

FOURTH QUARTER 2021

Investment Strategy Update

Global securities markets delivered muted returns in the third quarter, apart from commodities, where energy prices continued to surge on higher demand and a shortage of supply. Third quarter global economic data indicated that the global expansion slowed, as supply chain disruptions and rising COVID-19 cases negatively impacted growth. The U.S. economy grew at an annualized rate of 2.0% in the third quarter, as a global chip shortage has impacted multiple industries and resulted in a lack of inventory that weighed heavily on the ability to consume goods, most notably motor vehicles. On the other hand, personal consumption remains strong with spending on services continuing to rise at a consistent pace during the third quarter. There is also mounting friction in the employment market, where record job openings imply a major shortage of labor, which is triggering significant wage inflation, particularly for lower income workers. Moreover, higher energy prices and rising rents may begin to weigh on disposable income. While a number of inflation metrics may have peaked, Wilshire maintains a favorable view towards commodities as we continue to see inflation as a notable risk, particularly given the implications on interest rates and corporate earnings.

We remain constructive on equities, but we believe that equity market return expectations are becoming increasingly reliant on a balance of earnings growth and interest rates, with limited potential upside related to multiple expansion. The evolution of financial conditions in response to monetary policy will likely have implications on market leadership across the investment landscape, most notably within the equity asset class. In this quarter's Investment Strategy Update, we discuss the potential impact of tighter financial conditions on equities and fixed income, particularly given above trend growth and a consistently improving earnings outlook. This early-stage shift in financial conditions is likely to serve as a headwind for more expensive segments of the market, while serving to benefit cheaper assets such as foreign equities and U.S. value equities. This change in policy also introduces heightened interest rate risk, and therefore, we remain underweight duration risk and core fixed income in favor of more flexible/alternative mandates that exhibit less duration exposure. The environment is evolving quickly and may be met with higher levels of volatility in both fixed income and equity markets. Wilshire continues to promote diversification and remains judicious in the allocation of our active risk budget, particularly as we witness market conditions reaching inflection points. We provide a summary of our positioning, rationale and supporting exhibits in the following sections.

Asset Class	July	Change	October
Fixed Income vs. Equity	Neutral	≈	Neutral
Alternatives vs. Equity	Neutral	≈	Neutral
Alternative vs. Fixed Income	Large Overweight	≈	Large Overweight
Duration vs. Barclays Aggregate	Underweight	≈	Underweight
Credit vs. Government	Neutral	≈	Neutral
Investment Grade vs. High Yield	Neutral	≈	Neutral
High Yield vs. Bank Loans	Neutral	↓	Underweight
Emerging Markets Debt (EMD) vs. High Yield	Neutral	≈	Neutral
Large Cap vs. Small Cap Equities	Neutral	≈	Neutral
Growth vs. Value Equities	Underweight	≈	Underweight
Global ex-U.S. vs. U.S. Equities	Neutral	↑	Overweight
Emerging vs. Developed Equities	Overweight	↓	Neutral
Commodities vs. Global REITs/Equities	Overweight	↑	Overweight

Asset Class	Change	View	Summary Of Rationale
Fixed Income vs. Equity	≈	Neutral	Despite a positive economic outlook, which would normally be expected to benefit equities coming out of a recession, valuations are not materially more attractive in equities vs. fixed income, resulting in a neutral posture.
Alternatives vs. Equity	≈	Neutral	We remain mindful of equity valuations, but we believe that equities will continue to be supported by the recovery in global growth and earnings in the near-to-intermediate term.
Alternatives vs. Fixed Income	≈	Large Overweight	Given the rich valuations of government bonds and significant compression in credit spreads over the past year, we maintain a large underweight in traditional fixed income exposures and are favoring strategies that provide more flexibility and differentiated returns.
Duration vs. Bloomberg Barclays Capital Aggregate Bond Index	≈	Underweight	Given the recent decline in interest rates in midst of rising economic growth and inflation, real yields are near new lows and indicate very rich valuations for nominal bonds. Therefore, we are remaining underweight to duration exposure through a combination of our underweight to fixed income and/or through actively reducing the duration of our fixed income portfolios.
Credit vs. Government	≈	Neutral	Given the significant narrowing of credit spreads over the past year, we do not see a significant risk-adjusted return opportunity in credit relative to government bonds.
Investment Grade vs. High Yield	≈	Neutral	We do not see a meaningful valuation opportunity between investment grade and high yield.
High Yield vs. Bank Loans	↓	Underweight	We observe more attractive valuations and the rising rate environment is supportive of demand, with a high level of CLO issuance. As a result, we are moving to an underweight in high yield in favor of bank loans.
EMD vs. High Yield	≈	Neutral	We do not see an attractive risk-adjusted return difference in EMD vs. high yield.
Large Cap vs. Small Cap Equities	≈	Neutral	We recognize that small caps are likely to benefit from an economic recovery, however given the dramatic level of recent outperformance in small caps, we believe that the early cycle recovery is mostly behind us.
Growth vs. Value Equities	≈	Underweight	U.S. value equities offer more attractive valuations and are expected to be the primary beneficiaries of a material recovery in earnings in 2021 and 2022. On the other hand, U.S. growth equities valuations are rich, and are likely to face relative headwinds from higher yields in the future. Therefore, we maintain our overweight view in value equities.
Global ex-U.S. vs. U.S. Equities	↑	Overweight	Given relatively attractive valuations in non-U.S. equities, improving COVID-19 conditions, and in combination with the more pro-cyclical exposure of foreign markets, we view non-U.S. equities as more attractive at this stage of the business cycle.
Emerging Markets vs. Developed Markets	↓	Neutral	While emerging markets have recently underperformed, the technical, fundamental, and geopolitical backdrop does not support overweight exposure to emerging markets relative to developed markets. Given our move to overweight foreign equities relative to U.S. equities, this change in our view of emerging markets is only resulting in a modest reduction of exposure.
Commodities vs. Global REITS/Equities	≈	Overweight	Inflation risk is elevated, particularly for commodities, as supply chain issues are likely to persist through 2022. Therefore, we remain overweight commodities vs. global REITs and/or global equities.

