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In a Nutshell

To start the year, individuals were in a great financial position, and the U.S. economy was printing the best-looking data in the past 30 years. Valuations were high, but the economy was advancing at a steady pace, and we surmised this would provide the earnings growth to justify valuations. It did not take long for the whole thing to come crashing down. The pandemic brought the economy to a screeching halt, and the stock market sold off dramatically. We believe the state of the consumer helped bring the stock market back to new highs in record time. We also expect consumers' strong position going into the downturn will help the economy recover faster than history suggests. Individuals had more income, less debt burden, and an above-average savings rate compared to the past 30 years. Also, unemployment was at a 50-year low, and wage growth was above 3% for the first time since the financial crisis. For comparison, heading into 2008, household debt service was at its highest level since the Federal Reserve started publishing the statistic in 1980, and the personal savings rate was at its lowest level since the government began collecting the data in 1947. With additional savings and less money going to pay off debt, individuals stepped in and bought the dip; while this is great, we all know the party cannot last forever. All the economic uncertainty has complicated valuations, notably as the stock market has rebounded and is trading near all-time highs. The discussion would not be complete, however, without mention of the headline act, the Federal Reserve Board of Governors. None of this would be possible without the Fed's rate cuts and lower-for-longer interest rate policy. Given the current interest rate environment and outlook, a review of fixed-income investments and their role in a balanced portfolio is necessary. The future path of interest rates will have the most significant impact on the risk/return profile of multi-asset portfolios and their return expectations moving forward. We should not expect the traditional 60/40 portfolio to provide the same historical performance with rates at 0% as with rates at 5%.

Bonds? Caveat Emptor

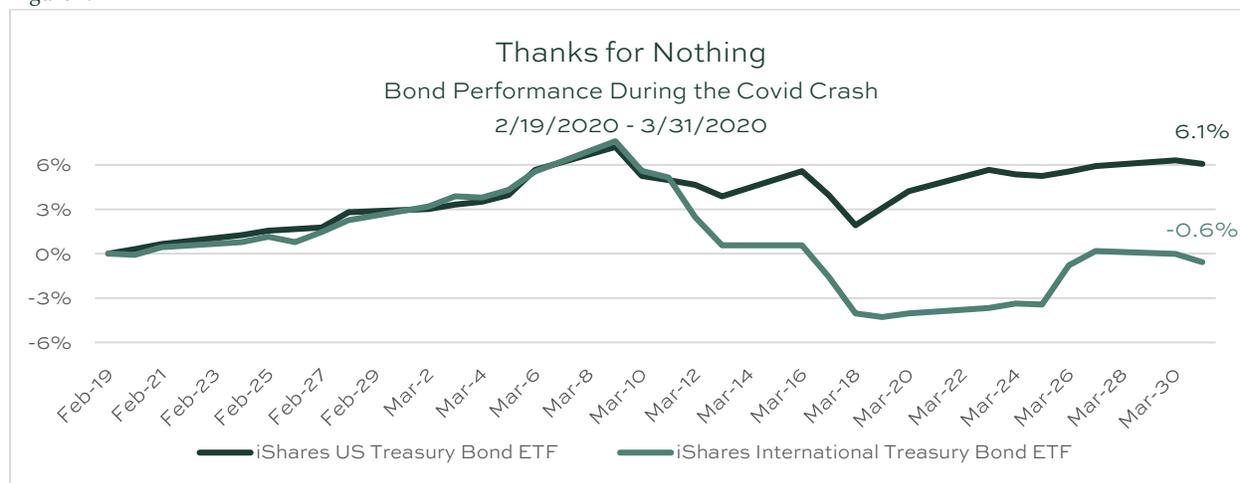
Before digging in, it is necessary to understand the price and yield of a bond have an inverse relationship. When bond yields increase, the bond price decreases, and vice versa. This concept has become increasingly relevant with bond yields at or near all-time lows since an increase in interest rates would cause bond prices to fall. For a further explanation of why bond prices fall when yields rise, please see the appendix at the end of this letter.

