



2020 Capital Markets Forecast

Near-Term Sentiment + Long-Term Forecast

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EXECUTIVE SUMMARY

Throughout 2019 we discussed broad based macroeconomic themes of slowing global growth, changes in trade policy, low inflation, political uncertainty, and US recession potential. Despite these concerns, global central bank accommodation, low unemployment, and a strong consumer boosted the global stock markets in 2019. Global equity markets as evidenced by the All Country World Index (ACWI) experienced the best return since 2009.

Looking out to 2020 and beyond, not a lot has changed. We have a little more clarity on near-term trade with Mexico, Canada, and China, but as in 2019, we expect growth to moderate globally. The continued macroeconomic themes of lower growth, low inflation, and low interest rates have led to a reduction in our long-term capital markets forecasts across most assets classes. In addition, we expect that US elections and geopolitical uncertainty globally will increase the volatility and noise in the investment markets.

Amid all these risks and opportunities, Syntrinsic remains grounded in our approach to forecasting the investment markets with a long-term forecast and near-term sentiment. In 1Q of each year, Syntrinsic issues a long-term (ten-year) forecast that serves as the underlying foundation for our asset allocation efforts. Our approach provides a reliable way to anticipate the likely returns available from equity, debt, real estate, commodities and hedge fund strategies. We also realize that from time-to-time, economic and/or market conditions create opportunities to add value on the margins by modestly reducing or increasing allocations. As a result, we craft a near-term sentiment to complement our long-term forecast. Our near-term sentiment generally looks at opportunities to adjust allocations to asset classes and market segments with a three-year perspective in mind.

NEAR-TERM SENTIMENT SUMMARY

	Negative	-	Neutral	-	Positive
Global Equities	-	-	-	●	-
United States	-	-	-	●	-
Non-US Developed	-	●	-	-	-
Emerging Markets	-	-	●	-	-
Fixed Income	-	-	●	-	-
Short -Term Bond	-	-	-	●	-
US Core Bond	-	●	-	-	-
US Core Plus Bond	-	-	●	-	-
Non-US Developed Bond	●	-	-	-	-
Emerging Bond	-	-	●	-	-
Real Assets	-	●	-	-	-
Commodities	●	-	-	-	-
Real Estate	-	-	●	-	-
Hedge Fund Strategies	-	-	●	-	-

Near-Term Sentiment: Difficult to justify most hedge fund strategies and core bonds return potential declines

In anticipation of the changing landscape and given reduced long-term forecasts, we are downgrading our sentiment for hedge fund strategies and US core bonds. It is difficult to see how most hedge fund strategies—particularly those oriented around risk management—potentially earn enough return to justify their high fees. Indeed, for many hedge fund strategies, we think it is highly likely that the limited partners (i.e., the investors) will struggle to earn as much as the general partner (i.e. the hedge fund manager).

With government bonds yielding close to negative real yields (i.e., absolute yield – inflation) and correlation benefits declining, the opportunity cost of holding these bonds has increased dramatically, reducing the attractiveness of the US core bond asset class segment.

LONG-TERM FORECAST SUMMARY

Asset Class	Index*	2020 Ten-Year Forecast	2019 Ten-Year Forecast	Change from Previous Year
Global Equity	MSCI-ACWI	6.70%	7.25%	(0.55%)
US Large Equity	S&P 500	5.95%	6.50%	(0.55%)
US Small/Mid Equity	Russell 2500	6.45%	7.00%	(0.55%)
Non-US Developed Large Equity	MSCI-EAFE	6.75%	7.00%	(0.25%)
Non-US Small/Mid Equity	MSCI ACWI ex US SMID	7.80%	7.50%	0.30%
Emerging Market Equity	MSCI EM	9.65%	10.00%	(0.35%)
Private Equity	Cambridge US Private Equity	8.25%	8.00%	0.25%
Private Debt	Cliffwater Direct Lending	6.70%	7.25%	(0.55%)
Real Estate				
Private Real Estate (Core)	NCREIF ODCE	6.10%	--	--
Private Real Estate (Core Plus)	NCREIF ODCE + 1.20%	7.30%	--	--
Global Listed Real Estate	FTSE NAREIT/EPRA Global	5.75%	6.00%	(0.25%)
US Listed Real Estate	FTSE/NAREIT/EPRA US	5.85%	6.00%	(0.15%)
Non-US Listed Real Estate	FTSE/NAREIT/EPRA x-US	5.65%	6.00%	(0.35%)
Hedge Fund Strategies	HFRI Fund of Fund	3.05%	4.25%	(1.20%)
Hedged Equity	HFRI Equity Hedge	4.35%	5.25%	(0.90%)
Global Fixed Income	BB Global Aggregate	1.05%	2.50%	(1.45%)
US Ultra Short-Term Bond	BB G/C 1 year	2.20%	2.75%	(0.55%)
US Short-Term Bond	BB G/C 1-3 year	2.40%	3.25%	(0.85%)
US Core Bond	BB US Aggregate	2.60%	3.75%	(1.15%)
US Core Plus Bond	80 BB US Agg/20 BB HY	3.10%	4.25%	(1.15%)
Non-US Developed Bond	FTSE WGBI ex-US	0.00%	1.25%	(1.25%)
Emerging Market Bond	JPM EMBI	5.65%	6.50%	(0.75%)
High Yield US Bond	BB US HY Corporate	5.15%	--	--
Commodities	S&P GSCI	1.85%	2.25%	(0.40%)
Cash	3 Month Treasury	2.00%	2.50%	(0.50%)
US Inflation	CPI: Consumer Price Index	1.85%	2.00%	(0.15%)
Global Inflation	Weighted Regional Forecast	2.10%	--	--

Long-Term Forecast: Lower return assumptions

On the heels of a strong investment and economic environment from November 2016 – December 2019, Syntrinsic is lowering our long-term capital markets forecast across most asset classes and market segments. While we recognize that economic fundamentals remain strong in the near-term across most of the world's economies, modestly lower ten-year assumptions for economic growth and inflation and materially lower interest rates result in ten-year forecasts well below what we have published over the past three years.

Conclusion: More aggressive strategic allocations for many investors

Reduced long-term forecasts across asset classes and a more negative near-term sentiment on hedge funds and US core bonds mean that many Syntrinsic clients are going to be considering more aggressive asset allocations if they intend to maintain target return objectives in the range of CPI + 4 - 5%. The realities of a low growth, low inflation, and low interest rate environment is that most investors must work much harder—and more intelligently—in order to achieve their long-term return objectives. Furthermore, the ability for investors to minimize macro risks through diversification will be more complicated.

For some investors, this news will be disappointing, especially if they were too conservative over the past three years and left too much return on the table. They will look to reduced forecasts and want to get even more conservative for fear that conditions point toward a recession or worse. But for investors who take a long view of their portfolios and have clear—and unchanging—return needs, the case for more aggressive portfolios becomes clear. Given that investors make decisions in a milieu of heightened political tensions and emotional anxieties amplified by social media, talk radio, and cable news, a rational, objective assessment of the markets portrayed in the Long Term Capital Markets Forecast (Section II) is an excellent place to start building and refining portfolios.

**Syntrinsic's long-term forecast represents our assessment of reasonable annualized return expectations for each asset class over the ten years starting January 2020. We recognize that actual returns will vary depending on investment market conditions in any given year, investment strategies employed, expenses associated with investment, and other market, economic, and behavioral factors. Forecast returns are not guaranteed and past performance is no guarantee of future returns. Some variance is due to rounding or alterations in methodology.*

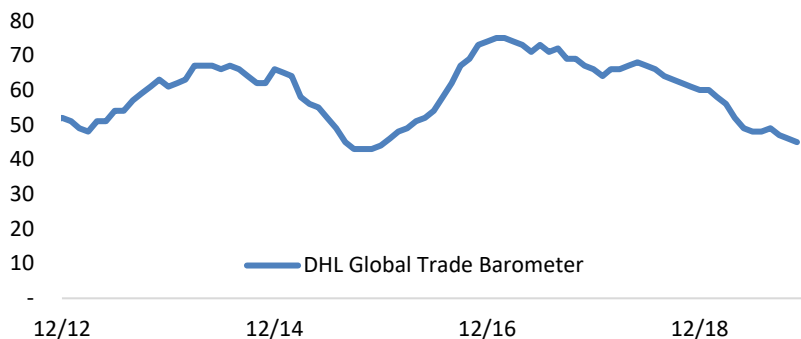
I. NEAR-TERM SENTIMENT

Global Macroeconomic Themes

Trade tensions ease but remain

In 2019, global trade tensions improved with the United States - Mexico- Canada Agreement (USMCA), a Phase I trade deal between China and the US, and the Brexit coming closer to a resolution as voters in the United Kingdom confirmed their desire to leave the European Union. The USMCA was a clear win for North America and is expected to have a positive impact on growth, jobs, and wages. The Phase I China/US trade deal averted the newly planned tariffs, cut several tariffs in force, created an agreement for China to buy certain American goods, and removed some uncertainty for companies globally. In addition, as a result of the December special election in the UK, the chances of a hard Brexit are reduced, providing the UK and the European Union (EU) until the end of 2020 to establish a trade agreement. A hard Brexit would force a separation without a new trade agreement in place.

Exhibit 1: Global Trade Barometer



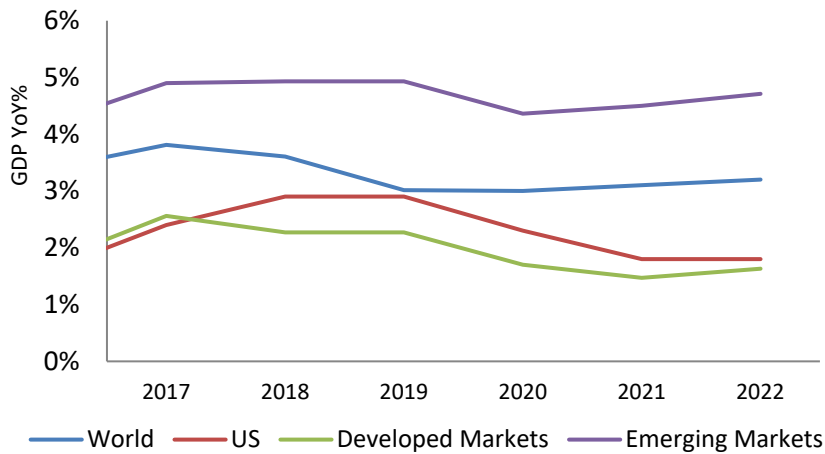
Source: Bloomberg, Based on import and export data of intermediates and early-cycle commodities for China, S Korea, Germany, Indian, Japan, UK and USA.

We anticipate that these initial trade agreements will have a positive impact on growth via a pickup in global trade, which has been trending down (see Exhibit 1). However, uncertainties around the Phase II-China/US trade deal and the Brexit negotiations remain risks to growth. A Phase II China/US trade deal could be trickier, particularly as it will focus on the more challenging issue of intellectual property and both countries are dealing with geopolitical uncertainty due to

elections in the US and civil unrest in China. Going forward, trade uncertainty—predominately between the US and China—has an outsized effect on Non-US developed equity markets since European companies derive a higher percentage of revenues from emerging markets than other Non-European countries. We view a hard Brexit as a risk as well but see less global implications than from Phase II China/US trade deal as aggregate trade exposure from the UK is limited in the US, China, Japan, and even Europe.