Macroeconomic Outlook: Supply Chain Disruptions Weigh on Global Growth

Third quarter global economic data indicated that global growth slowed, as supply chain disruptions and rising COVID-19 cases weighed on consumption. Despite this softening in growth, the IMF recently maintained expectations for global growth of 4.9% in 2022 and continues to upgrade its forecast for U.S. growth from 4.9% to 5.2% (Exhibit A). The recent slowdown in economic growth in the third quarter was mostly attributable to weakness in personal consumption expenditures relative to prior quarters, as well as net exports (Exhibit B). Looking more closely at personal consumption, durable goods contributed to a decline of -2.7% in real GDP (Exhibit C), which was almost entirely due to supply chain disruptions that resulted in a lack of inventory that weighed heavily on the sales of motor vehicles. Fortunately, consumer demand remains strong, as consumption of services contributed +3.4% to GDP. Measures of economic sentiment are also continuing to signal expansion, as services PMIs across all of the developed world remain above 50, as shown in Exhibit D. Nevertheless, the most recent ISM report showed that approximately 50% of factory purchasing managers continue to report slower deliveries, which is down from a high of nearly 60%, but indicates that friction in supply chains persists (Exhibit E).

Exhibit A: IMF Forecasts Strong Real GDP Growth*

	2021	2022
World	5.88%	4.89%
Developed Markets	5.20%	4.54%
United States	5.97%	5.20%
Japan	2.36%	3.20%
Canada	5.69%	4.89%
Australia	3.54%	4.14%
United Kingdom	6.76%	5.01%
Euro Area	5.04%	4.35%
Germany	3.05%	4.56%
France	6.29%	3.93%
Italy	5.77%	4.23%
Spain	5.74%	6.39%
Emerging Markets	6.37%	5.15%
China	8.02%	5.60%
India	9.50%	8.52%
South Korea	4.28%	3.29%
Brazil	5.23%	1.52%
Russia	4.69%	2.95%
Mexico	6.25%	4.00%