With bond yields at unprecedentedly-low levels, it is time to consider what we can expect from bonds in the future. Bonds are the unsung hero of multi-asset portfolios across the globe, although, often referred to as "boring," bonds have been the thankless workhorse behind portfolio returns over the past 40 years. Bonds serve a primary role in mitigating downside risk but also produced healthy returns and frequently generated positive results when stocks turned negative. All of this was made possible by falling interest rates, which peaked in 1981 at over 15% and sit at 0% today. Remember, when yields fall, bond prices rise. Over the 40 years from 1980 through 2019, not only were bond investors collecting

income but also capturing the price appreciation as interest rates fell. Even more significant, during times of economic weakness when stocks exhibited poor performance, the Federal Reserve lowered interest rates, so bonds provided downside protection in addition to a capital appreciation kicker.

The substantial risks moving forward are rising interest rates and the inability of the Federal Reserve to cut rates in the face of economic weakness. We had a taste of how this may play out earlier this year, and it was just as frightening as it sounds. To set the stage, we will take a look at two ETFs, the iShares International Treasury Bond ETF tracking the performance of government bonds in developed markets outside the United States, and the iShares U.S. Treasury Bond ETF tracking the performance of U.S. Treasuries. At the start of 2020, 74% of the government bonds which make up the international bond ETF were issued by countries with central bank policy rates at or below 0%. This left bonds in a vulnerable position should a global shock rattle the market. Shortly after starting the new decade, the stock market peaked on February 19 and fell -23.5% through March 31. The Federal Reserve slashed the policy rate in the U.S. to 0% from a lower bound of 1.5% to begin the year. As a result, U.S. Treasuries held up well during the downturn. Central bankers in developed countries outside the U.S., absent the same tool, did not see their bonds fare as well. International bonds fell -0.6%, while U.S. Treasuries rallied 6.1%, boosted by lower interest rates.

Figure 1.



With the federal funds rate at 0%, assuming no policy changes, this could be a glimpse into the future for what we can expect from U.S. bonds should we experience economic weakness. The Federal Open Market Committee is projecting no change in rates over the next three years, and the fed funds futures market is pricing in the same expectation. Whether rates remain at 0% or increase, the message is the same: investors need to adjust expectations considering the implication for bonds in either scenario is not favorable.

Greater Risk, Less Reward

The historical effectiveness of bonds permitted multi-asset portfolios to offer the ultimate risk/reward tradeoff for investors. A \$100,000 investment in a 60% stock and 40% bond portfolio in 1980 would be worth \$5.3 million at the end of 2019, constituting a 10.2% annualized return. For reference, an all-stock portfolio and an all-bond portfolio over the same period would have produced an annualized 11.8% and

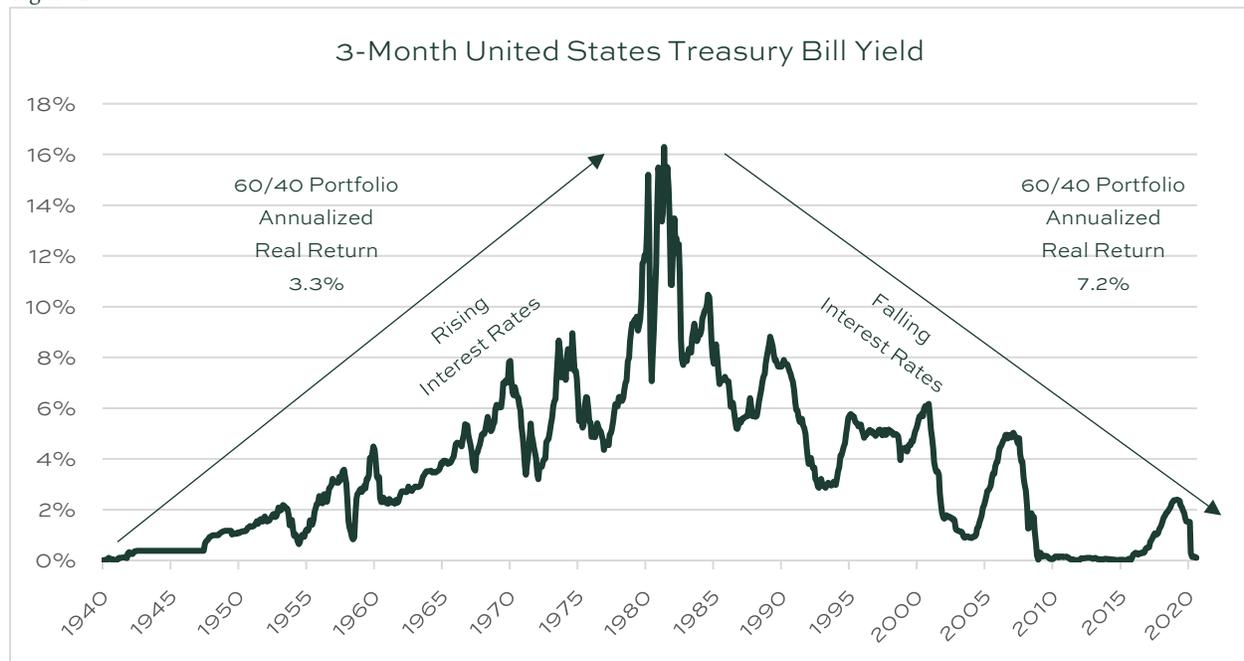
7.0% return, respectively¹. The diversification properties of bonds enabled a 60/40 portfolio to deliver 85% of the return of an all-stock portfolio, with only 60% of the risk. That is remarkable!

