFRI are broken down into 4 main strategies, each with multiple sub strategies. All single-manager HFRI Index constituents are included in the HFRI Fund Weighted Composite, which accounts for over 2200 funds listed on the internal HFR Database.

The **NAREIT EQUITY REIT Index** is designed to provide the most comprehensive assessment of overall industry performance, and includes all tax-qualified real estate investment trusts (REITs) that are listed on the NYSE, the American Stock Exchange or the NASDAQ National Market List.

The **NFI-ODCE**, short for NCREIF Fund Index -Open End Diversified Core Equity, is an index of investment returns reporting on both a historical and current basis the results of 33 open-end commingled funds pursuing a core investment strategy, some of which have performance histories dating back to the 1970s. The NFI-ODCE Index is capitalization-weighted and is reported gross of fees. Measurement is time-weighted.

Definitions:

Investing in **alternative assets** involves higher risks than traditional investments and is suitable only for sophisticated investors. Alternative investments involve greater risks than traditional investments and should not be deemed a complete investment program. They are not tax efficient and an investor should consult with his/her tax advisor prior to investing. Alternative investments have higher fees than traditional investments and they may also be highly leveraged and engage in speculative investment techniques, which can magnify the potential for investment loss or gain. The value of the investment may fall as well as rise and investors may get back less than they invested.

Bonds are subject to interest rate risks. Bond prices generally fall when interest rates rise.

Investments in **commodities** may have greater volatility than investments in traditional securities, particularly if the instruments involve leverage. The value of commodity-linked derivative instruments may be affected by changes in overall market movements, commodity index volatility, changes in interest rates, or factors affecting a particular industry or commodity, such as drought, floods, weather, livestock disease, embargoes, tariffs and international economic, political and regulatory developments. Use of leveraged commodity-linked derivatives creates an opportunity for increased return but, at the same time, creates the possibility for greater loss.

Derivatives may be riskier than other types of investments because they may be more sensitive to changes in economic or market conditions than other types of investments and could result in losses that significantly exceed the original investment. The use of derivatives may not be successful, resulting in investment losses, and the cost of such strategies may reduce investment returns.

Distressed Restructuring Strategies employ an investment process focused on corporate fixed income instruments, primarily on corporate credit instruments of companies trading at significant discounts to their value at issuance or obliged (par value) at maturity as a result of either formal bankruptcy proceeding or financial market perception of near term proceedings.

Investments in **emerging markets** can be more volatile. The normal risks of investing in foreign countries are heightened when investing in emerging markets. In addition, the small size of securities markets and the low trading volume may lead to a lack of liquidity, which leads to increased volatility. Also, emerging markets may not provide adequate legal protection for private or foreign investment or private property.

The price of **equity securities** may rise, or fall because of changes in the broad market or changes in a company's financial condition, sometimes rapidly or unpredictably. These price movements may result from factors affecting individual companies, sectors or industries, or the securities market as a whole, such as changes in economic or political conditions. Equity securities are subject to "stock market risk" meaning that stock prices in general may decline over short or extended periods of time.

Equity market neutral strategies employ sophisticated quantitative techniques of analyzing price data to ascertain information about future price movement and relationships between securities, select securities for purchase and sale. Equity Market Neutral Strategies typically maintain characteristic net equity market exposure no greater than 10% long or short.

Global macro strategies trade a broad range of strategies in which the investment process is predicated on movements in underlying economic variables and the impact these have on equity, fixed income, hard currency and commodity markets.

International investing involves a greater degree of risk and increased volatility. Changes in currency exchange rates and differences in accounting and taxation policies outside the U.S. can raise or lower returns. Some overseas markets may not be as politically and economically stable as the United States and other nations.

There is no guarantee that the use of **long and short positions** will succeed in limiting an investor's exposure to domestic stock market movements, capitalization, sector swings or other risk factors. Using long and short selling strategies may have higher portfolio turnover rates. Short selling involves certain risks, including additional costs associated with covering short positions and a possibility of unlimited loss on certain short sale positions.

Merger arbitrage strategies which employ an investment process primarily focused on opportunities in equity and equity related instruments of companies which are currently engaged in a corporate transaction.

Mid-capitalization investing typically carries more risk than investing in well-established "blue-chip" companies. Historically, mid-cap companies' stock has experienced a greater degree of market volatility than the average stock.