Exhibit B: GDP Slows on Weaker Consumption, Net Exports*

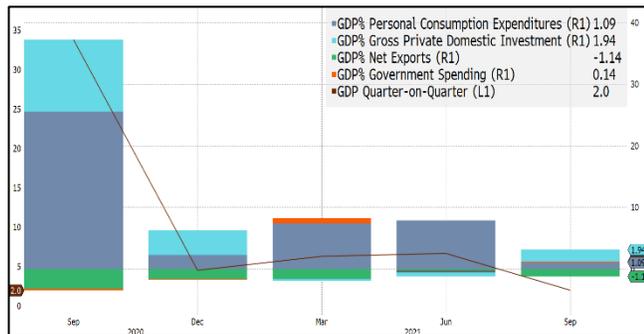


Exhibit C: Durable Goods (Motor Vehicles) Weighs on Personal Consumption*

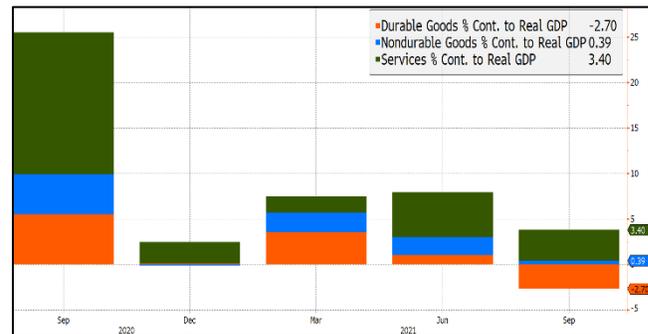


Exhibit D: Services PMIs Continue to Signal Expansion*

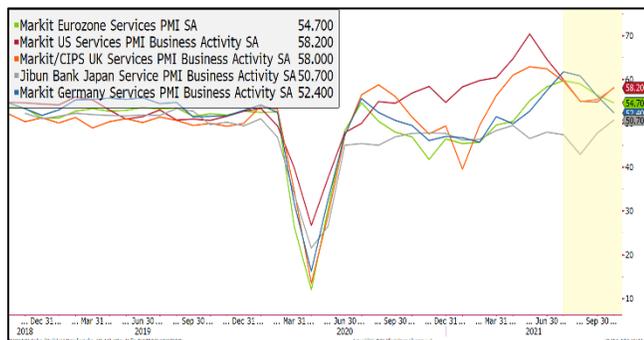
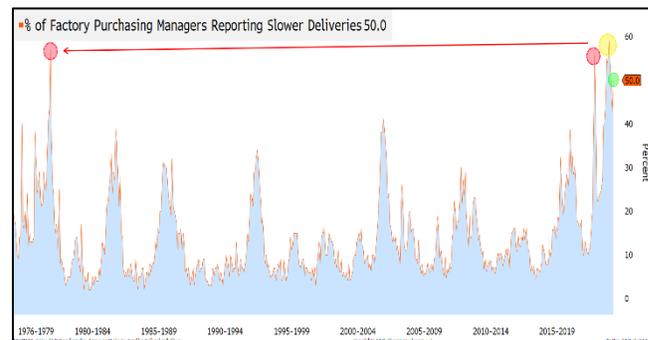


Exhibit E: Factories Report Slower Deliveries*



*Source: IMF; Bloomberg

There is mounting friction in the employment market, where record job openings imply a major shortage of labor (Exhibit F). The labor market has considerable room for recovery, as the level of job openings suggests that employment conditions are likely to improve significantly through 2022. In the interim, employers continue to struggle to get employees back to work, and the employment market is becoming increasingly competitive.

Exhibit G plots the NFIB Small Business Job Openings Hard to Fill Index (inverted) next to the Unemployment Rate, which shows that it's become increasingly challenging for small businesses to hire workers in this environment. These conditions are likely to coincide with persistent wage inflation, particularly in the services sector, where a substantial amount of hiring is taking place today.

This rise in compensation is likely supportive of strong personal consumption, but may lead to inflation in the prices of both services and goods, which is clearly on the minds of consumers. Exhibit H plots the expected change in prices over the next year based on a University of Michigan survey of households, which shows median expectations of a 4.8% increase in prices, a level not seen since 2011, which also indicated a peak in inflation sentiment. While this is clearly weighing on consumer sentiment in the short-term, recent earnings on behalf of consumer staples and services related companies indicates that consumers are willing to pay higher prices for now. Given the health of household balance sheets and the amount of pent-up demand for services ("experiences"), it is reasonable to expect persistence in the demand for services. Nevertheless, we must acknowledge that one of the greatest risks to consumption today is higher energy prices, which currently weigh on disposable incomes in the U.S., and to a greater extent in Europe, where a lack of supply is leading to record prices for energy related commodities, particularly natural gas.