While we never want to be the bearer of bad news, we need to be honest and set realistic expectations. So, here we go. Investors need to temper expectations of future returns; a 60/40 portfolio will not provide the same level of return that it once graciously did. Investors should expect to take on greater risk with less reward in the future.

Interest rates at 0% eliminate two of the three characteristics that made bonds so attractive since 1980. If rates remain unchanged, the income return from bonds will be minimal; if rates increase, investors are looking at adverse price action, potentially offsetting any increase in income. If we experience economic weakness, the Federal Reserve cannot lower rates, and bonds will not provide the capital appreciation benefit during a market sell-off. Bonds will still serve the role of mitigating downside risk, but placing cash under your mattress at home will achieve a similar result. Although an egregious example, we hope it drives home the point that bonds will lack substantial firepower in an economic downturn should rates remain at 0%.

To understand what a rising interest rate environment may look like, we need to go back to 1940 when interest rates were at 0% coming out of the Great Depression. The annualized real return, taking out the impact of inflation, on a 60/40 portfolio from 1940 through 1979 was 3.3%. This experience contrasts with an annualized real return of 7.2% for a 60/40 portfolio between 1980 and 2019. Stating the return, in real terms, provides a better comparison over periods with differing inflation profiles and describes the actual increase in purchasing power of the portfolio.

Figure 2.



¹ All mentions of stocks and bonds are referring to the IA SBBI US Large Stock Index and IA SBBI US IT Govt Index, respectively.

During the period of rising interest rates, the same 60/40 portfolio delivered less than half the return of the period with falling rates. Looking at the asset class returns in the below tables, we can quickly see the challenge of building portfolios during a rising interest rate environment.

Figure 3.

Rising Interest Rates Annualized Risk and Return 1940 - 1979			Falling Interest Rates Annualized Risk and Return 1980 - 2019		
Asset Class	Real Total Return	Standard Deviation	Asset Class	Real Total Return	Standard Deviation
Stocks	5.8%	14.3%	Stocks	8.7%	14.9%
Bonds	-0.9%	3.8%	Bonds	4.1%	5.6%
60/40	3.3%	9.0%	60/40	7.2%	9.3%

To match the return of 7.2%, a portfolio from 1940 through 1979 needed to be allocated 125% in stocks and -25% in bonds². The standard deviation of the portfolio over the 40 years would have been markedly higher at 17.8% to achieve the 7.2% return. While there are several methods to accomplish the return goal, the approach we presented seeks to minimize risk and limit the use of leverage. With that in mind, this strategy still carries double the risk of the 60/40 portfolio and does not consider the inherent risks of shorting securities or the cost over 40-years of borrowing bonds to sell short.

The preceding 125/-25 portfolio would, of course, not be a suitable replacement for an investor with a balanced risk profile. The reality of the situation is that investors will need to increase risk in their portfolios to some acceptable degree to obtain a return closer to that experienced over the past 40 years. With bonds not expected to fire on all cylinders, we need to find ways to increase risk strategically to provide a more desired rate of return moving forward.