Price to forward earnings is a measure of the price-to-earnings ratio (P/E) using forecasted earnings. **Price to book value** compares a stock's market value to its book value. **Price to cash flow** is a measure of the market's expectations of a firm's future financial health. **Price to dividends** is the ratio of the price of a share on a stock exchange to the dividends per share paid in the previous year, used as a measure of a company's potential as an investment.

Real estate investments may be subject to a higher degree of market risk because of concentration in a specific industry, sector or geographical sector. Real estate investments may be subject to risks including, but not limited to, declines in the value of real estate, risks related to general and economic conditions, changes in the value of the underlying property owned by the trust and defaults by borrower.

Relative Value Strategies maintain positions in which the investment thesis is predicated on realization of a valuation discrepancy in the relationship between multiple securities.

Small-capitalization investing typically carries more risk than investing in well-established "blue-chip" companies since smaller companies generally have a higher risk of failure. Historically, smaller companies' stock has experienced a greater degree of market volatility than the average stock.



J.P. Morgan Asset Management – Risks & disclosures

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Unless otherwise stated, all data are as of September 30, 2022 or most recently available.

Guide to the Markets – U.S.

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J.P.Morgan
ASSET MANAGEMENT

U.S. Economic Forecast

Wells Fargo U.S. Economic Forecast

	Forecast																Actual							
	Actual								Forecast								2021		2022		2023		2024	
	2021		2022		2023		2024		2021		2022		2023		2024		2021	2022	2023	2024				
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
Real Gross Domestic Product (a)	6.3	7.0	2.7	7.0	-1.6	-0.6	2.8	1.1	0.4	-2.1	-1.8	-0.9	2.3	2.5	2.4	2.3	5.9	1.9	-0.1	0.9				
Personal Consumption	10.8	12.1	3.0	3.1	1.3	2.0	0.8	1.0	0.5	-1.3	-1.8	-0.7	1.2	1.9	2.1	2.1	8.3	2.5	0.0	0.6				
Business Fixed Investment	8.9	9.9	0.6	1.1	7.9	0.1	4.4	2.6	1.4	-1.8	-3.3	-0.7	1.4	2.4	3.5	4.6	6.4	3.6	0.6	0.8				
Equipment	6.1	14.0	-2.2	1.6	11.4	-2.0	4.0	2.4	0.2	-2.9	-6.1	-2.0	1.2	2.3	3.5	4.3	10.3	3.9	-0.6	0.1				
Intellectual Property Products	15.6	12.6	7.4	8.1	10.8	8.9	8.2	4.5	2.6	-1.8	-2.2	-0.4	1.3	2.5	3.7	5.5	9.7	8.9	2.4	1.1				
Structures	1.9	-2.5	-6.7	-12.7	-4.3	-12.7	-4.5	-2.3	1.2	1.5	1.8	2.1	2.3	2.4	2.6	2.8	-6.4	-7.6	-0.9	2.2				
Residential Investment	11.6	-4.9	-5.8	-1.1	-3.1	-17.8	-25.5	-21.0	-17.0	-14.0	-6.0	6.0	8.0	9.5	10.4	11.3	10.7	-10.1	-16.0	5.1				