Global growth slowing but not stalling

Exhibit 2: Regional Realized and Forecasted GDP

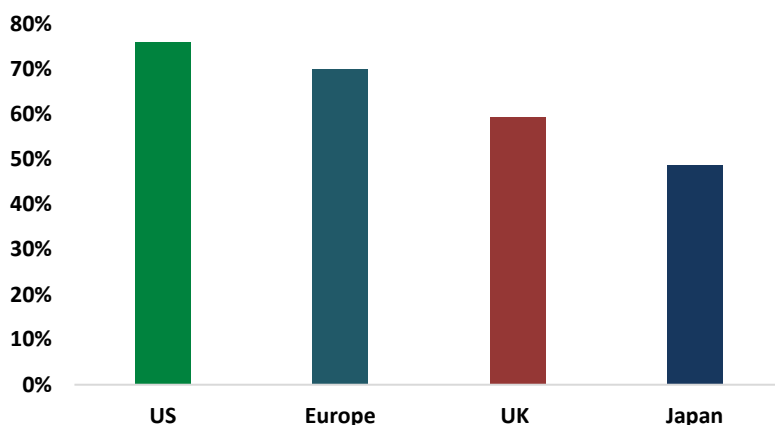


Source: Bloomberg

China. Consumers globally are benefitting from low unemployment, improving wages, reduced interest costs, and higher asset prices. In China, Chinese fiscal and monetary stimulus and an initial trade agreement could boost growth. The stabilizing of growth in China should benefit the entire region and support the emerging market complex as Asia accounts for 75% of the emerging market (EM) index (MSCI EM Index).

Exhibit 3: Concentration of Wealth Across Developed Countries

Top 10% Share of Wealth



Source: Credit Suisse Global Wealth Databook, 2019, JP Morgan 2018

income and wealth is one of the driving forces behind the rise in populism globally. Increased populism can have significant implications for foreign policy, regulation, free flow of labor, and taxation which could lead to a reduction in global trade and potentially reduce global growth.

A drawdown in global trade (see Exhibit 1) owing to trade tensions has been weighing on global growth over the last year. Trends such as declining birth rates, aging populations, and lower productivity also have been a headwind to growth for many developed and emerging economies.

As we head into 2020, we anticipate that the degree by which growth is slowing will moderate due to initial trade agreements, consumer spending, and a stabilizing economy in

A key concern for global growth over the long-term is income and wealth inequality. While we do not anticipate a significant slowdown in growth, or a recession continued income and wealth inequality could have a material effect on growth over the near and long-term. The economic growth experienced over the past decade has not been equally distributed, with the material appreciation of financial assets increasing wealth for a concentrated amount of asset owners, as evidenced by Exhibit 3. This inequality in

Fiscal and monetary policy will be the focus

In 2019, the US Federal Reserve (Fed) reversed course on monetary policy to offset the slowdown in growth in the US from trade tensions. The Fed lowered the Fed Funds Target Rate three times to a range of 1.50% - 1.75% and resumed asset purchases. This reversal of policy stimulated the US economy by reducing interest costs to encourage spending and investment and boosting asset prices to promote consumption.

Outside of the US, most major central banks have loosened or are currently loosening monetary policy by lowering short term interest rates through various means. The Bank of Japan (BOJ) and the European Central Bank (ECB) have lowered interest rates to a zero-rate policy or into negative territory while also purchasing assets to stimulate growth and achieve inflation targets. The People's Bank of China (PBOC) has loosened its reserve requirement ratio over six times in the last year for similar reasons.

As we look ahead, we believe central banks globally will remain accommodative (loosening monetary policy) as they strive to meet their elusive inflation targets (see Exhibit 4). Given their current stances, we anticipate that the ECB and BOJ will continue to be accommodative by keeping interest rates low. It is, however, unlikely that the stimulus will be sizeable given that \$11 trillion¹ in debt is yielding negative rates, primarily in Europe and Japan, and the markets are increasingly questioning the relative effectiveness of central bank actions. Many economists and market participants are challenging the notion of negative interest rates, particularly since it has not produced the desired effect of achieving inflation targets (see Exhibit 4). Out of all the central banks, the PBOC and the Fed have the most leeway to continue to loosen monetary policy; however, at this point in the market cycle, the overall effectiveness of monetary policy across the globe, in isolation, appears limited.

Over the past decade, while central banks have aggressively worked to stimulate growth through loosening monetary policy, expansionary fiscal policy has not been featured prominently in government's toolkits. This lack of meaningful fiscal stimulus has directly contributed to the low growth environment. With central banks globally reaching their limits to drive additional growth, fiscal stimulus will be a more important tool going forward. Despite this, in 2020, we see limited appetite for fiscal stimulus in the US, Europe, and Japan. The 2020 US presidential elections, Europe's fiscal austerity, and Japan's government debt load are limiting these governments' willingness to address the issue. In emerging market countries, we see more opportunity for fiscal stimulus, particularly in China through tax cuts and other measures.

Inflation remains below Central Bank targets

Low inflation has been the theme for the last few years, with inflation falling short of central bank targets (see Exhibit 4) despite historically low unemployment. In 1958, Albon William Housego Philips observed that over the previous 96 years, inflation and unemployment had a negative correlation; inflation tends to increase when unemployment was low and decrease when unemployment rises to elevated levels. Over the last decade, that relationship has broken down on a global level. Economists

¹ Bond World is Backing Away from Negativity; December 2019 <https://www.bloomberg.com/graphics/negative-yield-bonds/>

have attributed this conversion to changing demographics, technological improvements in the hiring of workers, an increase in technology, lack of fiscal stimulus in certain regions, and globalization.

For all the aforementioned reasons, we don't anticipate a meaningful increase in inflation and think that the low inflation environment will keep central banks around the globe more accommodative.

Exhibit 4: Growth and Inflation Targets across Developed Countries

Region	OECD 10 Yr. Growth Projection	Central Bank Target Inflation	Realized Inflation (10 Yr. Avg)	Inflation Spread (Target – Realized)
United States	1.66%	2.00%	1.60%	-0.40%
Eurozone	1.31%	2.00%	1.08%	-0.92%
Japan	0.96%	2.00%	0.05%	-1.95%
United Kingdom	1.81%	2.00%	2.09%	0.09%
Canada	1.66%	2.00%	1.65%	-0.35%
Australia	2.63%	2.50%	2.12%	-0.38%

Source: Central Bank News, OECD

Geopolitical uncertainty

On the mainstage for investors in 2020 will be the elections in United States, impeachment discussions, tensions in the Middle East, and civil unrest in Asia.

The uncertainty of the US elections could increase the volatility in the investment markets both in the US and globally. On the forefront are concerns about foreign policy in the current administration or tightening regulations and increased taxes by a new administration. Geopolitical unrest from North Africa to Central Asia could potentially be a headwind to the investment markets by creating uncertainty around energy prices, trade policy, and the interplay of dynamics between major powers and their regional proxies.

Sustainability

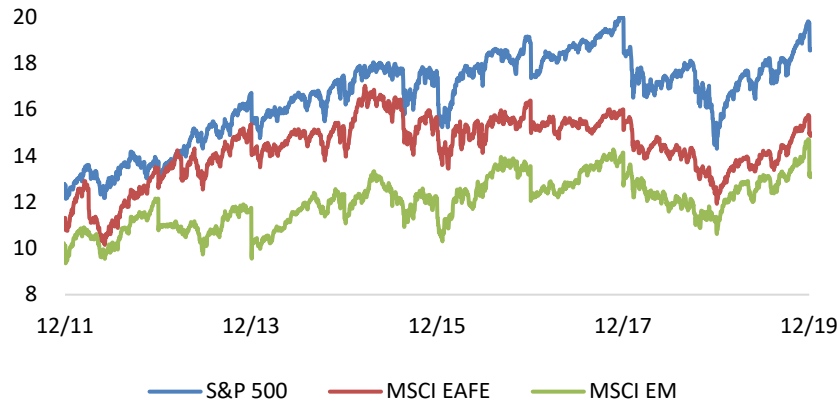
Over the last several years, climate change has come to the forefront of conversations led, in part, by companies and countries driving to reduce their carbon footprint as recent research shows that climate change is accelerating.² Accordingly, the focus on companies' transition to a low carbon economy via products and operations and new environmental solutions will be even more important.

Furthermore, conversations amongst investors have expanded to evaluating not only the environmental impact of companies but also social and governance factors. In 2019, 181 companies in the US, members of the US Business Roundtable, declared that the purpose of a corporation "is not just to serve shareholders" but to "create value for all our stakeholders", including "customers, employees, suppliers, communities, and shareholders." While dismissed as a politically correct and superficial effort, consumers—and particularly younger consumers—are indicating that these values will be increasingly important. As a result, evaluating environmental, social, and governance factors in investment decision-making is becoming more and more relevant.

² World Meteorological Organization, 2019 concludes a decade of exceptional global heat and high-impact weather, <https://public.wmo.int/en/media/press-release/2019-concludes-decade-of-exceptional-global-heat-and-high-impact-weather>

Global Equities

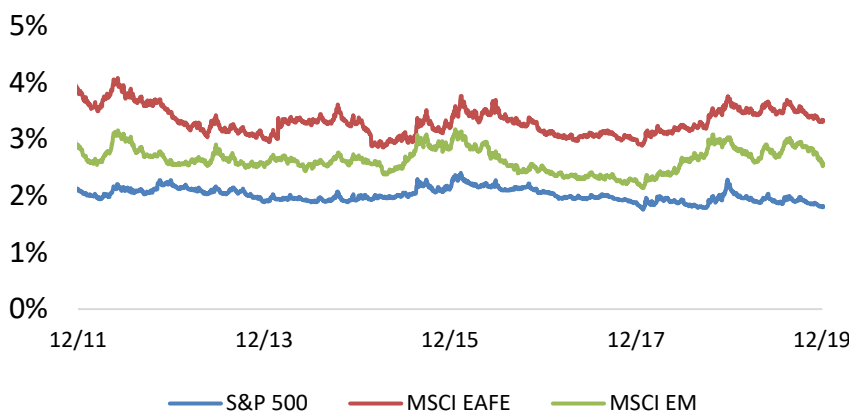
Exhibit 5: Regional Equity 12 Month Forward P/E



Source: Bloomberg

investors aiming to achieve CPI + 4 - 5%. Within global equities, our sentiment favors the US over Non-US developed and emerging markets.

Exhibit 6: Regional Equity Dividend Yield



Source: Bloomberg

On an absolute basis, global equities are relatively attractive versus other asset classes given the macroeconomic backdrop and the low interest rate environment. We recognize that valuations have ticked up over the last year and are at historic, highs particularly in the US. However, given the relatively low interest rate environment, yields on equities continue to be more attractive than fixed income yields. We prefer global equities over fixed income and hedge fund strategies for long-term

US equity

In the US, 50-year low unemployment, wage gains, strong consumer confidence, and the removal of some trade uncertainty (e.g., USMCA and Phase I China/US) could sustain US equities in the near-term. However, we maintain our **Neutral/Positive** sentiment as headwinds for US companies such as increasing corporate debt, rising wages hitting profit margins, slowing growth, and geopolitical uncertainty keep us from a full positive sentiment. Our **Neutral/Positive** sentiment is relative to Non-US developed equities and emerging market equities and dictates a modest overweight on a relative basis.