Utilizing non-traditional bond sectors and hedged equity strategies can help efficiently achieve this goal. For example, floating-rate bonds have coupons that adjust based on changes in interest rates, and their price tends to move less in response, making them attractive in a rising interest rate environment. There is no free lunch, however, as floating-rate bonds are issued by below investment grade companies and carry more risk than a traditional corporate bond. But the diversification benefit received from the low correlation with investment-grade bonds helps offset some of the added risks. Hedged equity can be employed to add equity-like exposure with guardrails or in a manner comparable to insurance. The former includes strategies that limit the downside risk with an upside cap, and the latter strategy kicks in should equity markets experience a significant fall. The intention with both is to add sources of return above traditional bonds without taking on the full risk of stocks.

We believe allocating capital to undervalued asset classes supplemented with alternative return sources will provide the best risk/reward combination as we enter this new investment landscape. Using history as a guide, we are better prepared and better equipped for this new normal, by combining past experiences with access to sectors and investment products not available 80 years ago.

² To implement this strategy, you need to invest 100% of the portfolio in stocks, then borrow bonds worth 25% of the portfolio market value, sell the bonds short, and use the proceeds to purchase an additional 25% of stocks.

It Ain't Over Till It's Over

With the current polling and expert forecasts skewing heavily towards a Biden win in November, we wanted to know how this compares with expectations from four years ago. First, we will check in with Nate Silver, the statistician and founder of FiveThirtyEight, who rose to fame after correctly predicting the outcome in 49 of 50 states in the 2008 election and went 50 for 50 in 2012. With 15 days until the election in 2016, Silver assigned an 84% chance of a Clinton victory, moving that figure down to 72% by election night. Given due consideration, this was one of the best forecasts out there, as The New York Times and Princeton Election Consortium gave Clinton an 85% chance and better than 99% chance of winning, respectively. The polls indicated a similar result, the Real Clear Politics (RCP) Average gave Clinton a 5.0-point lead 15 days ahead of the election. The pollsters and experts both got it wrong in 2016, so it will be interesting to see how the polls and prediction models have changed.

As of October 19, Biden held an 8.9-point lead in the RCP Average, and current state poll margins imply Biden will receive 357 electoral votes leaving 181 for Trump. At the 15-day mark, FiveThirtyEight is forecasting an 88% chance of a Biden win this year. The results bear a striking resemblance to those from four years ago, so as prudent investors, we will proceed with caution heading into the final stretch.

Armed with the combined knowledge totaling one semester of introductory political science, we will take a crack at predicting the outcome of the election. Before getting ahead of ourselves, we want to stress we have no horse in the race. The following analysis, based strictly on data, intentionally excludes opinions to maintain the objectivity of our forecast. Our methodology involves reviewing polling data from 2016 for ten of the consensus swing states and comparing it to the actual election results to develop a polling error measure. We then adjusted the 2020 polling results by this value to come up with our estimate. The ten swing states account for 147 electoral votes making each one significant on the path to the presidency. The current RCP Average has Biden leading in nine of the ten swing states, but when adjusting for the 2016 polling error, Trump leads in eight. Under this method, Biden would receive 250 electoral votes giving Trump the advantage with 288. The results could certainly go the other way though, many of the estimates are well within the typical poll margin of error. The 0.1-point estimation for Georgia is equivalent to 4,200 votes, and the 2.0-point margin in Pennsylvania is equal to 123,000 votes, based on the 2016 voter turnout. For a frame of reference, 100,000 votes is less than 0.1% of the total ballots cast in the 2016 election.

The below table summarizes the output from our model. Poll error measures the accuracy of the polls with 15 days until the election; the closer to zero, the better the accuracy. A positive value indicates the poll underestimated the margin at which the candidate would win, while a negative number either overestimated the margin or got the candidate wrong altogether. To come up with our estimate, we combine the poll error with the current poll numbers in each state. For example, at this point in 2016, Clinton was expected to win Florida by 3.8-points, but Trump ended up winning by 1.2-points, representing a 5.0-point swing from one candidate to the other. Current polling in Florida shows Biden ahead by 1.4-points, but adding in the poll error, Biden must be ahead by more than 5.0-points to win the state. Since he has not reached that hurdle, we are estimating a 3.6-point lead for Trump.