Exhibit F: Job Openings are at Record Levels*

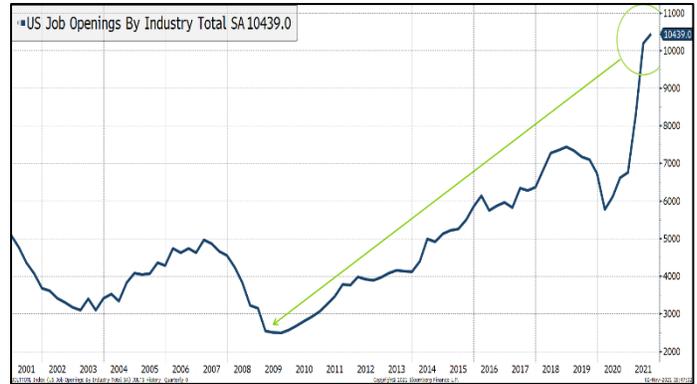


Exhibit G: Small Business Struggle to Find Workers*

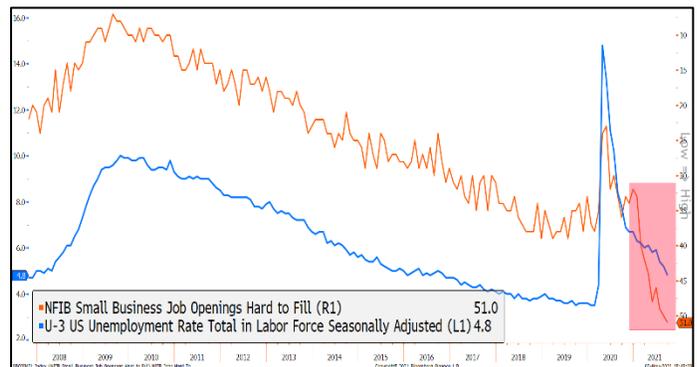
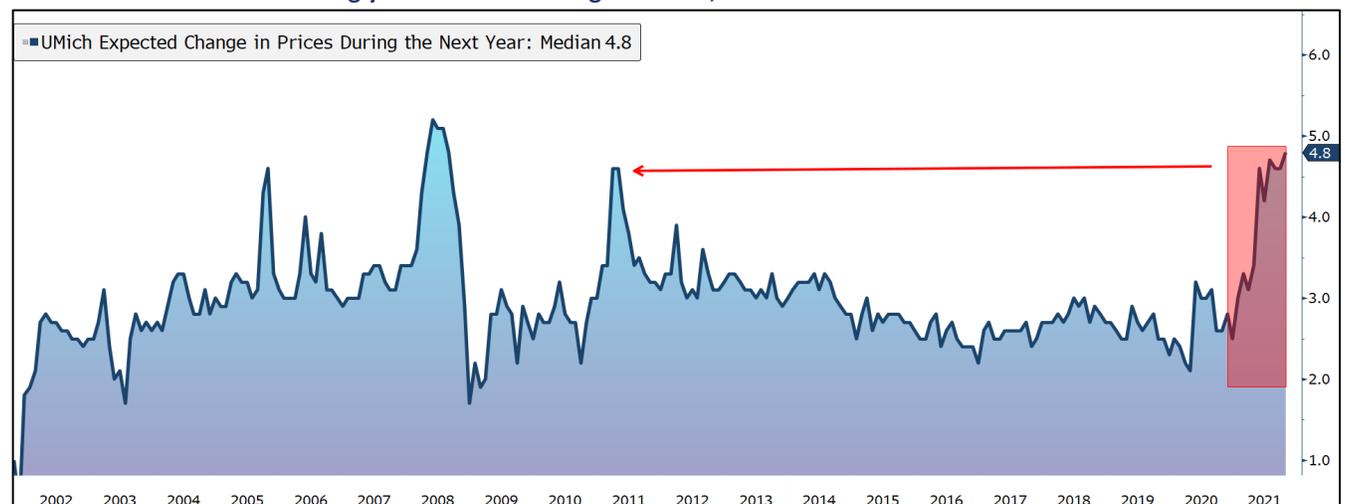


Exhibit H: Consumers Increasingly Concerned with Higher Prices; Inflation Sentiment at Levels not Seen since 2011*



*Source: Bloomberg data

Macroeconomic Outlook: Inflation Likely Peaked; Risk of Higher Prices Persist

The global economy is grappling with very elevated levels of inflationary pressures, as the surge in consumer demand following the reopening of many economies has resulted in friction due to shortages of goods and labor. This friction in the economy is not surprising, given the logistical challenges of restarting manufacturing and business services, deploying shipments, and rehiring workers at higher wages. Energy prices are also jumping as the recovery in demand outpaces the capacity to meet supply. While these frictions are likely to persist through 2022, there are some indications that inflationary pressure may have peaked within some segments of the economy. Wholesale prices jumped earlier this year, but have since started to normalize (Exhibit I), which may indicate slower consumer price inflation ahead. There has also been some normalization in Core Commodities, which had been experiencing persistent deflationary pressure for years leading up to the pandemic (Exhibit J). The secular trends associated with technology and ecommerce, and the resulting deflationary pressure on segments of core commodities is likely to eventually resume, which may partially offset elevated prices in other parts of the economy.

Following a dramatic spike in the cost of reopening related services during the spring and summer months, pricing pressures are starting to abate in services, specifically in airfares, hotels, and car and truck rentals. At the same time, the effect of higher housing prices is leading to a spike in rents (Exhibit K), which represents approximately 30% of services inflation. The recent move in rents is very consistent with the rise in rents following the global financial crisis, which also succeeded the initial recovery in home prices, indicating that housing inflation may persist. While not captured directly in the Consumer Price Index (CPI), wages and employment costs are rising at a rapid pace relative to history, particularly for lower income workers (Exhibit L). While this represents a boon for personal consumption, as lower income workers tend to spend their wages quickly, the resulting higher cost of labor is not only sticky, but it will result in either lower margins, higher consumer prices, or both. While a number of inflation metrics may have peaked, we continue to view inflation as a notable risk, particularly given the implications on interest rates and corporate earnings. Therefore, we remain modestly overweight to commodities.