Exhibit 7: US Productivity Annual Change

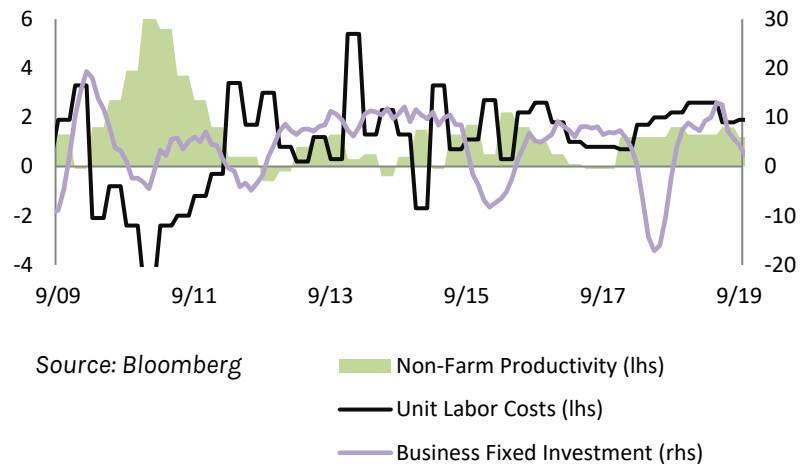
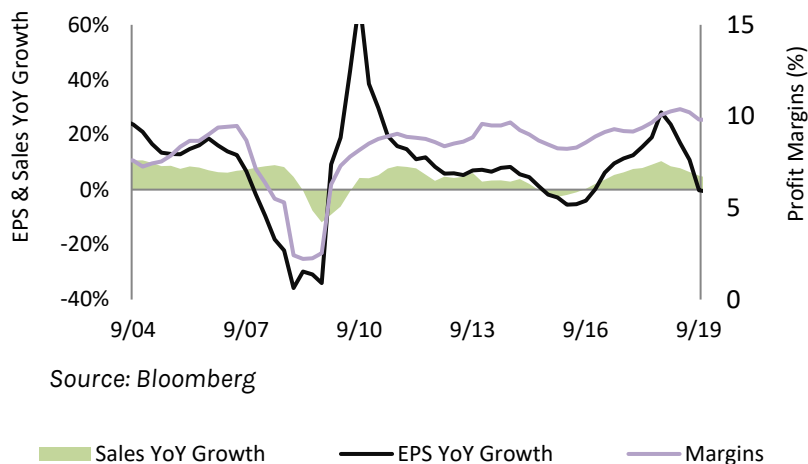


Exhibit 8: S&P 500 Sales, EPS Growth and Margins



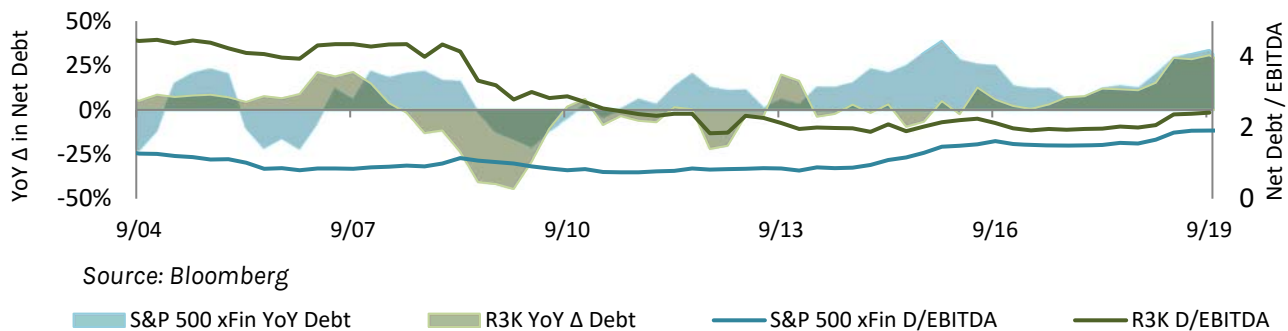
Bloomberg expectations are for Earnings Per Share (EPS) growth of 9.9% in 2020. On the positive side, the easy financial conditions created by the Fed in 2019 and removal of trade uncertainty are tailwinds for earnings growth. Yet, we foresee moderating growth overseas, a strong dollar, and declining margins driving downward revisions over the coming year and anticipate EPS growth in 2020 will end up in the low single digits.

One area of concern is companies' increasing leverage as measured by Debt/EBITA, particularly leverage in the BBB segment of the market (see Exhibit 9). Low interest rates are currently mitigating the risk associated with high leverage because companies can refinance and extend maturities to keep interest costs low. As mentioned earlier, the removal of some trade uncertainty could also spur a pickup in business investment and productivity, offsetting the declines in overall growth and profit margins. In addition, the consumer continues to be buoyed by a

strong labor market, wage gains, and reduced interest costs. 68%³ of US GDP is personal consumption, which could provide a meaningful tailwind for companies. These positive trends support our expectations for positive EPS growth in 2020.

Continuing trade negotiations, the election headlines and final outcomes, and geopolitical uncertainty could affect our near-term outlook and will most likely increase the volatility in the marketplace.

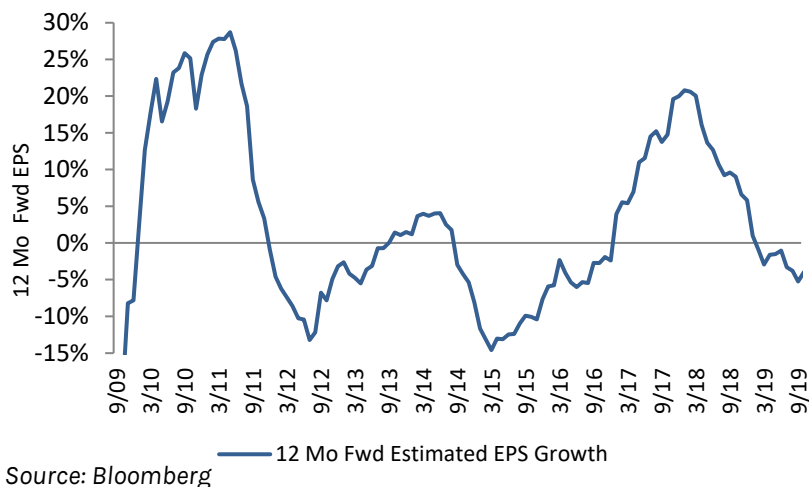
Exhibit 9: Russell 3000 & S&P 500 ex-Financials Debt/EBITDA



Non-US developed equity

In the Non-US developed equity markets, monetary policy is mostly exhausted with little hope of fiscal stimulus to support growth. Therefore, we see limited room for economic improvement and maintain a **Neutral/Negative** sentiment. Similar to the US, we anticipate a slight pickup in growth as global trade increases from the new trade agreements which keeps us from an outright Negative sentiment.

Exhibit 10: Non-US Developed Equity Forward EPS Growth Estimates



Earnings expectations call for EPS growth in the high single digits in the Eurozone, slightly more positive than in 2019. Companies' year over year growth in EPS declined in 2019 from geopolitical issues and trade tensions weighing on production, particularly in manufacturing. While that pressure has normalized, we anticipate some downward revisions to EPS estimates as the economic risks outlined in near-term themes materialize over the coming year.

³ St Louis FED, Share of Gross Domestic product: Personal consumption expenditures, 3Q 2019, <https://fred.stlouisfed.org/series/DPCERE1Q156NBEA>

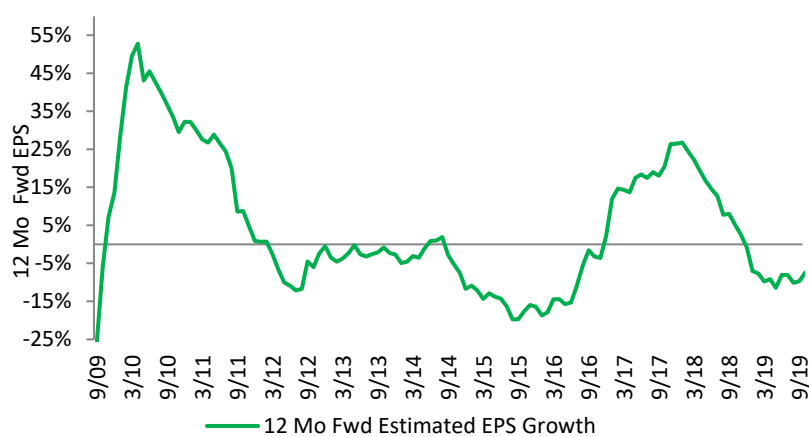
Within the Non-US equity markets, 30% of the companies are banks and the negative interest rate environment has been a drag on profitability. We anticipate that this will continue to be the case as the ECB is signaling for more monetary stimulus. While increased monetary stimulus could support the remaining European sectors, the effectiveness of the ECB's ability to spur growth, encourage spending and investment and boost confidence has been diminishing with interest rates declining further into negative territory. We also see geopolitical issues and concerns on trade (i.e., primarily Phase II - China/US trade deal) as a material headwind for Non-US developed equities since companies in these regions have a higher exposure to the emerging markets than the US. These risks are slightly offset by the positive labor market conditions and strong consumer spending; yet, consumer confidence has been waning. In the Eurozone, household consumption is approximately 60% of GDP⁴.

In Japan, monetary stimulus, low unemployment, and a strong domestic consumer has buttressed Japanese companies and growth. In addition, China stabilizing has been a tailwind to Japanese corporations who are highly dependent on trade with China.

In the UK, companies are less dependent on the health of the local consumer, which is currently strong. Approximately 75% of UK company revenues are sourced from outside the UK, limiting exposure to local consumers. The multi-year Brexit drag has hurt business sentiment and investments and it will forestall growth over the next couple of years. Clarity on the trade agreement between the UK and the EU could provide an uplift to UK equities but we don't expect a deal until later in 2020; however, the risk of a hard Brexit remains as a viable option.

Emerging markets equity

Exhibit 11: Emerging Markets Equity Forward EPS Growth Estimates



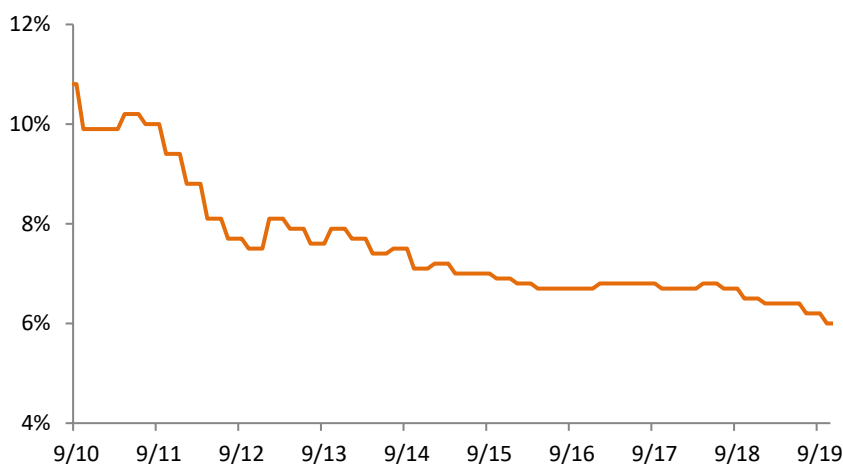
Source: Bloomberg

Within EM, the ease in trade tensions between the US and China should support the EM complex. Asia makes up almost 75% of the EM index (MSCI EM Index), with China the largest and most influential constituent. We expect China to continue implement stimulus measures as needed, seeking to stabilize growth and stem the economic deceleration. We have started to see some benefits and a stabilization in growth numbers from China.