Government Purchases	6.5	-3.0	-0.2	-1.0	-2.3	-1.6	-0.1	0.3	1.0	1.1	1.1	1.2	1.2	1.3	1.4	1.4	0.6	-1.3	0.6	1.2				
Net Exports	-1164.5	-1203.9	-1267.5	-1297.6	-1488.7	-1430.5	-1280.0	-1263.6	-1262.8	-1246.3	-1225.3	-1209.3	-1223.9	-1230.8	-1238.6	-1259.1	-1233.4	-1365.7	-1235.9	-1238.1				
Pct. Point Contribution to GDP	-1.0	-0.6	-1.1	-0.2	-3.1	1.2	3.1	0.3	0.0	0.3	0.4	0.3	-0.3	-0.1	-0.2	-0.4	-1.7	-0.7	0.6	0.0				
Inventory Change	-83.0	-143.6	-48.6	197.6	214.5	110.2	84.7	100.6	111.2	61.4	38.1	-10.6	42.3	63.5	63.5	63.5	-19.4	127.5	50.0	58.2				
Pct. Point Contribution to GDP	-2.5	-0.8	2.0	5.0	0.2	-1.9	-0.5	0.3	0.2	-1.0	-0.5	-1.0	1.1	0.4	0.0	0.0	0.2	0.7	-0.4	0.0				
Nominal GDP (a)	11.7	13.8	9.0	14.3	6.6	8.5	7.2	6.0	4.2	0.5	0.5	1.2	4.6	4.7	4.7	4.7	10.7	9.1	3.8	3.2				
Real Final Sales	9.2	7.9	0.7	1.9	-1.8	1.3	3.3	0.8	0.2	-1.1	-1.3	0.1	1.2	2.1	2.4	2.3	5.7	1.3	0.4	0.9				
Retail Sales (b)	15.1	32.7	15.2	17.3	12.6	8.4	9.2	5.8	0.9	-3.1	-5.0	-4.8	-3.4	-1.3	0.6	1.7	19.7	9.0	-3.0	-0.6				
Inflation Indicators (b)																								
PCE Deflator	1.9	4.0	4.5	5.7	6.4	6.6	6.3	6.0	5.0	3.9	3.4	2.7	2.3	2.2	2.2	2.2	4.0	6.3	3.7	2.2				
"Core" PCE Deflator	1.7	3.5	3.9	4.7	5.3	5.0	4.9	4.9	4.5	4.1	3.6	3.0	2.7	2.5	2.4	2.4	3.5	5.0	3.8	2.5				
Consumer Price Index	1.9	4.8	5.3	6.7	8.0	8.6	8.3	7.8	6.5	4.5	3.7	2.9	2.4	2.3	2.3	2.4	4.7	8.2	4.4	2.4				
"Core" Consumer Price Index	1.4	3.7	4.1	5.0	6.3	6.0	6.3	6.4	5.9	5.1	4.2	3.5	3.1	2.9	2.7	2.6	3.6	6.2	4.6	2.8				
Producer Price Index (Final Demand)	2.9	6.9	8.4	9.7	10.8	11.1	9.0	7.9	5.5	3.2	3.2	2.7	2.3	2.2	2.2	2.4	7.0	9.7	3.6	2.3				
Employment Cost Index	2.6	2.9	3.7	4.0	4.5	5.1	5.0	5.1	4.7	4.3	4.0	3.8	3.6	3.4	3.3	3.2	3.3	4.9	4.2	3.3				
Real Disposable Income (b)	14.5	-4.4	-1.5	-0.4	-12.8	-5.5	-4.1	-3.1	-1.1	-0.9	-1.1	-0.6	0.5	1.1	1.7	2.1	1.9	-6.5	-0.9	1.3				
Nominal Personal Income (b)	16.1	2.1	4.9	6.9	-3.5	3.4	4.2	4.5	3.9	3.0	2.3	2.2	2.8	3.4	3.9	4.2	7.4	2.1	2.8	3.6				
Industrial Production (a)	3.1	6.5	3.5	4.8	4.7	5.2	2.9	0.7	-3.2	-6.3	-2.0	1.9	1.3	0.7	1.3	2.2	4.9	4.3	-1.4	0.4				
Capacity Utilization	75.6	77.2	78.0	78.8	79.4	80.0	80.3	79.7	78.9	77.4	76.7	76.8	76.8	76.7	76.7	76.8	77.4	79.9	77.4	76.8				
Corporate Profits Before Taxes (b)	16.1	39.2	15.3	22.3	10.9	7.7	-0.5	-2.0	-2.0	-8.0	-6.0	0.0	2.0	5.0	12.0	8.0	22.6	3.8	-4.1	6.7				
Corporate Profits After Taxes	13.8	37.5	14.0	20.7	6.1	5.0	-3.3	-3.6	-0.7	-8.3	-6.2	0.3	1.9	5.0	12.1	8.0	20.9	0.9	-3.8	6.7				
Federal Budget Balance (c)	-1133	-532	-538	-378	-291	153	-885	-363	-509	-120	-358	-384	-530	-46	-289	-423	-2776	-1400	-1350	-1250				
Trade Weighted Dollar Index (d)	104.2	102.8	105.3	108.2	109.7	114.9	121.6	122.3	121.3	120.0	118.3	116.5	115.5	114.5	114.0	114.0	104.6	117.1	119.0	114.5				
Nonfarm Payroll Change (e)	645	422	543	637	539	349	372	175	93	-7	-167	-283	-150	0	133	160	562	359	-91	36				