Exhibit I: Wholesale Price Inflation is Normalizing*

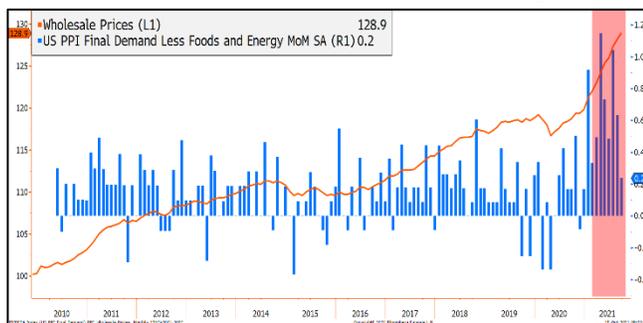


Exhibit J: Core Commodities May Have Already Peaked*

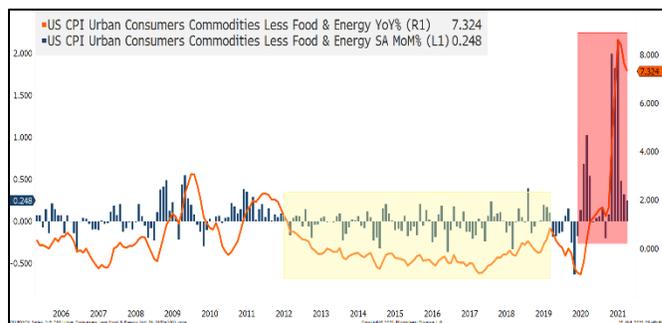


Exhibit K: Inflation of Owners Equivalent Rents is Gaining Momentum; Large Tailwind for Services Prices*

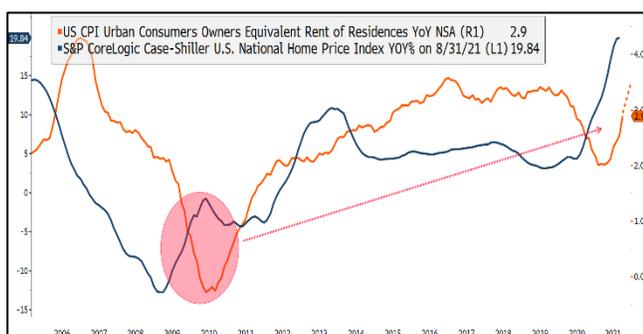
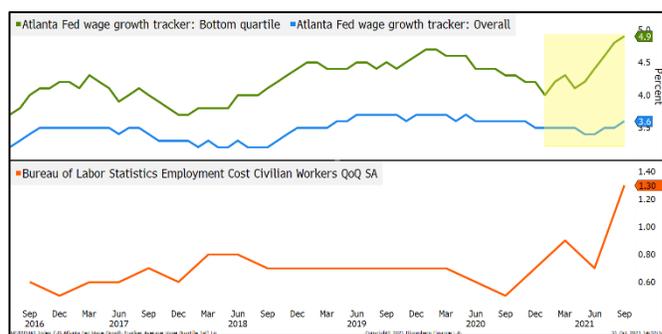


Exhibit L: Employment Costs are Shooting Higher; Wage Increases are Most Significant for Low Income Workers*



*Source: Bloomberg

Fixed Income View: Underweight Fixed Income vs. Alternatives; Underweight Duration

The recovery in economic growth and elevated levels of inflation have caused a number of global central banks to quickly adjust policy. While the U.S. Fed is unlikely to raise interest rates in the immediate future, the prospect of a more rapid tapering of bond purchases by the Fed is increasingly likely. Fortunately, investors are becoming increasingly comfortable with this shift in policy, as the economic backdrop is supportive of somewhat tighter financial conditions. While long-term yields have risen gradually over the past several months, the rise in short-term inflationary pressure has led to a substantial move higher in U.S. 2-year Treasury yields, leading to a flattening of the yield curve (Exhibit M). Investors should not interpret this recent flattening of the curve as fundamentally bearish, as it was likely more technically driven by rebalancing and inflation expectations, with U.S. 2-year Real Yields at approximately -2.60%. Holders of longer treasuries should take notice of the recent price action in 2-year yields, as the 10-year breakeven inflation rate of 2.52% implies a real 10-year yield of approximately -1.00%. Distorted by central bank monetary support, nominal bonds remain irrationally priced relative to both breakeven inflation rates and expectations of future economic growth. The long-term average 10-year real yield has been approximately 0.90% over a period in which we experienced far lower economic growth relative to the IMF projections of future growth in 2022 (Exhibit O). Real yields at these levels continue to indicate signs of complacency, particularly at a time of elevated inflation and a shift in monetary policy. Not only do we find government bonds to be expensive, but we continue to see corporate credit valuations as being stretched, and investors are beginning to take notice, with CCC spreads widened modestly of late (Exhibit N). With excessive valuations across most of the fixed income market, we maintain our large underweight in core fixed income in favor of more flexible/alternative mandates that may exhibit less duration and credit exposure.