⁴ The Global Economy.com, Household Consumption, percent of GDP, 2018

https://www.theglobaleconomy.com/rankings/household_consumption/

Exhibit 12: China GDP Growth Rate



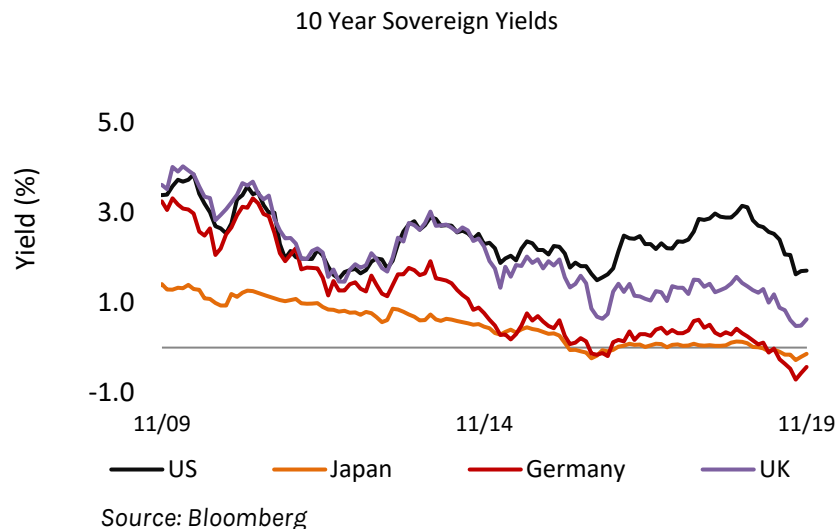
Source: Bloomberg — China GDP Growth Rate (YoY)

We expect EM earnings growth to rebound in 2020, not as much as the consensus estimate of 13.80% but closer to high single digits. Trade tariffs pressured revenues and margins over the last 18 months, but the Phase I China/US trade deal should drive improvement in both revenues and margins. China’s ability to enact both monetary and fiscal stimulus should also boost growth not only in China but throughout all of EM Asia.

Outside of Asia, the optimism in Latin America (LatAM) continues principally from Brazil’s recent reforms and the USMCA trade deal, which likely will put an end to the economic uncertainty that has hung over Mexico. Of course, tremendous political and social turmoil continues to impact the Mexican economy.

Global Fixed Income

Exhibit 13: 10 Year Sovereign Yields



Following the financial crisis, central banks instituted an unparalleled amount of monetary stimulus in the form of lower interest rates, asset purchases, and lending facilities. These actions, coupled with weaker growth and inflation expectations, have driven interest rates down globally with negative yields on approximately \$11 trillion⁵ in government debt as of the end of 2019. That equates to about 16% of the global debt market⁶. Such low and negative yields limit the diversification

benefits and the return potential of fixed income.

In 2019, the Fed's pivot away from tightening to an accommodative policy stance aligned with nearly all other central banks globally. Even with the pivot and subsequent decline of yields in the US, US yields remain the most attractive within the developed markets. As the negative interest rate environment persists, it is challenging to see meaningful real returns on fixed income specifically in Non-US developed bonds. Emerging market bond yields, despite declining in 2019 along with global yields, offer a premium to other fixed income markets but carry additional risks.

Taking into consideration the low return potential of core bonds leading to a higher opportunity cost for holding those bonds, we are lowering our sentiment on core bonds to **Neutral/Negative**. We maintain our sentiment of **Neutral** on core plus and emerging market bonds, **Negative** on Non-US developed bonds, and for more conservative portfolios, **Neutral/Positive** on short-term bonds.

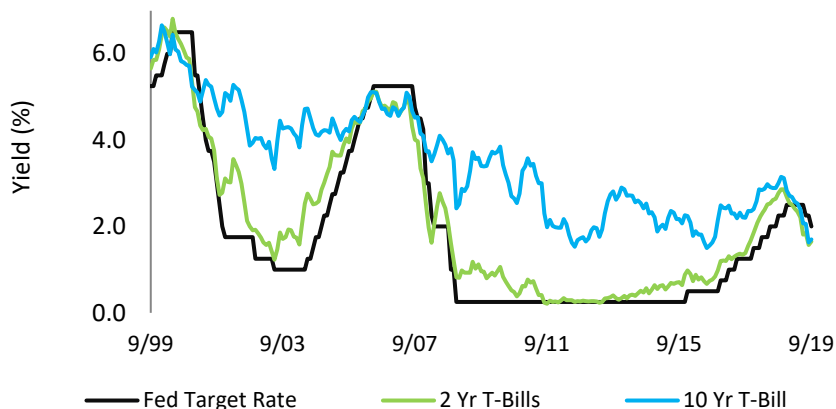
⁵ Bond World is backing away from Negativity; December 2019 <https://www.bloomberg.com/graphics/negative-yield-bonds/>

⁶ Fitch, Global Debt hits a Record \$66 trillion; January 2019 <https://www.cnbc.com/2019/01/23/government-debt-tab-hits-66-trillion-80percent-of-global-gdp-fitch-says.html>

Short-Term bonds

Over the past year, short-term yields have declined in line with the Fed’s reduction in the Fed funds rate. Short-term yields are highly correlated with the Fed funds rate (see Exhibit 14). A continued flattening of the US yield curve, where 2-year yields and 10-year yields are priced similarly, has improved the relative attractiveness of short-term bonds. At current yields, investors are not being rewarded to take on additional duration exposure.

Exhibit 14: Fed Funds Rate 2Yr. & 10 Yr. T-Bill



Source: Bloomberg

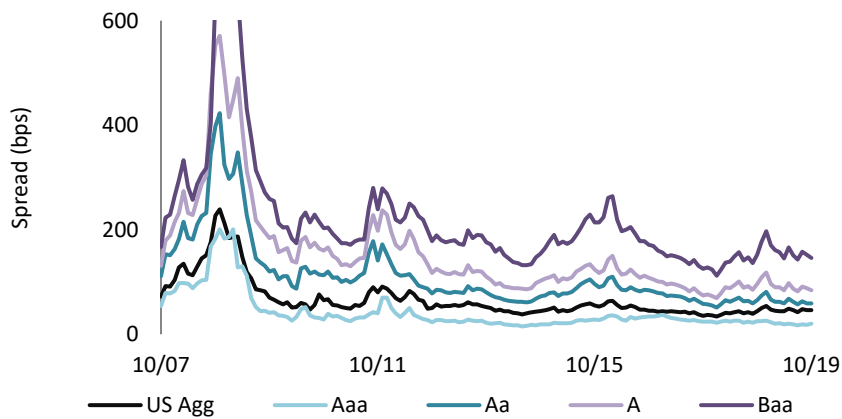
However, on an absolute basis, the lower yields are less attractive. Furthermore, we do not anticipate a meaningful move higher for short-term yields as the Federal Reserve Chairman, Jerome Powell, indicated in the October Federal Market Open Committee (FMOOC) that the Fed will remain on hold until there is a “really significant” rise in inflation. Mentioned earlier, demographic trends and technological factors could potentially keep a lid on inflation. Within short-term bonds, we maintain our **Neutral/Positive** stance for conservative portfolios but recommend reducing government bond exposure and increasing the exposure to high quality credit.

US core bonds

US core bonds consist of government and investment grade corporate bonds. Historically, US core bonds have been included in portfolios as a diversifier from risk assets (equities), typically exhibiting a negative correlation. Over the last couple of years, the declining return potential has reduced the diversification benefit and increased the opportunity cost of holding core bonds in portfolios, particularly in more aggressive portfolios.

For government bonds, the low and close to negative real yields (i.e. absolute yield - inflation) are unattractive and even with the downside protection there could be a potential erosion of real return in a portfolio.

Exhibit 15: US Investment Grade Option Adjusted Spreads



Source: Eaton Vance

Investment grade (IG) bonds are priced on a spread over government debt. Current spreads remain at historically tight levels (see Exhibit 15) as corporate leverage is rising. Investment grade companies' balance sheets appear to be healthy relative to earnings but could deteriorate if slower growth materializes. With spreads so tight to historical levels and absolute yields low, we don't think investors are being compensated

appropriately for holding investment grade bonds.

As a result, we are lowering our sentiment on investment grade and government debt within the US, US core bonds, to **Neutral/Negative** from Neutral.

US core plus bonds

US core plus bonds consist of 80% core bonds and 20% High-Yield bonds. For core plus bonds, we see positive relative value in yields with the addition of a more diverse opportunity set across strategy and quality. The central underlying fundamentals that keep us cautious on core bonds remain, but the lower duration, low default outlook, and higher yields make core plus bonds a more attractive segment relative to other fixed income. Therefore, we are maintaining our **Neutral** sentiment.

Non-US developed bonds

The \$11 trillion⁷ of negative yielding government debt is exclusively in Non-US developed bonds, particularly in bonds with short and intermediate (5 - 10 year) durations. We expect foreign central banks, over the next few years, such as the ECB and BOJ to maintain accommodative policies that

⁷ Bond World is backing away from Negativity; December 2019 <https://www.bloomberg.com/graphics/negative-yield-bonds/>

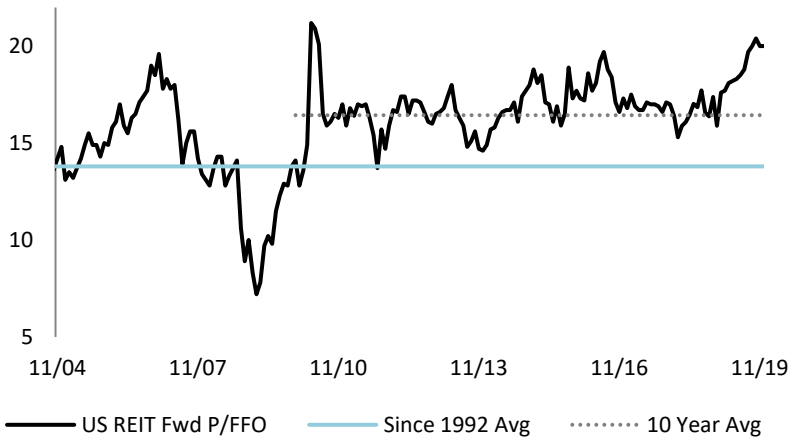
keep interest rates at or below zero to support growth. The opportunity cost of holding negative yielding debt is high and could potentially erode the real purchasing power of a portfolio. Based on current yields and our analysis of the Non-US developed markets we expect the total return for Non-US Developed bonds to be low and, in some cases negative, endorsing our **Negative** sentiment.

Emerging market bonds

Emerging market bonds, unlike the other fixed income segments, had a difficult year with spread widening not tightening. While the spread widening makes the debt look more attractive on a relative basis, yields on debt issued by companies and governments on an absolute basis are below their long-term averages. Continued sources of volatility for EM debt such as dollar strength, slowing growth, and trade uncertainty (Phase II China/US trade deal) keep us at a **Neutral** sentiment.

Global Real Estate

Exhibit 16: US REIT/FFO



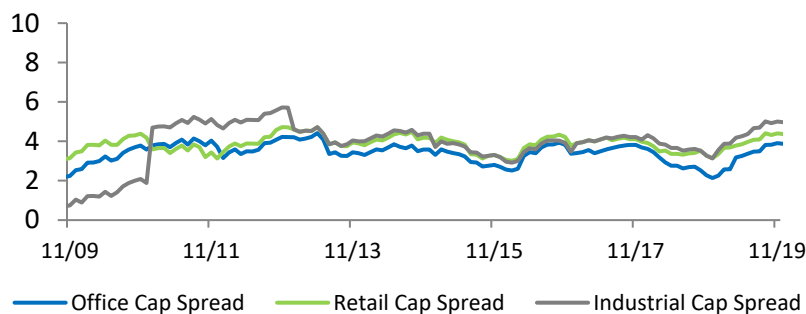
Source: Bloomberg

We remain Neutral on global real estate. Both listed public and private real estate can be an attractive diversifier to portfolios providing some inflation protection and a lower correlation to other assets, including equities, however like equities valuations are at historically high levels. Strong labor market conditions and growth globally aids the demand for real estate. While Cap Rates (ratio of NOI/property asset value) have not increased significantly recently, expectations call for sustained dividend yields for the next few

years.

As with equities, positive labor market strength in the US, Europe, and Japan supports real estate demand. In addition, new construction is conservative with limited market saturation, keeping most real estate markets in a healthy balance.

Exhibit 17: US Commercial Real Estate Cap Rate to BAA Credit



Source: Bloomberg

Global Net Operating Income (NOI) growth is expected to increase to 4.8% according to CBRE in 2020 from 3.7% in 2019, as a result of the positive, albeit slowing economic conditions. REITs balance sheets are also healthy, utilizing more conservative levels of debt versus other investment grade companies.