Unemployment Rate	6.2	5.9	5.1	4.2	3.8	3.6	3.6	3.6	3.7	3.9	4.3	4.9	5.4	5.3	5.2	4.9	5.4	3.6	4.2	5.2				
Housing Starts (f)	1.58	1.59	1.57	1.68	1.72	1.65	1.46	1.43	1.40	1.43	1.47	1.42	1.40	1.43	1.48	1.52	1.60	1.57	1.43	1.46				
Light Vehicle Sales (g)	16.7	16.7	13.3	13.0	14.1	13.3	13.3	15.1	15.9	16.2	16.4	16.4	16.7	16.9	17.2	17.4	14.9	13.9	16.2	17.1				
Crude Oil - Brent - Front Contract (h)	60.9	68.6	72.5	79.0	95.7	109.8	95.5	90.0	87.3	84.0	83.0	81.0	78.0	81.3	81.0	79.0	70.3	97.8	83.8	79.8				
Quarter-End Interest Rates (i)																								
Federal Funds Target Rate	0.25	0.25	0.25	0.25	0.50	1.75	3.25	4.50	5.00	5.00	5.00	4.50	3.50	3.00	2.75	2.75	0.25	2.50	4.88	3.00				
Secured Overnight Financing Rate	0.01	0.05	0.05	0.05	0.29	1.50	2.98	4.30	4.85	4.85	4.85	4.35	3.35	2.85	2.60	2.60	0.04	2.27	4.73	2.85				
3 Month LIBOR*	0.19	0.15	0.13	0.21	0.96	2.29	3.75	4.85	5.25	5.25	-	-	-	-	-	-	0.16	2.96	5.25	-				
Prime Rate	3.25	3.25	3.25	3.25	3.50	4.75	6.25	7.50	8.00	8.00	8.00	7.50	6.50	6.00	5.75	5.75	3.25	5.50	7.88	6.00				
Conventional Mortgage Rate	3.17	3.02	2.88	3.11	4.42	5.81	6.70	6.65	6.55	6.35	6.15	5.60	5.35	5.20	5.10	5.00	2.95	5.90	6.16	5.16				
3 Month Bill	0.03	0.05	0.04	0.06	0.52	1.72	3.33	4.50	4.85	4.85	4.80	4.20	3.20	2.80	2.60	2.60	0.04	2.52	4.68	2.80				
6 Month Bill	0.05	0.06	0.05	0.19	1.06	2.51	3.92	4.65	4.85	4.80	4.70	3.95	3.20	2.75	2.65	2.65	0.06	3.04	4.58	2.81				
1 Year Bill	0.07	0.07	0.09	0.39	1.63	2.80	4.05	4.65	4.75	4.65	4.45	3.60	2.95	2.75	2.70	2.70	0.10	3.28	4.36	2.78				
2 Year Note	0.16	0.25	0.28	0.73	2.28	2.92	4.22	4.55	4.60	4.45	4.15	3.30	2.95	2.85	2.75	2.75	0.27	3.49	4.13	2.83				
5 Year Note	0.92	0.87	0.98	1.26	2.42	3.01	4.06	4.35	4.35	4.20	3.95	3.25	3.00	2.85	2.80	2.80	0.86	3.46	3.94	2.86				
10 Year Note	1.74	1.45	1.52	1.52	2.32	2.98	3.83	4.05	4.05	3.90	3.75	3.25	3.05	2.95	2.90	2.90	1.45	3.30	3.74	2.95				
30 Year Bond	2.41	2.06	2.08	1.90	2.44	3.14	3.79	3.85	3.85	3.75	3.60	3.40	3.25	3.20	3.15	3.15	2.06	3.31	3.65	3.19				

Forecast as of: October 21, 2022

Notes: (a) Compound Annual Growth Rate Quarter-over-Quarter
 (b) Year-over-Year Percentage Change
 (c) Quarterly Sum - Billions USD; Annual Data Represents Fiscal Yr.
 (d) Quarterly Average of Daily Close
 (e) Federal Reserve Advanced Foreign Economies Index, 2006=100 - Quarter end
 (f) Average Monthly Change

(f) Millions of Units - Annual Data - Not Seasonally Adjusted
 (g) Quarterly Data - Average Monthly SAAR; Annual Data - Actual Total Vehicles Sold
 (h) Quarterly Average of Daily Close
 (i) Annual Numbers Represent Averages
 *3 Month LIBOR will no longer be published after June 30, 2023

Source: U.S. Department of Commerce, U.S. Department of Labor, IHS Markit, Federal Reserve Board and Wells Fargo Economics