Exhibit M: Bond Market is Pricing in Higher Short-Term Inflation & Less Accommodative Policy*

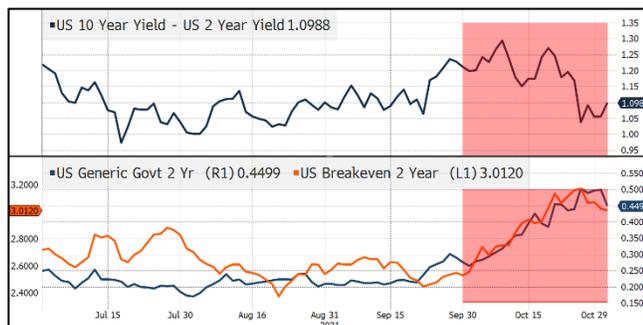


Exhibit N: Credit Spreads Near Record Lows*

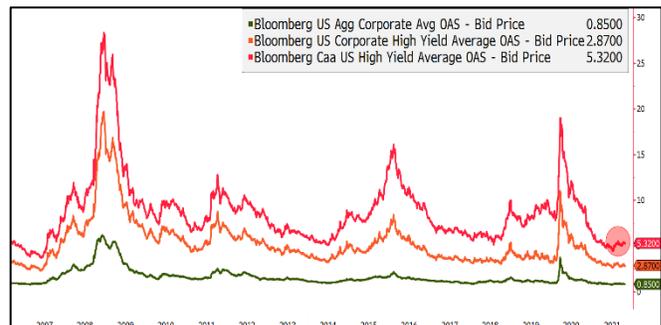
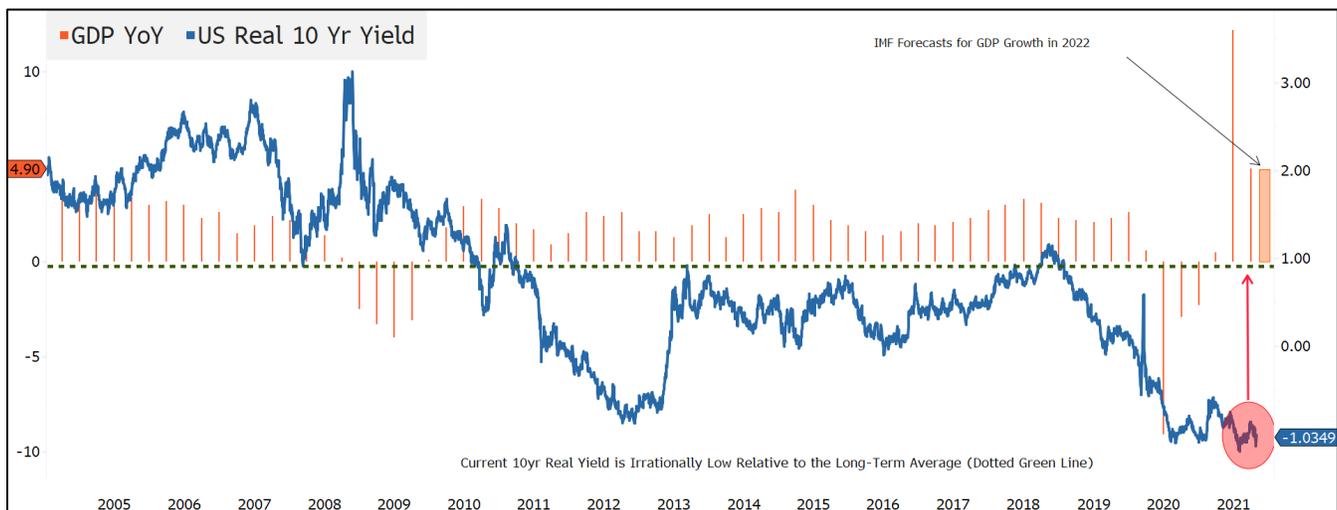


Exhibit O: Real Yields are Low vs. the Long-Term Average, Particularly Given Growth Expectations*



*Source: Bloomberg

Equity View: Favoring Non-US Equities; Underweight U.S. Growth

Equities delivered muted returns during the third quarter, while earnings growth expectations continue to improve and bond yields remained relatively range bound. Wilshire remains constructive on equities, but we believe that equity market return expectations are becoming increasingly reliant on a balance of earnings growth and interest rates, with limited potential upside related to multiple expansion. Exhibit P plots the risk premium for various equity markets, as measured by the spread of the earnings yield of each market relative to the U.S. 10-year Treasury yield. Given the outperformance of earnings growth relative to equity prices, which coincided with relatively range bound interest rates, the equity risk premium has improved across most markets. Specifically, current valuations are now below pre-COVID levels for developed and emerging markets, where valuations have become increasingly attractive relative to U.S. equities due a recovery in earnings growth expectations and a rerating of valuations on higher geopolitical risk, respectively.