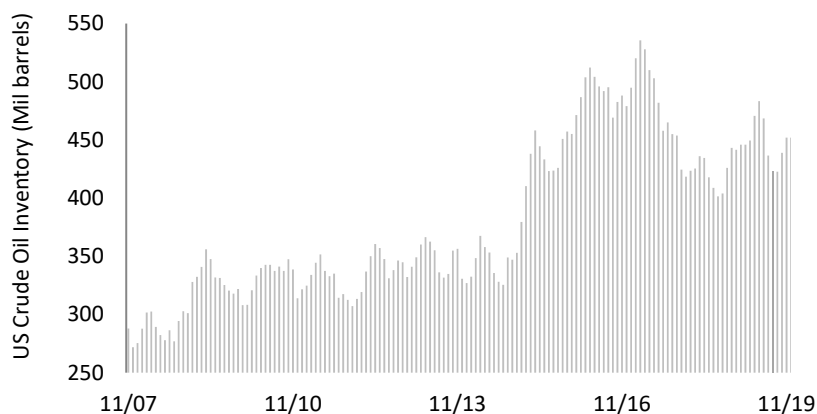
US REIT Price/Fund from Operations (FFO) metrics, a measure of valuation, have risen

over the last couple of years to historically high levels which can indicate expensive valuations. However, tight investment grade bond yields (BBB) have contributed to cap rate spreads widening in the US over the last year, making real estate more attractive, particularly versus fixed income. The expectation over the next few years is for returns to primarily come from dividend yields, through net income, not necessarily increasing valuations.

Commodities

Declining demand, increasing supply, low return potential, and extreme volatility are the primary reasons for our **Negative** sentiment on commodities. Slowing global growth and manufacturing activity are the key drivers for declining demand in commodities across the entire complex (energy, non-energy, and precious metals) excluding agriculture.

Exhibit 18: US Crude Oil Inventory



Source: Bloomberg

Energy, which makes up 61%⁸ of the commodities complex, is impacted by increasing oil production, high inventory, and reduced demand globally. Oil production is expected to pick-up in 2020 as new pipelines come into operation, further increasing supply, which in turn limits price appreciation potential. Longer-term, the increasing focus on sustainability, renewal energy, and less extractive resources could be a headwind.

Industrial metals, 11%⁹ of the complex, is expected to lag inflation in 2020 from slowing Chinese manufacturing demand due to trade tensions as well as China's transition to a services-based economy.

The only commodities bright spot is agriculture where prices are expected to increase in 2020 because of reduced crop plantings.

⁸ 2020 S&P GSCI Index

⁹ 2020 S&P GSCI Index

Hedge Fund Strategies

Over the next three years, given reduced long-term forecasts, it is difficult to see how most hedge fund strategies—particularly those oriented around risk management—potentially earn enough return to justify their high fees. Indeed, for many hedge fund strategies, we think it is highly likely that the limited partners (i.e., the investors) will struggle to earn as much as the general partner (i.e., the hedge fund manager). As a result, we are reducing our sentiment to **Neutral** from Neutral/Positive.

Over the last year, the investment opportunity for hedge fund strategies have moderated with lower interest rates affecting the cash component of many strategies and weighing on potential investment returns. Hedge fund strategies utilize a wide range of asset types and contracts (e.g. stocks, bonds, commodities, currencies, derivatives, etc.) within unconventional investment strategies intending to provide risk and return exposures that typically can't be achieved through traditional (“long-only”) equity and fixed income investments. In short, hedge fund strategies are supposed to create a differentiated source of return or mitigate the risk inherent in traditional equity and fixed income investments. Hedge fund strategies can be classified into four primary overarching strategies: Equity Hedge, Event Driven, Relative Value, and Macro.

Over the next several years, we see some merit in Equity Hedge strategies with the ability to monetize volatility and improve overall down-market performance of a portfolio, through a strategy that can be accessed in a low cost, liquid vehicle.

II. LONG-TERM FORECAST

Global Equities

Across global equities, Syntrinsic has lowered our ten-year forecast, with the greatest reductions coming in the assumptions for US equities.

Asset Class	Index*	2020 Ten-Year Forecast	2019 Ten-Year Forecast	Change
Global Equity	MSCI-ACWI	6.70%	7.25%	(0.55%)
US Large Equity	S&P 500	5.95%	6.50%	(0.55%)
US Small/Mid Equity	Russell 2500	6.45%	7.00%	(0.55%)
Non-US Developed Large Equity	MSCI-EAFE	6.75%	7.00%	(0.25%)
Non-US Small/Mid Equity	MSCI ACWI ex US SMID	7.80%	7.50%	0.30%
Emerging Market Equity	MSCI EM	9.65%	10.00%	(0.35%)

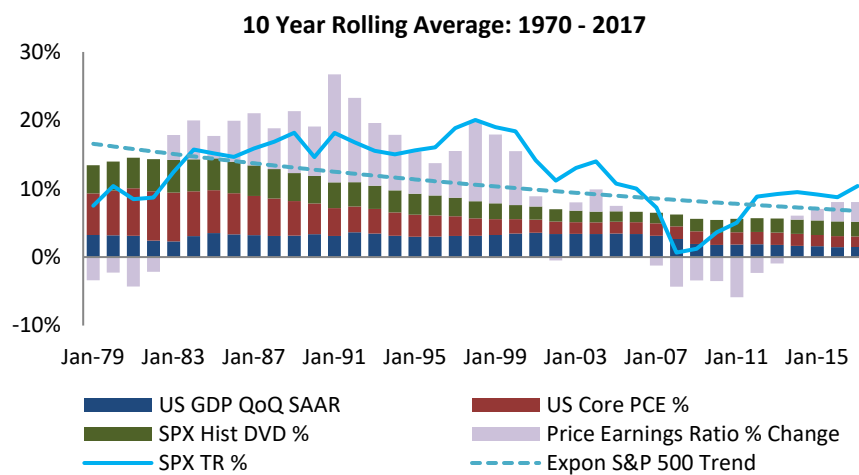
Source: Syntrinsic

Forecasting Global Equities

Syntrinsic's public market large-cap equity forecasts are based on expectations for real economic growth, inflation, and yield, with adjustments made for trade and market capitalization.



Exhibit 19: US Equity Forecast versus Actual (Backtest)



Source: Bloomberg, Syntrinsic

Our research and experience indicate that these factors have been highly correlated to actual returns, particularly in US equity markets. Exhibit 19 illustrates how the growth of US Gross Domestic Product (blue), plus inflation (red), plus the dividend yield of the US equity market (green) have trended on a rolling ten-year basis. The solid light blue line indicates the annual total return of the Standard & Poor's 500, a reliable proxy for the US large cap equity market. The dashed light blue line reflects the smoothing of the S&P 500, cancelling out much of the noise due to short-term volatility.

As our analysis indicates, cyclical factors such as changes in price to earnings ratio can influence returns over long sweeps of time. Given that such factors can be much more difficult to anticipate, we account for such trends in our near-term (three-year) sentiment.

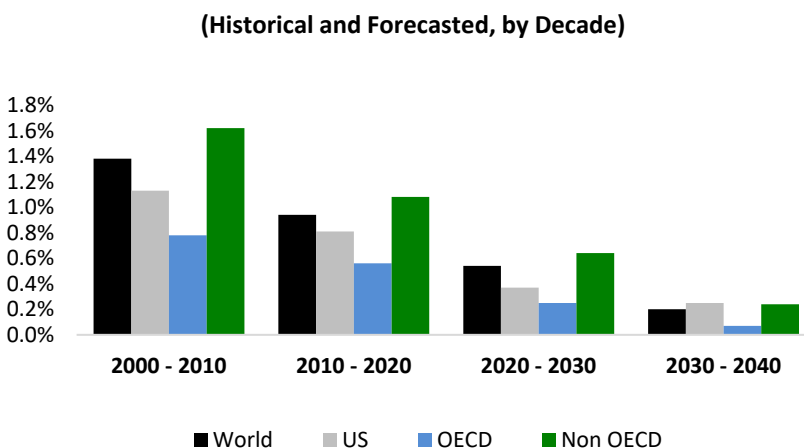
Forecasting real growth in Gross Domestic Product (GDP)

Growth in Gross Domestic Product (GDP) should manifest in the public equity markets as companies derive additional earnings, buy materials, make capital investments, and pay employees, contractors, and vendors. Syntrinsic takes a two-pronged approach to forecasting real growth in GDP. We rely, in part, on forecasts from key governmental and quasi-governmental sources such as the International Monetary Fund (IMF), the Organization for Economic Cooperation and Development (OECD), and the US Congressional Budget Office (CBO). In addition to these forecasts, Syntrinsic evaluates anticipated growth in the size of the labor force and expected gains in productivity, recognizing that the product of these two factors theoretically informs GDP growth.

Population growth

Working age population growth has been slowing globally in recent decades and is expected to continue to slow. In the US, working-age population growth is expected to slow to approximately 0.35% per year during the decade ending 2030, according to the OECD. Although the working-age population growth in the US is expected to outpace the growth seen in other developed markets such as Europe and Japan—where population growth is expected to be negative—the strongest growth is expected in the emerging markets, as represented by Non-OECD nations in Exhibit 20.

Exhibit 20: Annual Working Age Population Growth



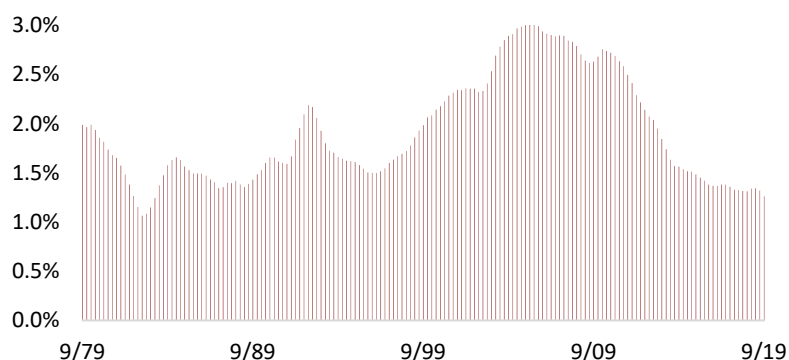
Source: OECD

Productivity growth

The OECD provides productivity projections for developed countries as well as for the emerging markets. As might be expected, Europe, Japan and other Non-US developed economies anticipate productivity of 1.45% per year, lower than that for the U.S. Meanwhile, emerging markets such as China, India, Brazil, and Russia anticipate productivity growth of 3.45% per year, nearly twice that of the United States.

Exhibit 21: US Productivity Annual Change

(10 Year Rolling Avg)



Source: OECD

forward. For this reason, we feel the OECD projections for US productivity growth of 1.55% over the next 10 years is a reasonable estimate.

Prior to the Great Financial Crisis, US productivity reached just below 3.0%; since that peak, productivity has returned to levels more consistent with the 1980s and 1990s. Including that pre-Crisis bulge, US productivity has averaged 1.9% over the past 50 years.

Due to suppressed business investment as well as profound changes in technology and automation, we expect productivity to remain at historically lower levels going

Population + Productivity = Real Growth

Syntrinsic's Real GDP Growth forecasts are more muted than in the recent past due to slowing demographic and productivity trends and generally are consistent with consensus expectations.