Figure 4.

Swing State	Electoral Votes	RCP Average 15 Days To Go		2016 Election		2020 Estimate
		2020	2016	Results	Poll Error	
Pennsylvania	20	Biden +4.4	Clinton +5.7	Trump +0.7	-6.4	Trump +2.0
Florida	29	Biden +1.4	Clinton +3.8	Trump +1.2	-5.0	Trump +3.6
Wisconsin	10	Biden +6.0	Clinton +6.8	Trump +0.7	-7.5	Trump +1.5
Michigan	16	Biden +6.8	Clinton +8.8	Trump +0.3	-9.1	Trump +2.3
North Carolina	15	Biden +2.7	Clinton +2.1	Trump +3.7	-5.8	Trump +3.1
Arizona	11	Biden +3.1	Clinton +1.3	Trump +3.5	-4.8	Trump +1.7
Ohio	18	Trump +0.5	Trump +0.6	Trump +8.1	7.5	Trump +8.0
Georgia	16	Biden +1.2	Trump +4.0	Trump +5.1	1.1	Biden +0.1
Iowa	6	Biden +1.2	Trump +2.0	Trump +9.5	7.5	Trump +6.3
Nevada	6	Biden +5.2	Clinton +4.7	Clinton +2.4	-2.3	Biden +2.9

An alternative gauge of the presidential election this year may be Nebraska’s Second Congressional District, which we will dub the Cornhusker Indicator. The district consists primarily of Omaha, the state’s largest city with a metropolitan area population of about one million. In Nebraska and Maine, electoral votes are awarded based on congressional district, leading to a potential split electoral vote in each state. This method contrasts with a winner-take-all system that all other states have adopted. Nebraska began using the congressional district method in 1992, and a split electoral vote has occurred once, in 2008, when the district split from the state allocating one of the five electoral votes to Barack Obama. A significant departure for the historically solid red state, this marked the first time since 1964 that a Democratic candidate received an electoral vote from Nebraska.

One may wonder why we are futzing around with one electoral vote from Nebraska. While it would be highly unlikely for the district to serve as a tipping point for the election, we believe it may serve as a signal for the broader outcome. What matters is if the historically red district turns blue, it could spell trouble for a Trump reelection. The congressional district polled favorably for Trump at this time four years ago, expecting him to win by 6.5-points. Trump did win but only by 3.3-points, so the polls overestimated the margin by 3.2-points. According to our polling error model presented above, the Nebraska polls have a 3.2-point bias toward the Republican candidate. If the Republican candidate is ahead, we need to subtract the 3.2-point bias from the poll margin. Otherwise, if the Democratic candidate is in the lead, we need to add the 3.2-point bias to the poll margin, as the polls underestimated the performance of the Democratic candidate in 2016. Biden is currently polling 7.0-points ahead of Trump in Nebraska’s Second Congressional District, which equates to a 10.2-point lead for Biden according to our model. In 2016, the polls overshoot the victory margin for Trump, translating into an underestimation of the current margin for Biden.

With conflicting signals, our conclusion is the election is likely to be closer than what the polls are telling us. We believe the best situation for the market, regardless of who wins the presidency, is a divided congress. In this scenario, partisan policy proposals are less likely to become law. New bills will need to receive the nod from both sides creating middle-ground policies rather than bold one-sided changes.

Appendix

Bonds are typically issued at face value (or par value) and have fixed coupon rates. When an investor buys a bond, they are lending money to the issuer, who, in return, pays interest (the coupon rate) over the term of the bond and repays the face value to the investor at maturity. When a bond is issued, the price at which investors buy and sell the bond varies based on changes in interest rates, among other factors, but the face value and coupon rate do not change. For example, if a bond has a face value of \$100 and pays an annual coupon of \$1, the coupon rate is 1% ($\$1 / \$100 = 1\%$). The bond yield is the interest rate that equates the future cash flows to its current price and represents what an investor will earn for holding the bond to maturity. The yield varies based on changes in the price paid for the bond and is approximately the annual return an investor will receive. When a bond is issued, at face value, the yield is equal to the coupon rate. And, when the yield equals the coupon rate, the price of the bond equals the face value. Continuing with our example, if the bond has 3-years remaining to maturity, to calculate the yield, we need to discount the three years of coupon payments plus the return of face value to the present. We will assume the bond is just issued, and the investor purchased the bond for face value at \$100, and the current yield is 1%. The below calculation visualizes how to determine the price.