Wilshire’s proprietary Global Equity Heat Map (Exhibit Q) expresses relative valuations in standard deviations (green is cheap, and red is expensive) and confirms the observation that risk premiums are more attractive in foreign markets today. The heat map shows that U.S. equities are trading at more than two standard deviations above the long-term average valuation relative to Non-U.S. equities. Emerging markets, however, do not exhibit a compelling valuation relative to developed markets, and while these markets have recently underperformed, the technical, fundamental, and geopolitical backdrop does not support overweight exposure to emerging markets relative to developed markets. Our heat map also continues to show that the most expensive part of the U.S. market is large cap growth equities (LCG), which is significantly more expensive than large cap value (LCV). Therefore, we are maintaining our overweight view in value equities and are now moving to an overweight in foreign equities.

Exhibit P: Equity Risk Premiums Have Increased Over the Past Six Months Due to Higher Earnings Expectations

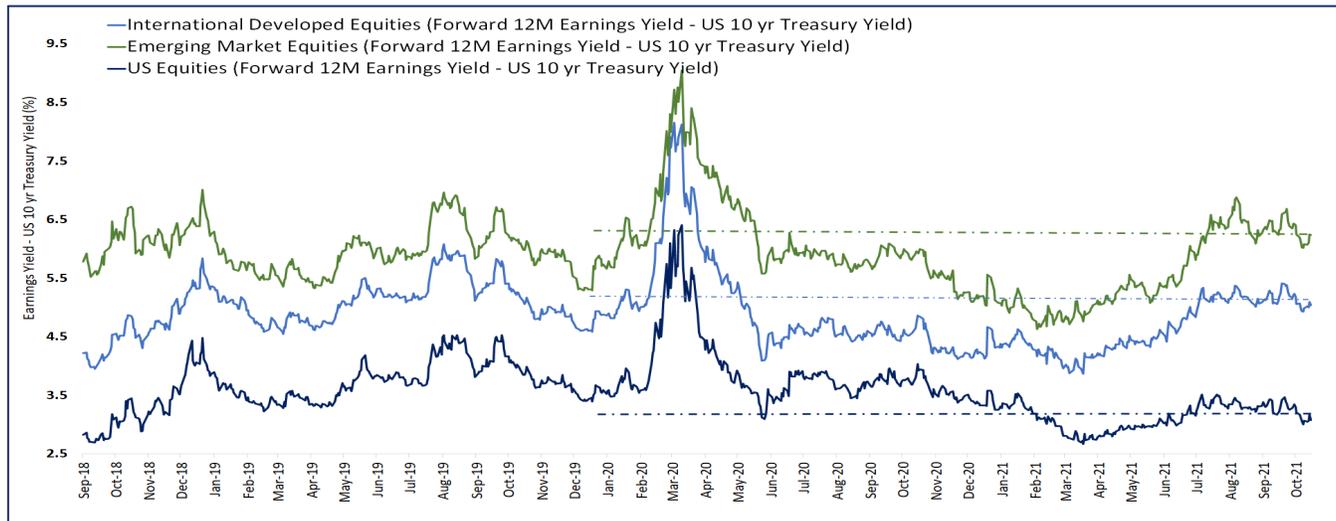


Exhibit Q: Relative Valuations of U.S. vs. EAFE, and Growth vs. Value at More Than Two St. Dev. Above Average

	Dividend Yield			Profit Margin			Price to Sales			Price to Book			TR12M P/E			Forward P/E		
	Value	Z-5Y	Z-15Y	Value	Z-5Y	Z-15Y	Value	Z-5Y	Z-15Y	Value	Z-5Y	Z-15Y	Value	Z-5Y	Z-15Y	Value	Z-5Y	Z-15Y
US vs. EAFE	-1.2	0.2	0.1	3.2	0.5	0.6	2.0	1.0	1.6	2.5	0.7	1.8	1.4	1.4	1.5	1.4	2.2	2.3
EAFE vs. EM	0.2	-2.5	-2.1	-3.5	-1.1	-0.4	0.9	0.6	0.8	1.0	0.1	0.2	1.2	-0.6	-0.4	1.2	0.7	0.2
US LC vs. US SC	0.2	-1.4	-1.6	10.6	-0.0	0.7	2.4	2.0	3.0	1.6	0.2	1.2	0.2	-1.6	-1.7	0.7	0.4	0.5
US LCG vs. US LCV	-1.3	0.2	-0.1	4.5	0.4	0.8	2.7	1.4	2.6	5.2	1.6	2.6	1.9	1.8	2.2	1.8	2.2	2.9

Source: Bloomberg Data

Sentiment, Technicals, and Risk

The recent pickup in both equity market volatility and interest rate volatility is reflective of a market that is increasingly fixated on monetary policy, as the Fed begins to taper purchases of treasuries and mortgage-backed securities, and investors look for indications of when (not if) the Fed will begin raising interest rates in 2022. U.S. equities, most notably large cap growth companies, have benefited from extraordinarily easy financial conditions, as shown in Exhibit R. We are likely to see a gradual reversal in such conditions in response to higher inflation and interest rates, and above trend economic growth. This shift in financial conditions is likely to serve as a headwind for higher valued segments of the market, while serving to benefit procyclical and cheaper equities such as foreign and U.S. value equities. These valuation dynamics are supportive of our decision to be underweight growth equities, and U.S. related to Non-U.S., as well as an underweight to fixed income and duration in the short-term.