Exhibit 22: Population Growth + Productivity Growth

Region	Working Age Population Growth	Productivity Growth	Syntrinsic Real GDP Growth Forecast
United States	0.35%	1.55%	1.90%
Non-US Developed	-0.05%	1.45%	1.40%
Emerging Markets	0.65%	3.45%	4.10%

Source: OECD, Syntrinsic

Forecasting inflation

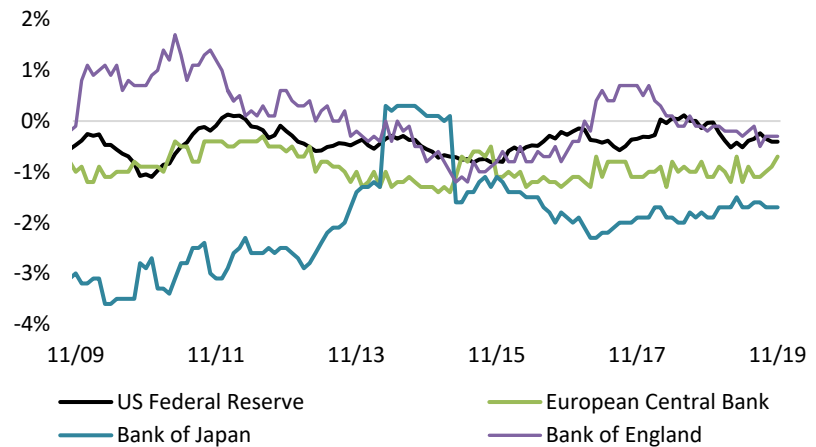
Syntrinsic relies upon global central bank target rates of inflation as a starting point for our inflation assumptions, as do many other analysts. Indeed, long-term inflation forecasts from the IMF, OECD and CBO closely match the central bank stated targets for most countries. However, Syntrinsic has noted that since the Financial Crises, many developed world central banks—in particular, the US Federal Reserve, European Central Bank, and the Bank of Japan—

have failed to achieve their inflation targets. Despite potential for a near-term cyclical uptick in inflation, we believe aging demographics, ongoing technological innovation, and continued globalization will anchor inflation on a secular basis.

For our 2020 long-term forecast, our inflation assumptions anticipate that the consistent inability of developed country central banks to reach their stated inflation targets over the past decade will persist through the next. As such, Syntrinsic applies a discount based on the degree central banks in developed regions have missed inflation targets over a trailing ten-year time frame.

Given that the emerging markets are represented by a much more diverse array of central banks and that there are significant limits on the reliability of data regarding actual inflation rates, Syntrinsic has not applied a similar discount to forward-looking emerging market inflation.

Exhibit 23: Central Bank Target versus Actual Inflation



Source: Bloomberg, Syntrinsic

Exhibit 24: Inflation Forecast

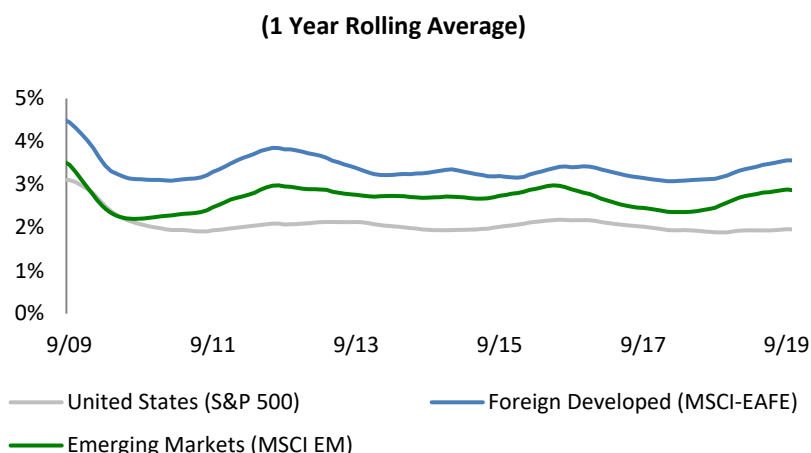
Central Bank	Syntrinsic Inflation Forecast	Central Bank Inflation Target	Ten-Year Spread (Target versus Actual)
United States	*1.85%		
US Federal Reserve		2.00%	(0.40%)
Non-US Developed	1.10%		
European Central Bank		2.00%	(0.92%)
Bank of Japan		2.00%	(1.95%)
Bank of England		2.00%	0.09%
Bank of Canada		2.00%	(0.35%)
Bank of Australia		2.50%	(0.38%)
Emerging Markets	3.40%		
Central Bank of Brazil		4.00%	--
People's Bank of China		3.00%	--
Reserve Bank of India		4.00%	--
Bank of Russia		4.00%	--
Reserve Bank of South Africa		4.50%	--

*The US Federal Reserve uses the Personal Consumption Expenditures (PCE) price index to set its inflation target. Most US investors use the Consumer Price Index (CPI) to measure inflation, which on average tracks 0.25% above PCE. Syntrinsic has adjusted our inflation forecast similarly. Thus, our 1.85% US inflation forecast represents the 2.00% Fed target less 0.40% to account for the ten-year spread, plus 0.25% to adjust for CPI.

Forecasting equity dividend yield

Equity yields over the past decade have been relatively stable across regions, though they were higher while equity markets were still in the early stages of recovering from the 2007 - 2009 sell-off. We expect dividend yields to follow recent trends going forward as we do not see a meaningful catalyst that would propel yields of the major indexes positively or negatively. Our expectations for equity dividend yields are based on recent trends, using one-year

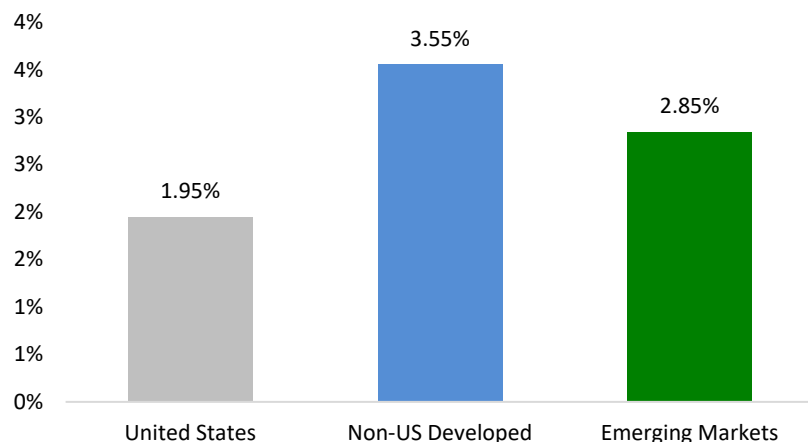
Exhibit 25: Global Equity Dividend Yields



Source: Bloomberg

rolling average yields for the major indexes for each region.

Exhibit 26: Syntrinsic Dividend Forecast



Source: Syntrinsic

US yield changes have been muted more recently, with S&P 500 yields holding close to 2.0% (Exhibit 25). The emerging market and Non-US developed dividend yields have been on a positive upward trend resulting in a slightly higher yield assumption over our 2019 forecast.

Yield is a particularly important part of equity return in Non-US developed markets, with dividend yield representing just over half of anticipated equity total return.

Forecasting adjustments due to international trade

While growth forecasts across regions directly impact the anticipated earnings of equity markets in those regions, Syntrinsic considers it essential to account for where companies are securing their revenues. For example, a company that is dependent on revenues from a developed economy such as the US or France will be operating in slower growth economies than a competing company that may be growing its revenues in China or India where economic growth rates are likely to be higher.

In order to account for the impact of trade on anticipated economic growth, Syntrinsic incorporates regional revenue sources for the MSCI All-Country World Index. As indicated in the table below, S&P 500 companies have recently derived 62% of revenues from US sales, with 21% coming from trade with Non-US developed markets and 17% from emerging markets. These non-US revenue sources end up adding an additional 0.25% per year in anticipated growth for the US equity market.

Exhibit 27: Equity Index Revenue Exposure by Region

Index	United States	Non-US Developed	Emerging Markets	Forecast Trade Effects
S&P 500	62%	21%	17%	0.25%
MSCI EAFE	18%	58%	23%	0.70%
MSCI Emerging Mkts	9%	19%	72%	-0.75%

Source: Morningstar (10/31/2019)

Similar exercises for Non-US developed and emerging market indices result in a +0.70% for Non-US developed companies while companies based in the emerging markets subtract 0.75% from projected growth due to revenues derived from slower growing developed economies.

Forecasts for large cap equities by region

By summing the forecasts for real economic growth, inflation, dividend yield, and then adjusting for trade effects, Syntrinsic calculates the baseline results for large cap equities in each region.

Exhibit 28: Syntrinsic Large Cap Equity Forecasts by Region*

Factor	United States			Non-US Developed		Emerging Markets	
	2020	2019		2020	2019	2020	2019
Real Growth	↓ 1.90%	2.25%	↓	1.40%	1.50%	↓ 4.10%	4.25%
Inflation	↓ 1.85%	2.00%	↓	1.10%	1.50%	↓ 3.45%	3.50%
Dividend Yield	↓ 1.95%	2.00%	↑	3.55%	3.25%	↑ 2.85%	2.75%
Trade Effects	NC 0.25%	0.25%	↓	0.70%	0.75%	↓ -0.75%	-0.50%
Large Cap Equity Forecast	↓ 5.95%	6.50%	↓	6.75%	7.00%	↓ 9.65%	10.00%

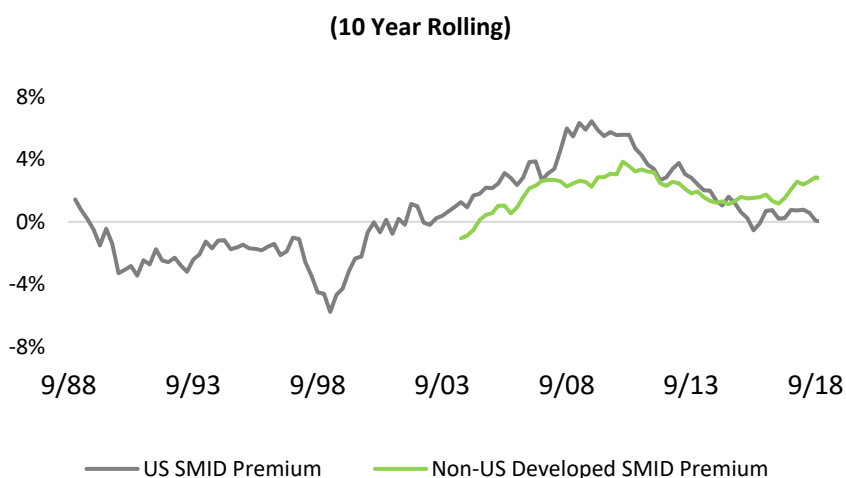
*Red arrows indicate a decline from 2019 to 2020, while green indicates an increase. “NC” represents no change in forecast.

Forecasts for Small/Mid (SMID) Cap Equities by Region

Syntrinsic recognizes that SMID cap equities have tended to earn an equity risk premium relative to large cap equities. Our research confirms that the SMID cap premium has approximated 0.50% per year for US equity markets, the region for which there is the most comprehensive historic data. By adding 0.50% to the 5.95% US large cap equity forecast, we anticipate 6.45% for SMID cap US equities over the decade ahead.

While there is less robust data for Non-US equity markets, we see that premium in the available data; thus, we apply a 0.50% premium to Non-US SMID equities as well. Recognizing that most Non-US SMID managers invest in both Non-US developed

Exhibit 29: Small and Mid Capitalization (SMID) Premiums by Region



Source: Morningstar, Syntrinsic

and emerging market equities, we have added the 0.50% premium to the forecast returns of the Non-US Large Cap equity markets as represented by the MSCI-ACWI ex-US index, bringing the forecast return to 7.80%.

Global Fixed Income

Syntrinsic recognizes that ten-year fixed income returns will be closely aligned with the average yield received over that ten-year period. While our forecasting process does allow for modest adjustments to current yields, we generally account for cyclical factors such as potential credit spread tightening or expansion in our near-term sentiment. Since our 2019 long-term forecast, global bond yields have moved even lower from already historically low levels, negatively impacting the long-term return outlook for fixed income.