$$(\$1 / (1 + 1\%)^1) + (\$1 / (1 + 1\%)^2) + ((\$1 + \$100) / (1 + 1\%)^3)$$

$$\$0.99 + \$0.98 + \$98.03 = \$100.00$$

As demonstrated, the coupon rate is 1%, and the yield is 1%, so the price equals the face value for the bond of \$100. Now, we will assume interest rates increase to 2%, so new bonds will be issued with coupon payments of \$2, or a coupon rate of 2% ($\$2 / \$100 = 2\%$) and a yield of 2%, matching the increase in interest rates. Since new bonds can be purchased paying a \$2 coupon, if the investor holding the original bond wanted to sell, the price would have to be lowered, so the combination of the coupon payments plus the appreciation in the price paid for the bond equates to a 2% yield for a prospective buyer. Our original bond paying a \$1 coupon must now yield 2%; the below calculation visualizes the price impact for a bond when interest rates increase.

$$(\$1 / (1 + 2\%)^1) + (\$1 / (1 + 2\%)^2) + ((\$1 + \$100) / (1 + 2\%)^3)$$

$$\$0.98 + \$0.96 + \$95.17 = \$97.12$$

As you can see, the future cash flows are now discounted, at 2%, rather than 1%, which reduces their present value and lowers the price of the bond. An investor buying this bond will pay \$97.12 and receive \$1 each year for three years, then receive the \$100 face value when the bond matures. As previously noted, the yield is the approximate annual return an investor will receive. The return for the investor in the example is as follows:

$$(\$1 + \$1 + \$1 + \$100 - \$97.12) / \$97.12 = 6\% \text{ (approximate return over 3-years)}$$

$$6\% / 3 = 2\% \text{ (approximate annual return)}$$

A much simpler method to determine the price impact based on changes in yield is a measure called duration, which approximates the change in the price of a bond per 1% change in yields. Duration measures how long it will take for an investor to be repaid the bond's price by its total cash flows and is stated in years. A 10-year bond issued five years ago has five years remaining to maturity, and therefore the duration for that bond will be about 5. Using the bond in our example with 3-years remaining to maturity, the duration is 3, and we said yields increased 1%. Using duration, we can expect the price of the bond to decrease by approximately 3%. The actual change in price we calculated above was $-\$2.88$ ($\$97.12 - \$100.00 = -\$2.88$), or a -2.9% change in price ($-\$2.88 / \$100.00 = -2.9\%$).

Figure 1. Performance over the period represents the total NAV return, which measures the change in value of the underlying assets in the fund and includes the impact of reinvested dividends. **Figure 2.** The 60/40 portfolio returns are calculated for the rising interest rates period from 1/1/1940 to 12/31/1979, and the falling interest rates period from 1/1/1980 to 12/31/2019. The 60% stock allocation represents the IA SBBI US Large Stock Index, and the 40% bond allocation represents the IA SBBI US IT Govt Index. **Figure 3.** Stocks represent the IA SBBI US Large Stock Index and bonds represents the IA SBBI US IT Govt Index.

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Diversification does not guarantee a profit or protect against loss.

S&P 500: Measures the performance of U.S. large-cap equities and is comprised of 500 companies across sectors and covers approximately 80% of available market capitalization. **IA SBBI US Large Stock:** Measures the performance of U.S. large capitalization stocks. **IA SBBI US IT Govt:** Measures the performance of Treasury and Agency securities issued by the U.S. Government with 3 to 10 years in maturity.

Sources: BIS Policy Rate Statistics, BlackRock, Board of Governors of the Federal Reserve System (US), FiveThirtyEight, J.P. Morgan Asset Management, Morningstar, Real Clear Politics, , S&P Dow Jones Indices, U.S. Bureau of Economic Analysis, U.S. Bureau of Labor Statistics, YCharts.

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