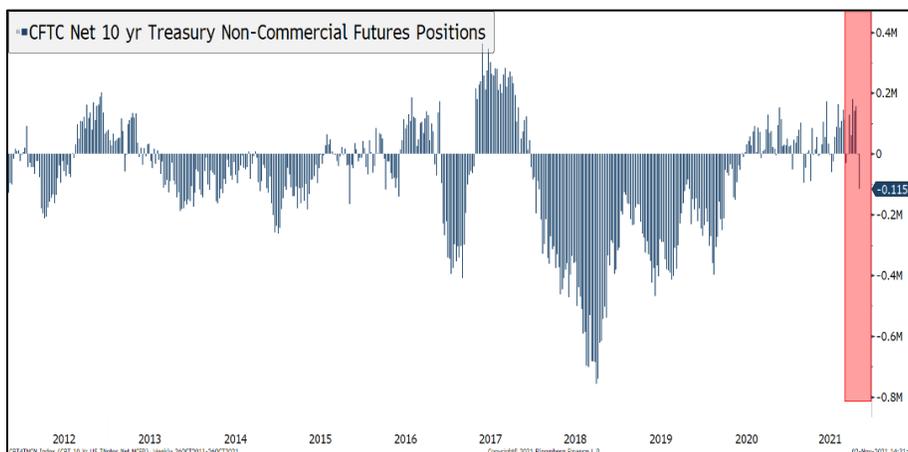
Exhibit R: U.S. Financial Conditions are Very Easy; Likely to Tighten in the Future*



*Source: Bloomberg

We often look to various indicators of technical sentiment to complement our fundamental analysis, and one such measure is speculative futures positioning. Exhibit S shows the current non-commercial futures exposure in U.S. 10-year Treasuries, which indicates relatively neutral positioning. Despite the recent rise in U.S. Treasury yields over the past two months, the market has yet to move to a significant net short position, which implies that sentiment is not overly negative in U.S. 10-year Treasuries, thereby leaving further room for investors to become increasingly negative on nominal bonds if yields continue to rise and growth remains above trend. These conditions are also supportive of our view to remain underweight duration at this time. Nevertheless, the environment can change quickly, and Wilshire will continue to assess fundamentals and technicals to adapt portfolios to evolving conditions, while maintaining effective diversification to manage portfolio volatility through this phase of the market cycle, particularly as financial conditions tighten.

Exhibit S: Limited Net Short Exposure Implies that U.S. Treasury Sentiment Has Yet to Become Negative*



*Source: Bloomberg

Important Information

This material contains confidential and proprietary information of Wilshire. It may not be disclosed, reproduced, or redistributed, in whole or in part, to any other person or entity without prior written permission from Wilshire.

This material is intended for informational purposes only and should not be construed as legal, accounting, tax, investment, or other professional advice. Past performance is not indicative of future results.

This material may include estimates, projections and other “forward-looking statements.” Forward-looking statements represent Wilshire's current beliefs and opinions in respect of potential future events. These statements are not guarantees of future performance and undue reliance should not be placed on them. Such forward-looking statements necessarily involve known and unknown risks and uncertainties, which may cause actual events, performance, and financial results to differ materially from any projections. Forward-looking statements speak only as of the date on which they are made and are subject to change without notice. Wilshire undertakes no obligation to update or revise any forward-looking statements.

Wilshire is a global financial services firm providing diverse services to various types of investors and intermediaries. Wilshire's products, services, investment approach and advice may differ between clients and all of Wilshire's products and services may not be available to all clients. For more information regarding Wilshire's services, please see Wilshire's ADV Part 2 available at www.wilshire.com/ADV.

This material represents the current opinion of Wilshire based on sources believed to be reliable. Wilshire assumes no duty to update any such opinions. Wilshire gives no representations or warranties as to the accuracy of such information, and accepts no responsibility or liability (including for indirect, consequential or incidental damages) for any error, omission or inaccuracy in such information and for results obtained from its use. Information and opinions are as of the date indicated, and are subject to change without notice.

Wilshire Advisors LLC (Wilshire) is an investment advisor registered with the SEC. Wilshire® is a registered service mark. All other trade names, trademarks, and/or service marks are the property of their respective holders.

Copyright© 2021 Wilshire. All rights reserved.

13806447 G0122