Asset Class	Index*	2020 Ten-Year Forecast	2019 Ten-Year Forecast	Change
Global Fixed Income	BB Global Aggregate	1.05%	2.50%	(1.45%)
US Ultra Short-Term Bond	BB G/C 1 year	2.20%	2.75%	(0.55%)
US Short-Term Bond	BB G/C 1-3 year	2.40%	3.25%	(0.85%)
US Core Bond	BB US Aggregate	2.60%	3.75%	(1.15%)
US Core Plus Bond	80 BB US Agg/20 BB HY	3.10%	4.25%	(1.15%)
Non-US Developed Bond	FTSE WGBI ex-US	0.00%	1.25%	(1.25%)
Emerging Market Bond	JPM EMBI	5.65%	6.50%	(0.75%)
High Yield US Bond	BB US HY Corporate	5.15%	--	--

Source: Syntrinsic

In an effort to anchor our scenarios with reasonable assumptions, we consider long-term structural drivers of interest rates, including our expectations for economic growth and inflation. Given our expectations for real GDP growth in the US of 1.90% and inflation of 1.85%, we anticipate long-term risk-free rates at approximately 3.75%. The risk-free rate in this case is represented by the ten-year US Treasury Bond.



Forecasting US core bond

US core bonds are represented by the Bloomberg Barclays US Aggregate Bond Index, which includes approximately 80% to US Government bonds and 20% to investment grade US corporate bonds. Thus, in order to forecast reasonable returns for US core bonds, it is important to understand the premium (spread) of the US Aggregate over the risk-free rate, as well as likely scenarios for the movement of ten-year yields from where they are today to the expectations predicted by real GDP growth and inflation.

Given our expectation that US Treasury yields should be approximately 3.75% ten years from now and adding the historic 0.25% spread of the US Aggregate over US Treasury yields, it is reasonable to expect that US core bonds will yield 4.00% ten years from

US Core Bond Return Forecast	
10 Year US Treasury Yield Expectation	3.75%
US Aggregate Spread	0.25%
US Core Bond Expected Yield	4.00%
Current US Core Bond Yield	2.80%
US Core Bond Forecast Return	2.60%

now. With yields currently at about 2.80%, our forecast would require interest rates to rise over the decade. While we cannot predict the path of those potential interest rate increases, we model multiple scenarios that alter the speed and timing of those increases, then establish an average of those scenarios. While rising interest rates will create opportunities for higher yield, rising rates also adversely impact bond values, leading to an annualized forecast return slightly lower than the current yield for the US core bond market segment.

Forecasting US high yield bonds

US high yield bonds follow a similar pattern except that the spread between high yield bonds and the US Treasury Bond is higher to account for the additional risk inherent in below investment grade bonds. As well, we factor in a discount that accounts for historic defaults net of recoveries within the high yield market.

US High Yield Bond Return Forecast	
10 Year US Treasury Yield Expectation	3.75%
US High Yield Bond Spread	5.35%
US High Yield Bond Expected Yield	9.10%
Current US High Yield Bond Yield	6.25%
US High Yield Bond Forecast Return	5.15%

Forecasting US core plus bonds

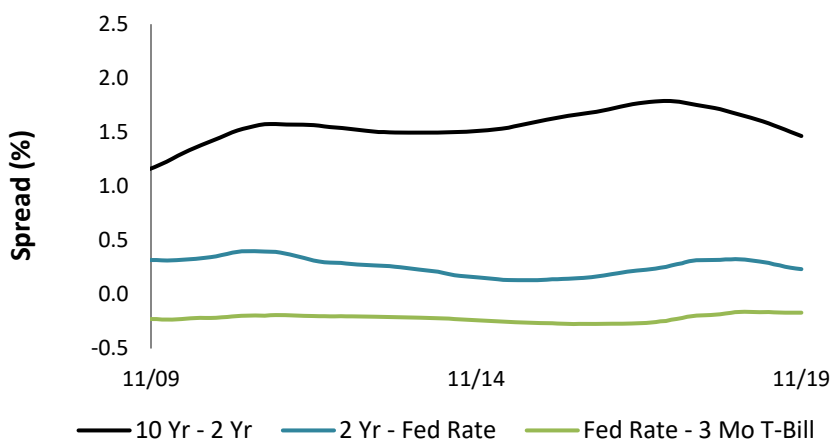
In practice, many active fixed income managers strive to add value through incorporating more aggressive, higher yielding bonds into a portfolio of primarily investment grade securities. Syntrinsic considers such an approach to be “core plus” with the “plus” acknowledging the additional risk and potential return of such a strategy. While every fixed income manager is unique, we find that core plus can be represented by 80% US core bond and 20% US high yield bond. Given the forecasts outlined above and the 80/20 weighting, Syntrinsic forecasts 3.15% total return per year for US core plus bond.

Forecasting US short-term bonds and cash alternatives

Creating a ten-year forecast for short-term bonds and cash is inherently challenging due to the mismatch in time horizon. Nonetheless, it is important for investors using short-term bonds and cash to have guidance regarding reasonable return expectations for an asset class often used to keep pace with inflation.

To anchor our approach, Syntrinsic relies on historic spread relationships between the

Exhibit 30: US Treasury Term Premiums (Ten-Year Rolling Average)



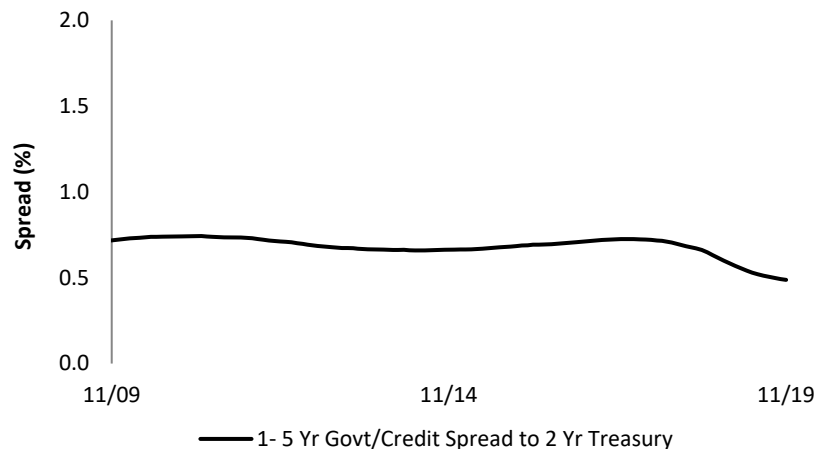
Source: Bloomberg, Syntrinsic

10-year US Treasury Bond, 2-year US Treasury Note, Fed Funds Target Rate, and 3-month US Treasury Bill. While these relationships are not set in stone and can vary over the short-term, they provide reasonable guidance for longer-term planning. To smooth volatility within these spreads, we analyze rolling ten-year periods and rely upon recent trends for anticipating spreads going forward.

Syntrinsic short-term bond yield expectations extend spread analysis from above to include credit.

US Treasury Yield and Spread Expectations	
10 Year Yield Expectation:	3.75%
10 Yr. - 2 Yr. Spread:	-1.45%
2 Year Yield Expectation:	2.30%
2 Yr. - Fed Funds Rate Spread:	-0.25%
Fed Funds Rate Expectation:	2.05%
Fed Rate- 3 Mo T-Bill:	-0.20%
Expected Cash Yield:	1.85%

Exhibit 31: US Short-Term Bond Premium to Two-year US Treasuries (Ten Year Rolling Average)



Source: Bloomberg, Syntrinsic

Short Term Bond Return Expectations	
2 Year Treasury Yield Expectation	2.30%
1-5 Yr. Govt/Credit Spread	0.65%
Short-Term Bond Expected Yield	2.95%
Current Short-Term Bond Yield	2.30%
Short-Term Bond Forecast Return	2.40%

Cash Return Expectations	
3 Month-T Bill Expected Yield	1.85%
Current Cash Yield	2.15%
Cash Forecast Return	2.00%

Our expectations for spreads for short-term bonds (as measured by the Bloomberg Barclays 1-5 Yr. Govt/ Credit Index) are relative to our 2-Year US Treasury yield expectations. Our actual return expectations for short-term bonds averages scenario analysis of multiple paths of current short-term bond yields (using an average of recent yields) moving toward our expected yields over the next decade. We extend this methodology for our long-term cash return expectations.

Forecasting Non-US developed and emerging market bonds

Syntrinsic develops forecasts for Non-US developed bonds with an approach similar to how we forecast US Core bonds, starting with components of expected inflation and real GDP growth of Non-US developed nations. We apply the same discount to expected yields due to yield suppression seen across the developed world for our expected long-term yield. While we recognize that extraordinary central bank intervention across Non-US developed countries affects interest rates, we expect current yields to move towards our long-term expected yields over the forecast horizon.

Non-US Developed Bond Return Expectations	
Non-US Dev. Expected Growth	1.40%
Non-US Dev. Expected Inflation	1.10%
Non-US Dev Bond Expected Yield	2.50%
Current Non-US Dev. Bond Yield	0.70%
Non-US Dev. Bond Forecast Return	0.02%

While it may seem counter-intuitive, if Non-US developed bonds do indeed move toward that long-term expected yield derived by real GDP growth plus inflation, the ten-year return will be roughly 0.00% per year due to the adverse impacts of duration and unusually low starting point for yield.

Bonds have become an increasingly important tool in the emerging markets and represent many diverse economies and currencies. As such, the calculus for anticipating return requires a different approach. For our emerging market bond forecast, we utilize the long-term historical spread of emerging market debt to the 10-Year US Treasury Bond. Based on Syntrinsic's expectations for emerging market debt yields to move from current levels to our expected yield over the forecast horizon, through various interest rate scenarios, we anticipate ten-year returns of 5.65% per year, just slightly below the current yield on the emerging market bond market.

Emerging Market Bond Return Expectations	
10-Year US Treasury Yield Expectation	3.75%
EM Bond Spread to 10-Year US Treasury	3.05%
Emerging Market Bond Expected Yield	6.80%
Current Emerging Market Bond Yield	5.95%
Emerging Market Bond Forecast Return	5.65%

Hedge Fund Strategies

Asset Class	Index*	2020 Ten-Year Forecast	2019 Ten-Year Forecast	Change
Hedge Fund Strategies	HFRI Fund of Fund	3.05%	4.25%	(1.20%)
Hedged Equity	HFRI Equity Hedge	4.35%	5.25%	(0.90%)

Source: Syntrinsic

Hedge fund strategies encompass myriad trading methodologies across multiple asset classes and with different investment and risk management objectives. Syntrinsic draws upon industry practices in concentrating our forecast on equity and fixed income-beta with additional support from cash returns.

The equity and fixed income beta components recognize that while hedge funds represent a highly diverse universe, historically their bottom-line results as an asset class have had consistent correlation with equity and fixed income markets. To determine the appropriate beta for the different hedge fund strategies, we analyze the historic beta and correlations to global equity markets, fixed income markets, and the Hedge Fund of Fund universe. We then apply those beta estimates to our long-term return forecasts for equity and fixed income to establish a return forecast for different hedge fund strategies.

The cash component of our forecast considers the elements of hedge fund return attributable to short rebates and interest earned on cash being held as an investment or as collateral for leverage. Lower short-term rates since the beginning of the 2019 have acted to suppress this component of return; as a result, our ten-year cash forecast has declined from 2.50% in 2019 to 2.00% in 2020.

Forecasting hedge fund of fund

Hedge fund of fund expected return speaks to strategies that represent multiple hedge fund methodologies such as equity hedge, global macro, relative value, and fixed income arbitrage. In practice, some such strategies are developed by a single firm that incorporates multiple third-party managers, while other times a single manager will apply multiple strategies within a single investment fund.

Hedge Fund of Fund Return Expectations	
Equity Beta	0.25
Equity Beta Contribution to Return	1.17%
Fixed Income Beta	0.13
Fixed Income Beta Contribution to Return	-0.12%
Equity + Fixed Income Beta Return	1.05%
Cash Return	2.00%
Hedge Fund of Fund Forecast Return	3.05%

Forecasting equity hedge

Approximately half of the hedge fund universe is represented by equity hedge strategies. Even within that more limited segment, strategies vary in terms of long, short, and gross positioning, concentration risk, regional exposure, use of leverage, sector exposure and other factors.

Equity Hedge Return Expectations	
Equity Beta	0.50
Equity Beta Contribution to Return	2.35%
Cash Return	2.00%
Equity Hedge Forecast Return	3.05%

Nonetheless, equity hedge strategies on the whole have expressed a beta to the equity markets of 0.50, providing a useful reference point for forecasting the market segment.

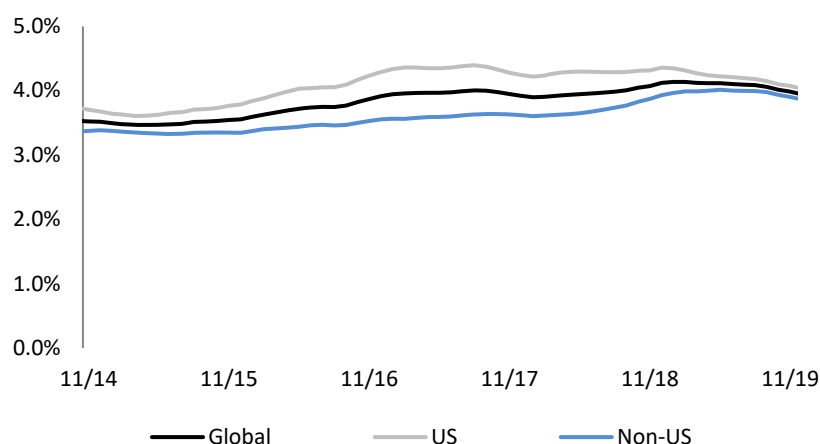
Global Real Estate

Asset Class	Index*	2020 Ten-Year Forecast	2019 Ten-Year Forecast	Change
Real Estate				
Private Real Estate (Core)	NCREIF ODCE	6.10%	--	--
Private Real Estate (Core Plus)	NCREIF ODCE + 1.20%	7.30%	--	--
Global Listed Real Estate	FTSE NAAREIT/EPRA Global	5.75%	6.00%	(0.25%)
US Listed Real Estate	FTSE/NAREIT/EPRA US	5.85%	6.00%	(0.15%)
Non-US Listed Real Estate	FTSE/NAREIT/EPRA x-US	5.65%	6.00%	(0.35%)

Source: Syntrinsic

Real estate as an asset class is highly idiosyncratic, with tremendous variation across types of exposures, particularly in private real estate. For forecasting purposes, Syntrinsic uses different methodologies for private real estate and real estate that is accessed through securities listed on public market exchanges.

Exhibit 32: Global REIT Yields (1 Year Rolling Average)



Source: Bloomberg, Syntrinsic

Forecasting listed real estate

Investors that gain exposure to real estate through public markets generally invest in Real Estate Investment Trusts (REITs) and Real Estate Operating Companies (REOCs). While trading like equities, the structural differences and historic correlations of these securities result in Syntrinsic treating listed real estate as an asset class distinct from other equity sector.

To forecast listed real estate returns, we start with current REIT yields. Current yields of 4.00% are little changed from 2019 yields. We then add a return component to account for anticipated growth in Net Operating Income (NOI), the “earnings” of a REIT. We forecast the NOI to be slightly ahead of inflation trends, similar to historic patterns. On a global, long-term basis, this outperformance has approximated 0.15%. We apply that spread to listed real estate in each region and then proportionately to calculate the global listed real estate forecast.

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Listed Real Estate Forecast by Region			
	US	Non-US	Global
Yields	4.10%	3.90%	4.00%
Inflation	1.85%	1.60%	1.70%*
Spread: NOI less Inflation	0.15%	0.15%	0.15%
Real Estate Forecast Return	6.10%	5.65%	5.85%

*While Syntrinsic forecasts global inflation at 2.1%, for REIT markets we weight inflation based on REIT market exposures.

Forecasting private real estate

Syntrinsic organizes private real estate most broadly into two categories, core and core plus. In this context, Core private real estate represents diversified pools of high quality, mature US real estate properties diversified across sectors and geography. Returns are driven primarily by cash flows of those properties and some return due to realized gains. Core plus private real estate includes core properties as well as some more aggressive properties that strive to add value through improvements, resale, and other activities.

For core private real estate, Syntrinsic relies on historical risk premia over listed US real estate. Surprising to some, the historic premium of core private real estate over listed real estate has been negligible over the long term, despite core private real estate having less volatility due to the timing of valuations. This may be due in part to the high fees on most core private real estate funds.

Meanwhile, core plus private real estate strategies have a historical premium of 1.20% over the FTSE NAREIT All Equity Index, an index of US REITs.

While there may be times when investing in core private real estate makes sense, we generally recommend that investors in private real estate focus their efforts on core plus investments that have the opportunity to add value.

Private US Real Estate Expectations		
	US Core	US Core Plus
US listed real estate forecast	6.10%	6.10%
Spread over listed real estate	0.00%	1.20%
Forecast	6.10%	7.30%

Private Equity and Private Debt

Asset Class	Index*	2020 Ten-Year Forecast	2019 Ten-Year Forecast	Change from Previous Year
Private Equity	Cambridge US Private Equity	8.25%	8.00%	0.25%
Private Debt	Cliffwater Direct Lending	6.70%	7.25%	(0.55%)

Source: Syntrinsic

Syntrinsic’s forecast enables investors to model reasonable long-term return expectations; however, private equity and debt investments exhibit so much dispersion in terms of strategy, style, sector, leverage, and other factors, that investors must strive to understand how specific investments might compare to the broad universe to a much greater degree than in traditional public market equity and debt investments.

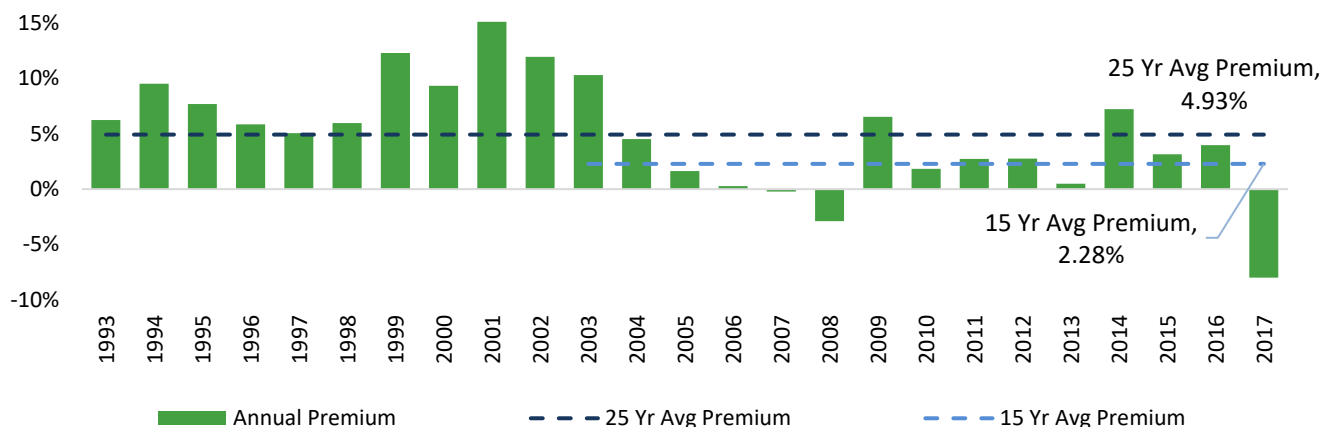
Forecasting private equity

Investors typically access private equity markets over public equity markets in order to earn a return premium in exchange for the additional risks inherent in private equity, including liquidity. As such, Syntrinsic forecasts private equity returns by analyzing the historic risk premia over the Standard & Poor’s Private Market Equivalents Index. The PME index represents a method of simulating actual S&P 500 returns in a manner that reflects the distinctive cash flow and internal rate of return characteristics of the private equity industry.

As illustrated in the chart below, private equity risk premia has declined in the last 15 years compared to longer-term averages. Syntrinsic believes that these more recent trends are more predictive of economic and investment conditions. As a result, we rely upon the more recent private equity risk premia trend of 2.30% over our return forecast for US large cap equities.

Private Equity Return Expectations	
US large cap equity forecast	5.95%
Premium over US large equity	2.30%
Private Equity Forecast Return	8.25%

Exhibit 33: Private Equity Return Premium Over S&P 500 PME by Vintage Year



Source: Cambridge US P/E pooled returns relative to S&P 500 PME by vintage year

Forecasting Private Debt

Private debt investment funds represent a pool of loans generally made to companies. Specific funds will vary in terms of sector, credit quality, and use of leverage, thus creating great dispersion across the asset class. Recognizing this, Syntrinsic’s private debt forecast relies on historical risk premia of the Cliffwater Direct Lending Index over US high yield bonds. The Cliffwater index represents a broad array of private debt strategies and is generally recognized as a proxy for the asset class. Because high yield bonds also represent loans made to companies—but through public markets rather than private—high yield bonds serve as a good anchor for the forecast.

Private Debt Return Expectations	
US high yield bond forecast	5.15%
Premium over US high yield bonds	1.55%
Private Debt Forecast Return	6.65%

Commodities

While commodity-related investments are manifest within equity and debt markets—and some hedge fund strategies—Syntrinsic views commodities as a distinctive asset class that might be worth dedicated investment depending on market conditions and investment objectives. Commodities include industrial metals (e.g., iron, copper, etc.), precious metals (e.g., gold, platinum, etc.), energy (e.g., oil, natural gas, etc.) agricultural products (e.g., wheat, soybeans, etc.), and softs (e.g., coffee, cotton, etc.)

Syntrinsic assumes that commodity returns will closely match global inflation. Given our regional inflation forecasts, we anticipate global inflation of 2.10% over the coming decade. We recognize that near-term environmental and geopolitical events can trigger price spikes or dips in certain commodities; however, we do not see such events as driving long-term fundamentals.

We discount or add to global inflation based on supply/demand dynamics and current demand trends for commodities. Given continued slowing Chinese demand for commodities as China moves to a more service-oriented economy, and given the lack of another catalyst to take up that demand, Syntrinsic applies a discount of 0.25% to the global inflation forecast, bringing our commodities return forecast to 1.85%.

Commodity Return Expectations	
Global inflation forecast	2.10%
Premium/discount	-0.25%
Commodity Forecast Return	1.85%

DISCLOSURES

The information in this document is not intended as a recommendation to invest in any particular asset class or strategy or as a promise of future performance.

Given the complex nature of risk-reward trade-offs involved in portfolio construction, we advise clients to consult with financial professionals on specific investment-related decisions. References to future returns are not promises or even estimates of actual returns a client portfolio may achieve. In addition, past performance is not a guarantee of future results.

Assumptions, opinions and estimates are provided for illustrative purposes only and are subject to significant limitations. Expected return estimates are subject to uncertainty and error. Expected returns for each asset class can be conditional on economic scenarios to which actual returns could be significantly higher or lower than forecasted. They should not be solely relied upon as recommendations to buy or sell securities.

Forecasts of financial market trends that are based on current market conditions constitute our judgment and are subject to change without notice. We believe the information provided here is reliable, but do not warrant its accuracy or completeness.

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